

**START OF TENDER DOCUMENT
NORTHERN RAILWAY (ELECTRICAL GENERAL SERVICES)**

Revised Open Tender Document

REGARDING WORKS CONTRACT

- S. Corrigendum No. 1 to Open Tender No. 30-Elect/T-37/2013-14 (Open Tender)
No. Open. Tender Notice No.
16/2013-14
1. Name of Works : **Electrical work in connection with provision community hall at Jagadhari , microwave building at Saharanpur, electrification of office building for USFD staff at Ambala and replacement of Air washer filter at DRM office complex at Ambala Cantt over Ambala Division.**
2. Approximate Cost : Rs. 14.59 Lacs
3. Completion period : 90 days
4. Earnest Money : Rs. 29180/-
5. Last date/time of receipt of tender : 01/05/2014 up to 15:00 Hrs
6. Date& time of opening : 01/05/2014 at 15:00 Hrs
7. Place of opening : Chamber of ADEE/G, DRM Office, Ambala Cantt

Name & Address of Party with Date to Whom Tender Sold:

M/S _____

Date of Sale _____

IMPORTANT NOTE:

1. Tender Paper in original duly signed on each page must be returned with your tender.
2. Rates should be filled on schedule of Rates attached with the tender document in words and figures both
3. Rates should be quoted inclusive of Sale tax, works contract tax, Excise duty, levies, Octroi, service tax and any other tax applicable.
4. Offer shall be kept open for 90 days (Ninety days)
5. All the forms included in Tender document must be filled in positively.
6. Please ensure that all documents required under Clause-5.0 (Special condition of contract) must be submitted positively in original.
7. If not in original duly attested by Gazetted officer to be furnished.
8. **Ambiguous and incomplete (i.e. non submission of EMD money, not filling the rates in figure as well as in words or controversial rates) offer may be summarily rejected.**
9. If the tenderer downloads the tender paper from internet than tenderer should submit the cost of the tender in the shape of Bank draft in favour of Sr.Divl.Finance Manager, N.Rly.,Ambala Cantt along with tender form failing which tender will be rejected
10. No advantage of any typing mistake will be given to contractor.
11. It is mandatory to fill all the information /Format given in tender documents failing which tender will be rejected.

PRICE

Rs. 2000/- (By Hand)

Rs. 2500/- (By post)

**Sr. Divl. Elect. Engineer/G,
N.Rly., Ambala Cantt**

Signature of Tenderer's
(With Stamp)

Mandatory details to be filled in by tenderer while submitting their offer

1	Constitution of the firm/concern (tick as applicable)	<input type="checkbox"/> Sole proprietorship <input type="checkbox"/> Partnership firm <input type="checkbox"/> Company <input type="checkbox"/> JV <input type="checkbox"/> Society
2	Full name of sole proprietorship/partnership firm /Company /JV / Society	
3	Year of formation/incorporation	
4	PAN No.	
5	Registered office address	
6	Address on which correspondence regarding this tender should be done	
7	Names of the proprietor/partners/JV Members etc	
8	Details of EMD Submitted	

Note

1. Special attention of the tenderer is drawn to clause of "spl tender condition & instruction to tenderers" as per which the tenderer must submit along with tender, the documents mentioned therein pertaining to constitution of firm/concern.
2. Special attention of the tenderer is drawn to clause of "spl tender condition & instruction to tenderers" as per which they should submit the requisite documents along with tender pertaining to their technical & financial eligibility.

We have enclosed along with the tender, all the requisite documents pertaining to the constitution of the firm/concern/company etc. as specified in clause of special tender condition & instruction to tenderer. I/We understand that in the absence of these documents, our tender shall be treated as having been submitted by individual who has signed the tender.

Signature of Tenderer

Name of signatory_____

Signature of Tenderer's
(With Stamp)

NORTHERN RAILWAY

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Sr.DEE/G/UMB

Signature of Tenderer's
(With Stamp)

Tenderer's Information

The tenderer shall furnish the following information

1)	Name of the contractor & full Address :
2)	For Contact purpose:-
i)	Mobile No.
ii)	Landline Phone No.
	a) Office
	b) Residence
iii)	Fax No.
iv)	E-mail Address:-
3) (i)	Bank Current Account No.
ii)	Name of Bank and address
iii)	Code of Bank (To arrange contractual payment through Electronic fund transfer system)
iv)	Permanent Account No.:-
v)	Partnership deed should be enclosed if it is not a proprietary firm
vi)	Electric License No.
vii)	Sale Tax registration number:-

Signature of Tenderer's
(With Stamp)

Check sheet

To be filled legibly by the tenderer in his own handwriting

- 1) Particulars of remittance of EMD for Rs. _____
 - a) DD/PO/FDR No. & date _____
 - b) Drawn on Name of Bank branch _____
 - c) Amount _____
 - d) Validity of offer up to (Minimum period is 90 days) _____
 - e) Time quoted for completion of work _____
- 2) Particulars of remittance of Tender document Cost (Downloaded from internet)
 - a) Bank draft No.& date _____
 - b) Drawn on name of bank branch _____
 - c) Amount _____

Note:-

- i) This form of earnest money deposit shall be either of State Bank of India or any of the nationalized banks.
- ii) Bank guarantee bonds will not be accepted towards the earnest money deposit.
- iii) The tenderer should enclose credentials for earlier work done by them along with the performance certificate issued by the customer.

Signature of Tenderer's
(With Stamp)

Instructions for downloading of tender documents from internet & its submission

- 1) The tender documents for this work can be obtained from the Internet at Northern Railway web site www.nr.indianrail.gov.in and the offer can be given on the same subject to conditions given below which will be carefully studied by the intending tenderer/s and offer submitted accordingly.
- 2) The tender documents shall be carefully downloaded from the website mentioned above and the same shall be printed carefully in all respect, which shall be sole responsibility of the tenderer's and the Railway shall not be liable for any mistake/loss or corruption of data in downloading and/or printing. The end of tender documents has been marked in bold letters as END OF TENDER DOCUMENT on separate page in the uploaded document, which may be checked while downloading the tender document to ensure that the complete tender document has been downloaded. The tenderer must also compare the document as printed with the document as uploaded on the website.
- 3) A master copy of the document shall be kept in the office of the tender inviting authority. In case of any discrepancy between the tender document downloaded from the website and master copy, the latter shall prevail and shall be binding on the tenderers. The offer received shall be deemed to have been submitted on the document as uploaded and appearing in the website mentioned above whose master copy is kept in the office of tender inviting authority.
- 4) The tenderer shall print the document on good quality, white A4 size paper on any good quality printer.
- 5) The cost of tender document shall be enclosed with the offer as a separate bank draft in the name of Sr .Divisional Finance Manager, N.Rly. Ambala Cantt for the requisite amount as cost of tender document. The cost of tender document shall not be clubbed with the earnest money deposit. The tender submitted without the requisite cost of tender documents shall be summarily rejected.
- 6) It will be the responsibility of the tenderer/s downloading the documents from internet to keep themselves updated through the website from which the tender document is downloaded regarding corrigenda , if any, to the notice inviting tender or the tender or the tender document, which shall be uploaded in the same website and also published in newspaper. Railway administration will not be responsible for any lapse on the part of tenderer/s in submission of updated version of the tender documents.
- 7) Any willful changes/deletion/addition in printing carried out in the tender documents shall be viewed very seriously, whether detected at the time of opening/award of tender or after award of work and same may result in penal action including banning of further business with defaulting tenderer's . In addition, the tenderer's are liable to prosecuted for the same as per law.

Signature of Tenderer's
(With Stamp)

CHAPTER – 1
NORTHERN RAILWAY
FIRST SHEET – TENDER FORM

From: M/S.....
.....
.....

To
The President of India.
Acting through
Senior Divisional Electrical Engineer/G
Northern Railway,
Ambala Cantt.

Dear Sir,

Sub: Electrical work in connection with provision community hall at Jagadhari , microwave building at Saharanpur, electrification of office building for USFD staff at Ambala and replacement of Air washer filter at DRM office complex at Ambala Cantt over Ambala Division.

1. I/We have read the various conditions to tender attached here and agree to abide by the said conditions. I/we also agree to keep this tender open for acceptance for a period of 90 (Ninety) days from the date fixed for opening the same and in default thereof. I/We will be liable for forfeiture of my/our "Earnest Money". I/We offer to do the work for Northern Railway, at the rates quoted in the attached schedule and hereby bind myself/ourselves to complete the work in all respects within the stipulated time period mentioned in the tender document.
2. I/We also hereby agree to abide by the General Conditions of Contract as modified vide Railway Board's letter No.2003/CE/CT/14/Pt-1, dt.12/16.05.2006 and including any other corrections/modifications issued up to date and to carry out the work according to the special conditions of contract and specifications of materials and works as laid down by Railway in the annexed special conditions/specifications and the Northern Railway General Conditions of contract ,Regulations corrected up to date for the present contract.
3. A sum of **Rs. 29180/- (@ 2% of the estimated tender value)** is herewith forwarded as Earnest Money. The full value of the Earnest Money shall stand forfeited without prejudice to any other right or remedies in case my/our tender is accepted and if :-
 - (a). I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and
 - (b). I/We do not commence the work within fifteen days after receipt of orders to that effect.
4. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witnesses:

(i).

(ii).

Signature of Tenderer (S)

Date

Address of the Tenderer (S)

Signature of Tenderer's
(With Stamp)

NORTHERN RAILWAY
Tender form (Second Sheet)

1. **Instructions to tenderers and conditions of tender** – The following documents form part of tender/contract:-
- (a) Tender forms
 - (b) Technical Specifications, drawings and annexure
 - (c) Schedule of approximate quantities
 - (d) Northern Railway General Conditions of Contract, Regulations for Tender and Contract – 2013. It is a priced publication. This publication can be obtained from the office of CAO/C, N.Rly., Kashmiri Gate, Delhi on payment (current price is Rs.100.00). The tenderer should obtain copy of the correction slips also which is supplied free of cost with the booklet.

The tenderer shall study the Northern Railway General Conditions of Contract Regulations for Tenders & Contracts – 2013 along with tender documents before submission of the tender.

2. **Drawings for the work** – The general drawings where-ever necessary shall be supplied. The contractor will be required to study drawings and make detailed drawings at his own cost and get it approved from the Engineer before execution of work.

2.1.1 **Applicable for tender documents downloaded from internet:-**

- i) Tenderer/s are free to download tender documents at their own risk and cost for the purpose of perusal as well as for using the same as tender document for submitting their offer. Master copy of the tender document will be available in the office of Sr.DEE/G/UMB after award of work; an agreement will be drawn up. The agreement shall be prepared based on master copy available in the office of Sr.DEE/G/UMB and not based on the tender documents submitted by the tenderer. In case of any discrepancy between the tender documents downloaded from internet and the master copy Later shall prevail and will be binding on the tenderers. No claim on this account will be entertained.

ii) **Cost of Tender documents:-**

Tender documents are available on Northern Railway website i.e. www.nr.indianrail.gov.in and the same can be downloaded and used as tender document for submitting the offer. However the cost of tender document as indicated above will have to be deposited by the tenderer in the form of bank draft payable in favour of Sr.Divl.Finance Manager, N.Rly.,Ambala Cantt along with the tender document. **This should be paid separately and not included in the earnest money.** In case tender is not accompanied with the cost of tender document as detailed above, tender will be summarily rejected.

3. **CARE IN SUBMISSION OF TENDERS:**

- (a). Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Clause -37 of the General Conditions of contract for the completion of works to the entire satisfaction of the Engineer.
 - (b). When work is tendered for by a firm or company of contractors, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
 - i) The Railway will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor
4. The Tenderer(s) shall quote his/their rates as a percentage above or below the schedule of Rates except where he/they are required to quote item rates and must tender for all the items shown in the schedule of approximate quantities attached. The quantities shown in the attached schedule are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of the schedule.
5. Tenders containing erasures and/or alteration of the tender documents are liable to be rejected. Any correction made by Tenderer(s) in his/their entries must be attested by him/them under full signature and date.
6. The rates should be quoted in figures as well as in words. If there is variation between the rates

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quoted in figures and in words, the rates quoted in words shall be taken as correct. If more than one improper rates are tendered for the same item, the tender is liable to be rejected.

7. Fluctuation in Market Rates –

No claim will be entertained for any fluctuations in respect of cost of materials and increase of labour rates during the currency of contract

8. All Inclusive of Rate-

The rates tendered to be inclusive of all charges including all taxes levied by the Union of India, State Government and Local Bodies etc., from time to time including Surcharge.

Price variation clause shall be applicable for tenders of value more than Rs.50 lac irrespective of the contract completion period and price variation clause shall not be applicable to tenders of value less than Rs. 50 lacs.

9. Each page of the tender papers is to be signed and dated by the tenderer or such person/s on his/their behalf who is/are legally authorized to signed for him/them.

10. Period of Completion:-

The entire work is required to be completed in all respect within **90 days** from the date of issue of the letter of acceptance. The contractor shall maintained steady and regular progress to the satisfaction of the Sr.DEE/G/UMB or his authorized representative and to ensure that the work will be completed in all respect within the stipulated time, failing which action may be taken by the Railway Administration in terms of clause 17 and clause 62 of the General Conditions of contract 2013.

11.0 Earnest Money –

a) The tender must be accompanied by a sum of Rs. **29180/-** as earnest money with the tender for the due performance with stipulation to keep the offer for 90 days as specified in the tender, under the conditions of tender failing which the tender will not be considered The earnest money shall be 2% of the estimated tender value. The earnest money shall be rounded to the nearest Rs.10. This earnest money shall be applicable for all modes of tendering.,

The Earnest Money should be deposited in cash with Divl. Cashier on working day before 11:00 hrs on **01/05/2014** and receipt in favour of Sr. Divl. Finance Manager, N.Rly., Ambala Cantt obtained from Chief Cashier shall be attached with tender form or in any of the following forms:-

- i) Deposit receipts, pay orders, demand drafts. These forms of earnest money could be either of the State Bank of India or of any of the nationalized banks. No confirmatory advice from Reserve Bank of India will be necessary.
- ii) Deposit receipts executed by the Scheduled Banks (other than the State Bank of India and nationalized Banks) approved by Reserve Bank of India for this purpose. The Railways will not however, accept deposit receipt without getting in writing the concurrence of the Reserve Bank of India.

Earnest Money deposited in any other form must have an endorsement from the authority issuing FDR/Pay Order/D.D. that received from M/s/Shri..... and pledged in favour of **Sr. Divl. Finance Manager, N.Rly.,Ambala Cantt.**

b) The tenderer(s) shall keep the offer open for a minimum period of 90 days from the date of opening of the tender. It is understood that the tender documents has been sold/issued to the tenderer (s) and the tenderer(s) is/are permitted to tender in consideration of the stipulation on his/their part that after submitting his/their tender subject to the period being extended further if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the UMB Divn. of Northern Railway. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited as Earnest Money for the due performance of the above stipulation shall be forfeited to the Railway.

c) If the tender is accepted, the amount of Earnest Money will be retained and adjusted as security Deposit for the due and faithful authorized of the contract. This amount of Security Deposit shall be forfeited if the tenderer(s)/contractor(s) fail to execute the Agreement Bond within 7 days after receipt of notice issued by railway that such documents are ready or to commence the work within 15 days after receipt of the orders to that effect.

d) The Earnest Money of the unsuccessful tenderer(s) will, save as here-in-before provided, be returned to the unsuccessful tenderer(s) within a reasonable time but the Railway shall not be responsible for any loss or depreciation that may happen to the security for the due performance of the stipulation to keep the offer open for the period specified in the tender documents or to the Earnest Money while in their possession nor be liable to pay interest thereon.

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(With Stamp)

- e) Standing Earnest money not acceptable. The tender's paper having detail of SEM would under no circumstances be entertained and would be summarily rejected.

Note:-

- i) Tenders submitted with earnest money in any form other than those specified above shall not be considered.
- ii) Any request for recovery from outstanding bills for earnest money against present tender will not be under any circumstances be entertained.
- iii) No interest will be payable upon the earnest money and security deposit or amounts payable to the contractor under the contract.
- iv) Government securities (Stock certificates, bearer promissory notes, cash certificates etc. and Bank guarantee will not be accepted.)

12.0 Security Deposit and Performance Guarantee on Acceptance of Tender –

12.1 Security Deposit:

The Earnest Money Deposited by the contractor with his tender will be retained by the Railways as part of Security for the due and faithful fulfillment of the contract by the contractor. The balance to make up the security deposit, the rates for which are given below, may be recovered by percentage deduction from the Contractor's "on account" bills. Provided also that in case of defaulting contractor the Railway may retain any amount due for payment to the contractor on the pending "on account bills" so that the amounts so retained may not exceed 10% of the total value of the contract.

Unless otherwise specified in the special conditions, if any, the Security Deposit/rate of recovery/mode of recovery shall be as under:-

- (a). Security Deposit for each work shall be 5% of the contract value.
- (b). The rate of recovery shall be at the rate of 10% of the bill amount till the full security deposit is recovered.
- (c) Security Deposits will be recovered only from the running bills of the contract and no other mode of collecting SD such as SD in the form of instruments like Bank Guarantee, Fixed Deposit etc., shall be accepted towards security deposit.

The security deposit shall be returned to the contractor after the expiry of maintenance period and after passing of final bill & based on "No claim certificate.

No interest will be payable upon the Earnest Money and Security Deposit or amounts payable to the contractor under the contract.

12.2 Performance guarantee

The procedure for obtaining Performance Guarantee is outlined below:

- a) The successful bidder shall have to submit a Performance Guarantee (PG) within 30 (thirty) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 30 (thirty) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (thirty) days, i.e. from 31st day after the date of issue of LOA. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract shall be terminated duly forfeiting EMD and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work.
- b) The successful bidder shall submit the Performance Guarantee (PG) in any of the following forms, amounting to 5% of the contract value:
 - i) A Deposit of Cash;
 - ii) Irrevocable Bank Guarantee
 - iii) Government Securities including State Loan Bonds at 5% below the market value
 - iv) Deposit receipts, pay orders, demand drafts and Guarantee bonds. These forms of Performance Guarantee could be either of the State bank of India or of any of the Nationalized Banks
 - v) Guarantee Bonds executed or Deposits Receipts tendered by all Scheduled Banks
 - vi) A Deposit in the Post Office Saving Bank
 - vii) A Deposit in the National Savings Certificates
 - viii) Twelve years National Defence Certificates
 - ix) Ten years Defence Deposits

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(With Stamp)

- x) National Defence Bonds and
 - xi) Unit Trust Certificate at 5% below market value or at the face value whichever is less.
Also FDR in favour of FA&CAO (free from any encumbrance) may be accepted
Note: The instruments as listed above will also be accepted for Guarantees in case of Mobilization Advance
 - c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
 - d) The value of PG to be submitted by the contractor will not change for variation upto 25% (either increase or decrease). In case during the course of execution, value of the contract increases by more than 25% of the original contract value, an additional Performance Guarantee amounting to 5% (five percent) for the excess value over the original contract value shall be desposited by the contractor.”
 - e) The performance Guarantee (PG) shall be released after physical completion of the work based on ‘Completion Certificate’ issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily. The security deposit shall, however, be released only after expiry of the maintenance period and after passing the final bill based on ‘No Claim certificate’ from the contractor.
 - f) Whenever the contract is rescinded, the Security Deposit shall be forfeited and the performance Guarantee shall be encased. The balance work shall be got done independently without risk & cost of the failed contractor. The failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV/partnership firm.
 - g) The engineer shall not make a claim under the performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other previous in the contract agreement) in the even of :
 - i) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - ii) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the clauses/conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.
 - iii) The contract being determined or rescinded under provision of the GCC, the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of the President of India.
- 13 Tenderer’s Address**
The tenderer should state in the tender his postal address legibly and clearly. Any communication sent in time to the tenderer by post at his said address shall be deemed to have reached the tenderer duly and in time. Important documents should be sent by Registered Post.
- 14 Rights of the Railway to deal with tender –**
- i) The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender and no tenderer (s) shall demand neither any explanation for the cause of rejection of his /their tender nor the Railway undertake to assign reasons for declining to consider or reject any particular tender or tenders.
 - ii) The Railway Administration reserves the right to modify the quantity from time to time whether it is an increase or decrease in the scope and quantity of work. The tender shall not be entitled to any compensation but will be paid for as per contract for the actual work done.
 - iii) The Railway Administration reserves the right to accept/cancel/delete any item from Schedule of Rates and or accept partial/full quantity of any item without giving any reason.
- 15 If the Tenderer(s) deliberately gives/give wrong information in his/their tender or creates/create circumstances for the acceptance of his/their tender, the Railway reserves the right to reject such tender at any stage.
- 16 If the Tenderer(s) expires after the submission of his/their tender or after the acceptance of his/their tender, the Railway shall deem such tender cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the Railway shall deem such tender

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as cancelled, unless the firm retains its character.

17 Sale and Submission of Tender document:-

Tender documents can be had from DRM office ,Electrical(G) Branch on any working day from to **10/04/2014 to 30/04/2014 & on 01/05/2014 upto 11.00 hrs. on payment of Rs. 2000/-**. If the same are required by post, an additional sum Rs.500/- per set should be deposited towards postal charges. If the tender form is required by post, the cost of tender form is not refundable and the tender form is not transferable.

These tender documents must be submitted duly completed in all respects, in sealed cover super scribed as tender form for the work as indicated on top sheet and should be deposited in the tender box in the chamber of ADEE/G, Sr.DEE/G at DRM office, Ambala Cantt upto 15.00 hrs. on **01/05/2014** . The tenders will be opened immediately thereafter and rates read out in the presence of such tenderer/s as is/are present. Tenders which are received after the time and date specified above will be summarily rejected. In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time.

Tenders sealed and super scribed as aforesaid can also be sent through registered post addressed to the Sr.Divl.Elect.Engineer/G, N.Rly.,Ambala Cantt but a tender which is received after the time and date specified in Para above will be summarily rejected. Tender delivered or sent otherwise will be at the risk of the tenderers.

18. Metric Unit-

Dimensions, volumes, weights etc. should be quoted in Metric unit.

19. Non-compliance with any of the conditions set forth therein above is liable to result in the tender being rejected.

20. **Execution of Contract Documents** – The successful tenderer(s) shall be required to execute an agreement with the President of India acting through the Sr.DEE/G Northern Railway for carrying out the work according to General conditions of Contract, Special conditions/specifications annexed to the tender and specifications for work and material of Northern Railway as amended/corrected into correction slip mentioned in tender form (First Sheet).

21. **Partnership deeds, Power of Attorney Etc.-** The tenderer shall clearly specify whether the tender is submitted on his own or on behalf of a partnership concern. If the tender is submitted on behalf of a partnership concern, he should submit the certified copy of partnership deed along with the tender and authorization to sign the tender documents on behalf of partnership firm. If these documents are not enclosed along with tender documents, the tender will be treated as having been submitted by individual signing tender documents. The Railway will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, authorize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor.

22. The tenderer whether sole proprietor, a limited company or a partnership firm if they want to act through agent or individual partner(s) should submit along with the tender or at a later stage, a power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person specifically authorized him/them to submit the tender, sign the agreement, receive money, witness measurements, sign measurement books, compromise, settle relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration.

23. Employment/Partnership, etc., of Retired Railway Employees.-

a) Should a tenderer be a retired engineer of the Gazetted rank or any other Gazetted Officer Working before his retirement, whether in the executive or administrative capacity, or whether holding a pension able post or not, in the Electrical department of any of the railways owned and administered by the President of India for the time being, or should a tenderer being partnership firm have as one of its partners a retired engineer or retired Gazetted Officer as aforesaid, or should tenderer being an incorporated company have any such retired engineer or retired officer as one of its Directors, or should a tenderer have in his employment any retired Engineer or retired Gazetted Officer as aforesaid, the full information as to the date of retirement of such Engineer or Gazetted Officer from the said service and in case where such Engineer or Officer

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had not retired from Government service at least 2 years prior to the date of submission of the tender as to whether permission for taking such contract, or if the contractor be a partnership firm or an incorporated company, to become a partner or Director as the case may be, or to take the employment under the contractor, has been obtained by the tenderer or the Engineer or Officer, as the case may be from the President of India or any officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender. Tenders without the information above referred to or a statement to the effect that no such retired Engineer or retired Gazetted Officer is so associated with the tenderer, as the case may be, shall be rejected.

- b) Should a tenderer or contractor being an individual on the list of approved Contractors, have a relative(s) or in the case of partnership firm or company of contractors one or more of his shareholder(s) or relative(s) of the shareholder(s) employed in gazetted capacity in the Electrical/G department of the Northern Railway, the authority inviting tenders shall be informed of the fact at the time of submission of tender, failing which the tender may be disqualified/rejected or if such fact subsequently comes to light, the contract may be rescinded in accordance with the provision in clause 62 of the General Conditions of Contract.

24. **Quality of work and material**

- a. **Material:** All materials used in the work shall be procured from approved sources of R.D.S.O./CEE (N. Rly.). Items for which approved sources are not available, should be ISI marked. Items for which ISI is not available should be got approved before procurement.
- b. **Erection** – All erection work shall be carried out as per established engineering practice. It should be maintenance friendly, environmental friendly and should not endanger safety of public/operator.

25. **Electricity**

For testing and commissioning of electrical installations, No free electricity shall be made available.

26. **Tools & Plants**

It should be clearly understood that it is entirely the Contractor's responsibility and liability to find procure and use all machineries tools and plants and their spare parts that are required for efficient and methodical execution of the work. Delay in procurement of such items, due to their non availability or impart difficulties or any other cause whatsoever will not be taken as an excuse for slow or non performance of work. In exceptional circumstances, if certain tools and plants are separable by the Railway temporarily the Engineer or his representative may give them on hire charges fixed by the Railway.

27 **Local Conditions**

- 27.1 It will be imperative on each tenderer to fully acquaint himself with all the local conditions and factors which would have any effect on the performance of the contract and cost of the stores. The Railway Shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, or time schedule of completion of work on account of any local condition or factor shall be entertained after the offer is accepted
The intending tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender papers are adequate and all inclusive, for the completion of works to the entire satisfaction of the Railways
- 27.2 In the event of the intending tenderer desiring to have a field survey before furnishing his quotations, he may apply to Railways for permission in this regard. The Railways will give such permission in writing but all the expenses in this regard will be borne by the tenderers
- 27.3 The intending tenderer is advised to study the tender papers carefully, any submission of a bid by the tenderers shall be deemed to have been done after a careful study and examination of these documents with full understanding of the implication thereof. These conditions and specifications shall be deemed to have been accepted unless otherwise, specifically commented upon by the Tenderer in his offer. Failure to adhere to anyone of these instructions may render his offer liable to be ignored without any references
- 28 Every possible fluctuation in the rate of labour, materials and general conditions and other possibilities of each and every kind should be considered before quoting the rates and no claim due to any cause whatsoever on this account will be entertained afterwards. Sales tax or any other taxes

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levied or livable by the Central Govt. or local bodies shall be borne by the contractor. No part of such taxes on contractor labour or material will be paid by the Railway.

a) Safety measures

- a. The contractor shall take all precautionary measures in order to ensure the protection of his own personnel moving about or working on the Railway premises. When the work is on/near Rly. Track, he shall provide for flagman for protection as per the directives of the purchaser.
 - b. The contractor and his representatives shall abide by all Railway regulations in force.
 - c. While working within station limits, especially on passenger platforms, the contractor shall ensure that at all time sufficient space is left for free- movement of passenger traffic. He must cover and/or barricade the excavations carried out in such areas and continue to maintain these, till the work is completed, with a view to avoid any accident to public or to Railway staff.
 - d. The works must be carried out most carefully without any infringement of the Indian Railway Act or the General and Subsidiary Rules in force on the Railway, in such a way that they do not hinder Railway operation or affect the proper functioning of any Railway equipment, structure or rolling stock.
 - e. If safety of track or track drainage etc. is effected as a consequence of works undertaken by the contractor, the contractor shall take immediate steps to restore normal conditions. In case of delay, the purchaser shall, after giving due notice to the contractor in writing, take necessary steps to complete the job and recover the costs from the contractor.
 - f. Contractor shall provide yellow jackets to workers working near Rly. Tracks. He should also provide helmets and other safety equipments to his workers.
 - g. The contractor shall be responsible for safe custody of all equipments till provisional acceptance.
- b) **Provisional Acceptance:** Immediately on completion of work the contractor shall test the installation to ensure that installation is as per the specifications. Along with the test results. The contractor shall inform the purchaser in writing that installation is complete and ready for commissioning.
- c) The test as stipulated in the specification shall be jointly conducted results if found satisfactory, the installation shall be commissioned. Provisional acceptance shall not be withheld for rectification of minor defects.

29. Availability of breakdown/maintenance staff

During the period of guarantee the Contractor shall keep available an experienced engineer and necessary equipment to attend any defective installations resulting from defective erection and/or defects in the equipment supplied by the Contractor. This engineer shall not attend to rectification or defects which arise out of normal routine maintenance work. The contractor shall bear the cost of all modification additions or substitutions that may be considered necessary due to faulty materials, design or workmanship for the satisfactory working of the equipment. The final decision shall rest with Sr.DEE/G/UMB.

30. Failure to attend the defects

All defects and deficiencies advised to the contractor shall be attended to by him promptly. If contractor fails to respond and arrange repair/rectification within reasonable time, the purchaser shall be free to get the repairs done through departmental labour or through any other sources at contractor's expenses without prejudice to the other remedies available under the contract.

- 31. Maintenance Manuals** – (In case of M&P Supplied & fixed) On successful completion of work, the contractor shall hand over four copies of the detailed drawings and maintenance manuals of each equipment duly bound in booklets. Two copies shall be given in the form of CD/floppy to the purchaser prior to release of final payment to the contractor.

32. Damage to Railway Property:-

Contractor(s) executing the works adjacent to the existing Railway track for e.g. doubling, gauge conversion, yard modeling etc. will take all care for avoiding any damage to the underground/OH services such as S&T cables, electric cables/wires, pipelines/sewer lines etc. They must ensure that the work is started and obtaining clearance in writing from the Engineer-in-charge regarding route of signaling/electrical cables/water supply/sewer lines etc. However, if any damage occurs during execution he will immediately report the same to the Engineer-in-charge. It may be further noted that if it is proved that damage is occurred due to negligence on the part of the contractor, the cost of the damage will be recovered from him/them. The decision of Engineer-in-charge will be final and binding

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upon the contractor(s)

33. **Errors, Omission and Discrepancies:-**
The tenderer(s) shall not make any advantage of any misinterpretation of the conditions due to typing or any other error and if any in doubt shall bring to the notice of the Engineer without delay. In case of any contradiction, only the printed rules and books should be followed and no claim for the misinterpretation shall be entertained.
34. **NIGHT WORKING:**
The work is required to be carried out round the clock and contractor should abide by the central/State/Railways Laws in force regarding night working..
35. **OTHER CONCURRENT WORKS:**
The Contractor should take note that the Railway may carry out other works through departmental labour or through other agencies in the same area simultaneously. The Contractor should not create disturbances to departmental work, other contractual works etc., in progress at the same site
36. **SETTING OUT WORKS:**
The contractor is to set out the whole of the work in consultation with the Engineer and will rectify any errors which may arise there in and provide efficient and sufficient staff and labour. The contractor shall also alter or amend any errors in the dimension lines or levels to the satisfaction of the Engineer or of his 15 including 15 representative without claiming any compensation for the same
37. **FIRST AID FACILITIES:**
In terms of Para 19 of "The contract labour and (Regulation & Abolition) Act 1970", the contractor should provide and maintain a **"First Aid Box"** equipped with the prescribed contents at every place during the all working hours where contract labour is employed by him/them
38. **Final Acceptance**
The final acceptance of the entire installation shall be from the date of expiry of the guarantee period and after contractor's obligation has been fully met under the contract.
40. **Variations In Quantities During Execution Of Works Contracts :** The procedure detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:
- 40.1 Individual NS items in contracts shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
- 40.2 In case an increase in quantity of an individual item by more than 25% of the agreement quantity in considered unavailable, the same shall be got executed by floating a fresh tender. If floating a fresh tender for operating that item is considered not practicable, quantity of that item may be operated in excess of 125% of the agreement quantity subject to the following conditions:
- a) Operation of an item by more than 125% of the agreement quantity needs the approval of an officer of the rank not less than S.A. Grade.
 - i) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender.
 - ii) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender.
 - iii) Variation in quantities of individual item beyond 150% will be prohibited and would be permitted only in exceptional unavoidable circumstances with the concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.
 - b) The variation in quantities as per the above formula will apply only to the individual items of the contract and not on the overall contract value.
 - c) Execution of quantities beyond 150% of the overall agreement value should not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor, with prior personal concurrence of FA&CAO/CA&CAO(C) and approval of General Manager.
- 40.3 In cases where decrease is involved during execution of contract.
- a) The contract signing authority can decrease the item up to 25% of individual item without finance concurrence.
 - b) For decrease beyond 25% for individual items or 25% of contract agreement value, the approval of an officer not less than rank of S.A. Grade may be taken after obtaining 'No Claim Certificate'

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from the contractor and with finance concurrence, giving detailed reasons for each such decrease in the quantities.

- c) It should be certified that the work proposed to be reduced will not be required in the same work.
- 40.4 The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.
- 40.5 No such quantity variation limit shall apply for foundation items.
- 40.6 As far as SOR items are concerned, the limit of 25% would apply to the value of SOR schedule as a whole and not on individual SOR items. However, in case of NS items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).
- 40.7 For the tenders accepted at zonal Railways level, variations in the quantities will be approved by the authority in whose powers revised value of the agreement lies.
- 40.8 For tenders accepted by General Manager, variations upto 125% of the original agreement value may be accepted by General Manager.
- 40.9 For tenders accepted by Board Members and Railway Ministers, variations upto 110% of the original agreement value may be accepted by General Manager.
- 40.10 The aspect of vitiation of tender with respect to variation in quantities should be checked and voided. In case of vitiation of the tender (both for increase as well as decrease of value of contract agreement), sanction of the competent authority as per single tender should be obtained.
{ Authority : (1) Item-40.9 to Railway Board's letter no. 2007/ CE-II CT/ 18, Dated 28.09.07 and (2) Item-40.2 to Railway Board's letter no. 2007/ CE.II CT/ 18/ Pt.XII, Dated 31.12.10 }

41.0 Inclusion of new NS item:-

In case a new NS item is considered necessary the same can be done without finance concurrence subject to a maximum ceiling of Rs.5 Lac in a contract or 10% of the original value of the contract whichever is less. This power shall be exercised by SG/JAG level officer upto a value of Rs.50000/- in a contract and by SAG level officer upto a value of Rs.5 Lacs in a contract.(Rly.Board letter no.2007/CE-I/CT/1 dt. 31/8/2007).

42.0 UPTO DATE G.C.C. :

The General Conditions of contract will mean, the General conditions of contract as amended and/or corrected from time to time up to dates of opening, it shall be the responsibility of the contractor before submitting his tender to ascertain all amendments and/or correction made to the said general conditions of contract

43.0 Eligibility Criteria For Tenderers

Only those firms which in their individual capacity, satisfy the following criteria need to quote for this tender.

- a) As a proof of technical experience/competence, the tenderer should have completed successfully at least one work of similar nature in individual capacity for a minimum value of 35% of advertised tender value of this work, in the last three years (i.e. current year and three previous financial years).
- b) As a proof of sufficient financial capacity and organizational resources, tenderer should have received the total payments against satisfactory execution of all completed/ongoing works of all types (not confined to only similar works) during the last three financial years and in the current financial year (upto the date of opening of the tender) of a value not less than 150% of the advertised cost of work.
- c) **Electrical Contractor License**
- Tenderer shall have a valid Electrical Contractor's License issued in the name of the firm by any State Government and shall furnish all the particulars of the Electrical license held by him along with the tender documents. Tenderer shall submit the photocopy of Electrical Contractor License attested by Gazetted officer.
 - The successful tenderer shall furnish the names and particulars of supervisor and workmen to be engaged for carrying out this work.
 - By a Gazette notification, Govt. of India has appointed Chief Electrical Engineer, Northern Railway to be the Electrical Inspector and has directed that he shall exercise the powers and perform the functions of an Electrical Inspector under the Indian Electricity Act 1910. The inspecting officers for this contract shall be nominated by the Railways as indicated in the technical specification.

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- d. Electrical Contractor License is not required for specialized works as under
- i) Traction distribution work
 - ii) Lifts/Escalators
 - iii) Air Conditioning
 - iv) Tunnel ventilation
 - v) Vehicle Hiring

Note: -

- i) For judging the technical eligibility and financial capability, only those works, which had been executed for the Govt. or Semi Govt. organizations shall be considered and the tenderer will submit the certificate to this effect from the officer concerned duly signed under the official seal. It should be noted that credentials for the works executed for private organizations shall not be considered. Original / attested copies of these should be submitted.
- ii) For Works below Rs.50 Lac, the above referred condition in 43.0 (a) & 43.0 (b) shall not be applicable. However, if the quoted amount is over Rs. 50 Lacs, the above condition shall be applicable. All other terms and condition will remain same.

44.0 The tenderer shall provide satisfactory evidence acceptable to Railways to show that

- a) They are established, experienced and reputed firm and preferably should have undertaken work of the similar type tendered for during last three years at Annexure-I
- b) They have established technically competent and adequately staffed organization and proposed to be engaged, the details given at Annexure-III to ensure that the services required under this tender can be satisfactorily rendered at all stages of the work.
- c) They have sufficient equipments, plants and machinery alongwith necessary document to establish ownership/hiring to meet the obligation under contract and to complete the work contracted well within the stipulated time schedule and accepted by him/them.
- d) List of works completed in the last three financial years giving description of work, organization to whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work, date of actual start, actual completion and final value of contract should also be given.
- e) List of work on hand indicating description of work, contract value, and approximate value of balance work yet to be done and date of award.
- f) The tenderer shall submit the photocopy of Permanent Account Number (PAN) issued by Income Tax authority or a sworn affidavit duly countersigned by the Income Tax Officer **attested by Gazetted officer.**

45.0 Guidelines for submitting tenders by partnership firms

- 45.1 The partnership Firms participating in the tender should be legally valid under the provisions of Indian Partnership Act.
- 45.2 Partnership Firms are eligible to quote tenders of any Value
- 45.3 The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the competent registrar or the partnership deed should have been notarized prior to date of tender opening as per Indian partnership Act.
- 45.4 Separate identity/name should be given to the partnership firm. The partnership firm should have PAN/TAN number in its own name and PAN/TAN number in the name of the any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- 45.5 Once the tender has been submitted, the constitution of firm shall not be allowed to be modified/alterd/terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc, in which case prior permission should be taken from Railway and in any case the minimum eligibility criteria should not be get vitiated. The reconstitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case. Shall be at the sole discretion of the Railways and the tenderer shall have no claims what so ever. Any change in the constitution of partnership firm after opening of tender shall be with the consume of all partners

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and with the signatures of all partners as that in the partnership deed. Failure to observe this requirement shall render the offer invalid and full EMD shall be forfeited. If any partner/s withdraws from the firm after opening of the tender and before the award of the tender, the offer shall be rejected. If any new partner joins the firm after opening of tender but prior to award of contract, his/her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to this share in the previous firm. In case the tenderer fails to inform Railway beforehand about any such changes/modification in the constitution which is inevitable a breach of contract conditions, liable for determination of contract under Clause 62 of General condition of Contract.

- 45.6 A partner of the firm shall not permitted to participate either in his individual capacity or as a partner of any other firm in the same tender
- 45.7 The tender form shall be purchased and submitted only in the name of partnership firm and not in the name of any constituent partner. The EMD shall be submitted only in the name of partnership firm. The EMD submitted in the name of any individual partner or in the name of authorized partner(s) shall not be considered.
- 45.8 One or more of the partners of the firm or any other persons(s) shall be designated as the authorized person(s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a "Power of Attorney", specifically authorizing him/them to submit & sign the tender, sign the agreement, receive payment, witness measurements sign measurement books, make correspondences, compromise, settle, relinquish any claim(s) preferred by the firm, sign, "No claim Certificate", refer all or any dispute to arbitration and to take similar such action in respect of the said tender/contract. Such "Power of Attorney" should be notarized/ registered and submitted alongwith tender.
- 45.9 A notary certified copy of registered or notarized partnership deed shall be submitted along with the tender.
- 45.10 On award of the contract to the partnership firm, a single performance guarantee shall be submitted by the firm as per tender conditions. The entire guarantee like Performance guarantee, guarantee for Mobilization advance, Plant and Machineries advance shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.
- 45.11 On issue of LOA, contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.
- 45.12 In case, the contract is awarded to a partnership firm, the following undertaking, shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement :
- a) **Joint and several liabilities** : - The partner of the firm to which the contract is awarded, shall be jointly and severally liable to the Railway for execution of the contract in accordance with general and special conditions of the contract. The partners shall also be liable jointly and severally for loss, damages caused to the Railway during the course of execution of the contract or due to non-execution of the contract or part thereof.
 - b) **Duration for the partnership deed and partnership firm agreement:-** The partnership deed/partnership firm agreement shall normally not be modified, altered, terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any changes carried out by partners in the constitution of the form without permission of Railway, shall constitute a breach of contract liable for determination fo contract under clause 62 of General Conditions of Contracts.
 - c) **Governing Laws:-** The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.
 - d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the of the other partner and that of the Railway in respect of the tender/contract.
- 45.13 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership concern. The following documents shall be submitted by the partnership firm, with the tender-
- a) A copy of registered/notarized partnership deed duly authenticated by notary.
 - b) Power of Attorney duly stamped and authenticated by a Notary Public or by a Magistrate from all partners of the firm in favour of one or more of the partner(s) or any other person(s) as detailed in para (8) above.
 - c) An undertaking by all the partners of the partnership firm shall be given that they have not been black listed or debarred by Railways or any other Ministry/Department of the Govt. of India/any state Govt from participation in tenders/contract on the date of opening of bids either in their individual capacity or in any firm in which they were/are partners. Concealment/ Wrong information in regard to above shall make the contract liable for determination under clause 62 of General Conditions of Contract – 1999.

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45.14 Evaluation of eligibility of a partnership firm.

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the following conditions :

- i) **Technical eligibility criteria** – The tenderer should satisfy either of the following criteria: -
- a) The partnership firm shall satisfy the full requirement of technical eligibility criteria (defined in “para 43.0 (a) of special tender conditions and instructions for tenders”) in its own name and style;
OR
- b) In case the partnership firm does not fulfill the technical eligibility criteria in its own name and style, but one of its partners has executed a work in the past either as a sole proprietor of a firm or as a partner in a different partnership firm, then such partner of the firm shall satisfy the technical eligibility criteria (defined in “Para 43.0 (a) of special tender conditions and instructions for tenderers”) on the basis of his/her proportionate share in that proprietorship/ partnership firm reduced further by his/her percentage share in the tendering firm).
- ii) **Financial eligibility criteria** - the tenderer shall satisfy either of the following criteria: -
- a) The partnership firm shall satisfy the full requirements of the financial eligibility criteria (as defined in “para 43.0 (b) of special tender conditions and instructions for tenderers”) in its own name and style.
OR
- b) In case the partnership firm does not fulfill the financial eligibility criteria in its own name and style, but one or more of its partners have executed a work/contract in the past either as sole [proprietor or as partner in different firms, then the arithmetic sum of the contractual payments received by all the partners of the tendering firm, derived on the basis of their respective proportionate share in the such firms reduced further by their respective percentage share in the tendering firm, shall satisfy the full requirements of the financial eligibility criteria (as defined in “para 43.0 (b) of special tender conditions and instructions for tenderers”)

Example on Evaluation of Technical & Financial Eligibility of Partnership Firm

A tendering partnership firm “ABCD” has four constituent partners namely “A”, “B”, “C”, “D” with their respective shares as 40%, 30%, 20% & 10%. But this firm has not executed any work in its own name and style. However, the constituent partners have executed the work in earlier partnership firm(s) or as sole proprietor as under : -

- (i) Partnership firm “ABZ” having three partners namely “A”, “B” & “Z” with respective shares of 10%, 20% and 70% has executed a work of value Rs. 10.00 crores earlier.
- (ii) Partnership firm “CYX” having three partners namely “C”, “Y” & “X” with respective shares of 50%, 30% & 20% has executed a work of value Rs. 5.00 crores earlier
- (iii) Sole proprietorship firm “P” having “D” as sole proprietor has executed a work of value Rs. 2.0 Crores earlier.

The evaluation of technical and financial eligibility of tendering firm “ABCD” shall be done by taking proportionate share of credentials of partners A, B, C, and Derived from their earlier partnership firms to be deduced further by their percentage share in the tendering firm as calculated in table below : -

1	2		3		4		5	
Partner	Credentials of “A” & “B” derived from firm “ABZ” which has executed work of Rs. 10 Crores		Credentials of “C” derived from firm “CYX” firm which has executed work of Rs. 5.0 Crores		Credentials for “D” derived from proprietorship[firm “P” which has executed work of Rs. 2.0 Crores		Constitution of “A”, “B” , “C” & “D” to credentials of tendering firm “ABCD”	
	%share in firm “ABZ”	Proportionate Credentials	%share in firm “ABZ”	Proportionate Credentials	%share in firm “ABZ”	Proportionate Credentials	%share in “ABCD”	Proportionate Credentials to “ABCD”
A	10%	10% of 10 Cr. = 1.0 Cr.					40%	40% of 1. Cr. = 0.4 Cr.
B	20%	20% fo 10 Cr. = 2.0 Cr.					30%	30% of 2 Cr. = 0.6 Cr.
C			50%	50% of 5 Cr. – 2.5 Cr.			20%	20% of 2.5 Cr. = 0.5 Cr.
D					100%	100% of 2 Cr. – 2.0 Cr.	10%	10% of 2 Cr. = 0.20 Cr.

Evaluation of Technical Eligibility

Any one of the partners of “ABCD” tendering firm viz A, B, C or D should satisfy the technical eligibility criterion on the basis of his/her proportionate share of credential in the earlier partnership

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firm reduced further by his percentage share in the tendering firm. As calculated in above table, the contribution of partners A, B, C & D towards the credentials of tendering firm "ABCD" will be taken as Rs. 0.40 Cr., Rs. 0.60 Cr., Rs. 0.50Cr, 0.20 cr. Respectively. Thus, in this example the firm "ABCD" is deemed to have executed one single work of maximum value of Rs. 0.60 Cr. For the purpose of technical eligibility criteria.

Evaluation of Financial Eligibility

The arithmetic sum of the contribution of all the partners of tendering firm "ABCD" derived on the basis of their respective proportionate share in the earlier partnership firms reduced further by their respective percentage share in the tendering firm, in this example will be taken as Rs. 1.70 Cr. (i.e $A+B+C+D = 0.40 + 0.60 + 0.50 + 0.20 = 1.70$ Cr.). Thus, in this example, the firm "ABCD" is deemed to have received contractual payment of Rs. 1.70 Cr. For the purpose of financial eligibility criteria.

All the partners of the partnership firm shall certify that they are not black listed or debarred by railway or any other Ministry/Department of the /Govt of india/State govt from participation in the tender / contract on the date of opening of bids either in their individual capacity or partnership firm in which they were/are partners.

Partnership firms are different from Pvt Ltd firm and therefore the above guidelines are applicable for only partnership firms and not for Pvt Ltd firms. (Ref HQ L.N 74-W/O/Pt.XXV/WA Dated 03/06/2011).

- 45.15 Modified clause.(in replacement to the existing clause) Refer CEE/Plg L.N 14-Elect/Plg/Misc(2011-12) Dated 09/03/2012 and CAO/C letter no 74-W/O/WA/Pt. X/Loose Dated 16/02/2012.

The tenderer/s who are constituents of firm, company, association or society must necessarily enclose the attested copies of the constitution of their concern, partnership deed and power of attorney along with their tender. Tender documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association or society as the case may be. The Co-operative societies must likewise submit a attested copy of their certificate of registration along with the documents as above mentioned.

The tenderer shall give full details of the constitution of the firm/JV/Company/Society etc in the Top sheet as well as in Annexure-D to special Tender Conditions and instructions to tenderers of the tender document and must submit the following documents along with tender without fail.

- a) Sole Proprietorship firm:-
If the tender is submitted on behalf of a sole Proprietorship concern the tenderer must submit along with the tender, the notarized copy of the affidavit for the same.
- b) If the tender is submitted on behalf of a partnership firm/concern tenderer must submit along with the tender, the attested copy of the registered/notarized partnership deed and (2) the power of Attorney/authorization in favour of the individual signing the tender.
- c) Joint Venture(JV):
If the tender is submitted on behalf of a JV, the tenderer must submit along with the tender.
 - 1) Original copy of MOU/JV agreement duly notarized in accordance with the annexure K-1 to special tender conditions and instructions to tenderers of tender document, duly signed by the power of attorney (POA) holders/ authorized signatories of all the constituents/members of the JV.
 - 2) Valid power of attorney/authorization by all JV constituents, in favour of the individual signing the tender document on behalf of the JV and
 - 3) In addition, following documents must be enclosed by the JV firms along with the tender:-
 - i) In case one or more of the members of the JV firm is/are partnership firm(s) following documents shall be submitted.
 - a) Notary certified copy of the partnership deed.
 - b) Consent of all the partners to enter into the Joint Venture Agreement on a stamp paper of appropriate value(in original)

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- c) Power of attorney (duly registered or notarized as per prevailing law) in favour of one of the partners of the partnership firm to sign the JV MOU/Agreement on behalf of the partnership firm and create liability against the firm.
- ii) In case one or more members of JV is/are proprietary firm or HUF the following documents shall be enclosed.

Affidavit on stamp paper of appropriate value declaring that his/her concern is a Proprietary concern and he/she is sole proprietor of the concern OR he/she is in position of Karta of Hindu Undivided Family and he/she has the authority, power and consent given by other partners to act on behalf of HUF.

- iii) In case one or more members of JV is/are limited companies, the following documents shall be submitted.
- a) Notary certified copy of resolutions of the Directors of the company, permitting the company to enter into a JV agreement, authorizing MD or one of the Directors or Managers of the company to sign JV MOU/Agreement and such other documents required to be signed on behalf of the company and enter into liability against the company and/or do any other act on behalf of the company.
- b) Copy of the memorandum and Articles of Association of the company.
- c) Power of attorney (duly registered/notarized as prevailing law) by the company authorizing the person to do/act on behalf of the company as mentioned in the para (a) above

d) **Company**

If the tender is submitted on behalf of the company registered under companies Act 1956, the tenderer must submit along with tender (a) the copies of MOA(Memorandum of Association) & AOA (Article of Association) of the company. (2) POA(Power of Attorney duly registered /notarized by the company (backed by the resolution of Board or directors in favour of the individual signing the tender on behalf of the company.

e) **Society:-**

If the tender is submitted on behalf of a society the tenderer submit alongwith tender(1) the attested copy of the certificate of registration(2) Deed of formation(3) Power of attorney in favour of the tender signatory.

If above mentioned documents (as applicable) are not enclosed along with tender documents, the tender shall be treated as having been submitted by the Individual who has signed the tender documents. After opening of the tender, any documents pertaining to the constitution of the firm/JV/Society (as applicable) shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained.

No change in the constitution of the firm/JV/Company shall be permitted after opening of the tender except where necessitated due to the succession law. The Power of Attorney in favour of the individual signing the tender document may however be accepted subsequently, If acceptable reasons are furnished for the same.

JV/Consortiums/MOUs shall be considered only where permissible the tender conditions.

46.0 **Imposition of token penalty for delay in the completion of work:**

Competent authority while granting extension to the currency of contract under clause 17(B) of GCC may also consider levy of token penalty as deemed fit based on the merit of the case.

- 47.0 Tenderer/s credentials, documents testifying tenderer/s previous experience and financial status should be produced along with the tender or when desired by competent authority of the northern railway.

Tenderer/s who have not carried out any work so far on this railway and who is/aren't borne on the approved list of contractors of Northern Railway should submit along with his/their tender credentials to establish.

- (i) His capacity to carry out the work satisfactorily

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- (ii) His financial status supported by bank reference and other documents.
- (iii) Certificate duly attested and testimonials regarding contracting experience for the type of job for which tender is invited with list of work carried out in the past.

48.0 Non- compliance with any of the conditions set forth above is liable to result in the tender being rejected.

**Sr.Divl.Elect.Engineer/G,
N.Rly.,Ambala Cantt.
For & on behalf of President of India.**

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CHAPTER – 2
PRICES AND PAYMENT

- 1.0 **Scope:**
This chapter deals with prices to be paid to the contractor for completion of various items of work. The contractor shall be paid for completed works in accordance with accepted schedule of prices and rates, as stipulated in the tender document.
- 2.0 **Schedule of Prices:-**
- a) **Unit prices for materials:-**
The unit prices of materials as given in schedule of quantities shall be inclusive of all charges including transport, loading/unloading handling all insurance premium, banker's charges all taxes, duties and levies (including octroi etc.) applicable on works contracts etc. etc.
- b) **For Erection:-**
The unit prices given in schedule of quantities shall include cost of erection, testing and commissioning and cover all cost of administration of the contract, insurance, premium, bankers' charges for guarantees, cost of storage, loading, unloading and handling of materials and for any road transport which the contractor may use for carriage of materials between his depot and depot/s and site of work etc. etc.
- c) Unit price quoted shall be firm. No price variation shall be allowed on any account.
- d) All payments in respect of the contract during the currency of the contract shall be made through Electronic Clearing System (ECS)/Electronic Funds Transfer.(EFT). The successful tenderer on award of contract must submit prescribed ECS/EFT mandate form complete in all respects. However, if the facility of ECS/EFT is not available at a particular location the payment shall be made by Cheque/Demand draft. In such case the successful on award of contract will have to furnish contractor's Bank account number and Name of Bank against which all payments in respect of the contract during the currency of contract shall be made
- 3.0 **Quantities-**
The approximate estimated quantities of various items of works are included in schedule of quantities and rate. However, quantities can be increased/decreased as stipulated in Schedule of Rates & quantities.
- 4.0 **New items of work. -**
If during the execution of the work the Contractor is called upon to carry out any new item of work not included in Schedule of Rates & Quantities, the Contractor shall execute such works at such prices as may be mutually agreed in writing with the Purchaser.
- 5.0 **Deduction of taxes from contractor's bills**
Wherever the law makes it statutory for the purchaser to deduct any amount towards Sales Tax/Income tax on works contract, the same will be deducted and deposited with the concerned authority.
- 6.0 **Payment:-**
- 6.1 The rates quoted by the contractor as per schedule of items. Rates & quantities shall form the basis of on account payment of various items or the various items under this contract.
- 6.2 In the course of execution of various items of work under schedule of items, rates & quantities running bills payment for partly completed works will be made to the contractor. The quantum of such work for payment shall be decided by Engineer incharge whose decision shall be final & binding on the contractor.
- 6.3 Payment to the contractor shall be made as under:-**
- a) 80% of the item price (material cost of major item) may be paid on receipt of material in railway custody after inspection as decided by Engineer incharge whose decision shall be final & binding on the contractor. . If for any item of work, price of material and erection is not separately available. 80% of the cost of item of work will be considered as material cost.
- b) Further payment of material and erection cost to cover 90% of the cost of item of work shall be made on successful testing and commissioning of the installation.

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- c) Balance 10% payment shall be released after successful commissioning and on issue of provisional acceptance certificate.
- 6.4 No on account payment by the Railway shall protect the contractor/s against or prevent the Railway from recovering from the contractor/s any overpayment made to him/them.
- 6.4 Indemnity Bond for All "On Accounts payments" shall be covered by a standing indemnity bond as per approved Performa enclosed in Annexure.
- 7.0 In AMC cases payment shall be made bi- monthly or as agreed by the parties after filling the MB duly signed by consignee.

**Sr.Divl.Elect.Engineer/G,
N.Rly.,Ambala Cantt
For & on behalf of the President of India.**

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TENDERER's CREDENTIALS.**Statement of works Executed/completed by the contractors:-**

SNo.	Name & place of Work	Authority/Agency for which work was carried out	Date of award & agreement no. & date	Date of completion (Original/actual)	Agreement cost/Completion cost	Principal/Technical features work in brief.	S.No. at which relevant certificate/Documents are attached
1	2	3	4	5	6	7	8

Note: Performance report from the competent authority of the Organization/Deptt. for each work must be attached. (Only govt works will be considered, No work carried out for private parties will be considered)

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Annexure-II**STATEMENT OF WORKS BEING EXECUTED/IN HAND BY THE CONTRACTOR**

s.No.	Name and place of work	Authority/agency for whom the work is being carried	Date of award & agreement No. & date	Date of completion (Original/actual)
1	2	3	4	5

Agreemental cost of work cost/likely cost	Principal/Technical features work in brief.	S.No.at which relevant certificate/Documents Are attached	Payment taken till.
6	7	8	9

Note:- (Only govt works will be considered ,No work carried out for private parties will be considered)

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D. List of Tools & Plants available (Own)

E) List of Tools & Plants proposed to be included

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CHECK LIST

1.0	The tenderer should indicate clearly replies against item including in this check list.	
1.1	Have you?	
1.1.1	Purchased the tender documents?	Yes/No
1.1.2	Furnished rates against the quantities in the prescribed perform as per schedule of work?	Yes/No
1.1.3	Submitted the Earnest Money Deposit?	Yes/No
1.1.4	Furnished the details of works completed in the last three financial year (Annexure-I)	Yes/No
1.1.5	Furnished the list of work in hand (Annexure-II)	Yes/No
1.1.6	Furnished the list of staff available & proposed to be engaged for this work(Annexure-III)	Yes/No
1.1.7	Furnished the list of Tools & plants available (Own) & Proposed to be included to be given separately for this work(Annexure-IV)	Yes/No
1.1.8	Kept your offer valid for 90 days?	Yes/No
1.1.9	Visited the site and have studied the methodology to be adopted for completion of the work?	Yes/No
1.1.10	Submitted the tenderer's Scheme of work (Annexure V)?	Yes/No

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Name of Bank _____
 Bank Guarantee Bond No. _____
 Dated:- _____

PERFORMANCE GUARANTEE BOND

In consideration of the President of India acting through _____ (Designation & Address of contract signing authority) having agreed under the terms and conditions of agreement/contract acceptance letter no. _____ dated _____ made between _____ (Designation & address of Contract signing authority) and _____ (hereinafter called "the said contractor(s)" for the work of _____ (herein called "the said agreement") having agreed for submission of a irrevocable Bank Guarantee Bond for Rs. _____ (Rs. _____ only) as a performance security Guarantee Bond from the Guarantee Bond from the Contractor(s) for the compliance of his obligations in accordance with the terms and conditions in the said agreement.

- 1) We _____ (indicate the name of Bank) hereinafter referred to as the Bank undertake to pay to the Government an amount not exceeding Rs. _____ (Rs. _____ only) on demand by the Government.
- 2) We _____ (indicate the name of Bank) further agree that (and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Government through the Sr.Divl.Finance Manager/N.Rly.,Ambala Cantt (Designation & Address of contract signing authority) Northern Railway stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the Government by reason of any breach by the said contractor of any of the terms or conditions contained in the said agreement or by reason of the contractor 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. However, our liability under this guarantee shall be restricted to an amount not exceeding _____
- 3(a) We _____ (indicate the name of Bank) further undertake to pay to the Government any money so demanded notwithstanding any dispute or dispute raised by the contractor(s) in any suit or proceeding pending before court or Tribunal relating to liability under this present being absolute and unequivocal.
- (b) The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.
4. We _____ (indicate the name of the Bank) to 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 Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharge by _____ (Designation & address of the contract signing authority) on behalf of the Government certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.
- 5(a) Notwithstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the Government or until (date of validity/extended validity) which ever is earlier and no claim shall be valid under this guarantee unless notice in writing thereof is given by the Government within validity/extended period of validity of guarantee from the date aforesaid.
- (b) Provided always that we _____ (indicate the name of the Bank) unconditionally undertakes to renew this guarantee or to extend the period of guarantee form year to year before the expiry of the period or the extended period of the guarantee, as the case may be on being called upon to do so by the Government. If the guarantee is not renewed or the period extended on demand, we _____ (indicate the name of the bank) shall pay the Government the full amount of guarantee on demand and without demur.
6. We _____ (indicate the name of Bank), further agree with the Government that the Government shall have the fullest liberty without our consent and without effecting in any manner out of obligations hereunder to vary any of the terms and conditions of the said contract from time to time or to

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postpone for any time or from time to time any to the powers exercisable by Government against the said contractor(s) and to forbear or enforce any the terms and conditions of the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any balance act or omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relieve us from the liability.

7. This guarantee will not be discharged by any change in the constitution of the Bank or the contractor(s)
8. We, _____(indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.
9. This guarantee shall be valid upto _____(Date of completion plus Maintenance period/60 days/whichever is higher). Unless extended on demand by Government. Notwithstanding anything to the contrary contained hereinbefore, our liability under this guarantee is restricted to Rs. _____(Rs. _____ only) unless a demand under this guarantee is made on us in writing on or before _____, we shall be discharged from our liabilities under this guarantee thereafter.

Dated _____ the _____ day of _____ for _____(Indicate the name of bank)

Signature of Bank Authorize Official
(Name):-
Designation:-
Full Address:-

Witness:

- 1.
- 2.

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STANDING INDEMNITY BOND FOR ON ACCOUNT PAYMENTS

(On requisite stamp value)

This indemnity bond is made on this _____ day of _____ 2014 by Sh. _____ Prop of M/S. _____ contractor of work contract No. _____ (hereinafter called contract sum surety of the one part) in favour of Sr.DFM, Northern Railway, Ambala Cantt or its successors (hereinafter called the purchaser of the other part).

Whereas the contractor shall be entirely responsible for the material for which on account payment have been made against the contract for the work of _____ over to us by the purchasers for the purpose of execution of the said contract until such time the material is duly erected or otherwise handed over to him.

I shall be entirely responsible for the safe custody and protection of the said material against all risk till they are duly delivered as erected equipment to the purchaser or he may direct otherwise and shall indemnify the purchaser against disposal of surplus material. The said material at time to then be open to inspection by any officer authorized by Sr.DFM, N.Rly., Ambala Cantt or his successor (whose address will be intimated in due course), should any loss, damage or deterioration of materials, occur on surplus material dispose of and refund become due to the purchaser shall be entitled to recover from us the full cost of as per price included in schedule quantity of the contract as applicable and in respect of other the materials is decided by the purchaser and on the basis of the source receipt/purchaser and also compensation for such laws or damage if any along with the amount to be refunded without prejudice to any other remedies available to him by reduction from any sum due or any sum which at any time hereinafter becomes due to us under the said contract or any other contract.

That this day of _____

(for and on behalf of

(Messer's _____ (Contractor)

Signature of witness:-

Name of witness in BLOCK LETTERS

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CHAPTER-4

TENDER NO. 30-Elect./T-37/2013-14 (Open Tender)
NAME OF WORK Electrical work in connection with provision community hall at Jagadhari , microwave building at Saharanpur, electrification of office building for USFD staff at Ambala and replacement of Air washer filter at DRM office complex at Ambala Cantt over Ambala Division.

Approx. Cost of work Rs. 14.59 Lacs

Earnest Money Rs. 29180/-

Completion Period 90 days

1 SCOPE OF WORK

The work includes following items:-

- i) Wiring of light, fan & plug points, wiring of circuits, sub-mains/mains in concealed/ fixed on surface PVC conduit with copper conductor, stranded single core, PVC insulated wires
- ii) Supply & fixing of electrical accessories, MS switch boxes, acrylic sheet etc.
- iii) Installation of ceiling fan (ceiling fan supplied by Railways)
- iv) SFTC of MCB DB box, block DB etc.
- v Laying of cable as per specification
- vi) Supply, testing , commissioning of , T-5, CFL, MH fittings, Exhaust fans
- vii) Supply and laying of LT XLPE cable of various sizes.
- viii) Supply, installation, testing and commissioning of maintenance free earthing
- ix) Supply, transportation, loading and erection of swaged welded steel Tubular poles
- x) SFTC of online UPS
- xi) Design, manufacture and SFTC of glow sign boards as per specifications.
SFTC of Air washer filter as per spec.

2.0 **Site of work:** - The site of work will be at **Jagadhari, Saharanpur and Ambala Cantt** under **concerned Power SSE**. However, site can be changed anywhere in Ambala Division as and when required.

3.0 Drawings:-

The drawing if any and make will be got approved form Sr.DEE/G. These will be inspected by Sr.DEE/G or his representative.

4.0 SPECIAL CONDITIONS OF WORK & RESPONSIBILITIES OF CONTRACTORS

- 1) This contract shall be governed by latest version of Indian Electricity Act & Indian Electricity Rules in force.
- 2) This contract shall be governed by general condition of contract & regulations of Engg; Deptt; latest edition up to date.
- 3) The contractor shall ensure the staff engaged by him possess identity card, entry pass, duty pass signed by the authority designated by Engineer of contract Incharge.
- 4) The contractor shall be responsible for the execution of contract (work) in accordance with terms and conditions prescribed by Railways.
- 5) Railway administration will not be responsible for any compensation to the firm's staffs by any reasons what so ever. Contractor will ensure that the staff is fully insured for any liability in case of accident, strikes, notes, civil commotion etc. The railway will not be liable for any damage caused due to any reason
- 6) Charges & expenses in respect of dismantling, moving, Loading and Unloading the equipment or a part there of, if required by firm for installing, repairing the equipment to their working place and back to Railway premises and including dismantling reinstallation testing and commissioning shall be borne by firm
- 7) Permission to work shall be given as per the Railway's convenience. No. claim for not giving the permission to work during the odd Hrs. will be accepted
- 8) All work is to be carried out in the presence of Railway's representative
- 9) The Tenderer shall not assign, transfer and sublet the privileges conferred under this agreement.
- 10) Railway can increase or decrease the quantity as per variation clause attached.

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- 11) The Railways Engineer Incharge may at any time terminate the contract without any notice payments in lieu thereof or assigning any reason thereof
- 12) In case of any dispute between the parties concerned, Sr. DEE shall be the sole arbitrator and his decision shall be final and binding on both the parties.
- 13) Income tax shall be deducted from the bills of the contractors as applicable and shall be deposited to IT department.
- 14) If any minor item under SOR not covered but required for completion of work will be done by the contractor at no extra cost.
- 15) The electrical work shall be carried out without interruption of power supply to the residents. Necessary shut down of power supply be arranged by Railway if required
- 16) Any modification in technical details suggested by OEM can be accepted with the prior written approval of Sr.DEE/G/UMB
- 17) The site can be changed anywhere in the Ambala division with the approval of competent authority.
- 18) Contractor shall provide the matching whitewash/paint on the patches/repair done during the electrical work. (DRM/UMB L.No.G-42/DRM/Insp./2013/15 dated 28/10/13)

5.0 Inspection of Material & Pre-commissioning test:-

- i) The pre-inspection of the material will be carried out by the Railway Representative/ Inspecting Agency authorized by Government Deptt. For inspecting the major/high valued items, like cables, HT/LT panels, Transformers, overhead, APFC, Energy saver, ACSR High masts .Poles of any length etc. the Railway representative shall visit manufactures' works at all reasonable time to witness and inspect the testing of equipments/material. It is the duty of the contractor to ensure that all the equipments/material. Supplied are tested as per relevant specifications. He shall provide all necessary assistance is carrying out tests and inspection at his own cost
- ii) The contractor shall furnish three copies of manufacture test certificate for the routine and type tests conducted on the equipments/materials offered. If necessary the contractor shall arrange to conduct the entire routine test at manufacture's premises in the presence of Railway representative at his own cost. The results of the routine tests shall be jointly signed by the authorized representative of the manufacture and Railways authorized inspecting official
- iii) For the remaining items the sealed sample should be submitted by the contractor/supplier to the Railway authorities, which will be approved and kept in Railway custody for future reference during the execution of the project and the warranty period
- iv) Pre-commissioning test on various equipments/materials shall be carried out jointly
- v) by the contractor with the Railway representative

6.0 TECHNICAL DETAILS OF WORK

- a) **Internal wiring:** (for internal non metallic internal wiring refer to specification details attached)(Annexure-A)
- b) **Earthing:-**
All the earthing work shall be carried out in accordance with Specification no.CEE/C/TKJ/NR-19 for plate earthing and CEE/C/TKJ/NR-13 for pipe earthing. The contractor shall take location marking for earth pits from zonal Electrical incharge before starting the work)
- c) **Cables & Cable laying:-**
All the cable laying work for HT & LT cables shall be carried out in accordance with attached technical specifications for cables and cable laying specification no.CEE/C/TKJ/NR-15. The contractor shall take route marking for HT/LT cables from zonal electrical incharge before starting the cable laying work(Annexure-C)

7.0 Guarantee:-

The Guarantee will be applicable as per RDSO specification where ever the material is prescribed as per RDSO spec. In all other cases the tenderer shall guarantee the equipments/installations for satisfactory performance for a period of 12 months from the date of commissioning against any defect. The contractor should promptly attend complaint and replace/repair the defective equipments/parts free of cost promptly and satisfactorily. The equipments/parts so replaced by the contractor, shall be further guaranteed for a period of 12 months for satisfactory service from the date of such replacement

8.0 Completion period :-

Time is an essence of the contract & the entire work will have to be completed in all respect within the period of **90 days** from the date of issue of acceptance letter.

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9.0 **Makes of materials:-**

All the materials equipments to be supplied and installed as per of makes mentioned in tender. In case no makes are mentioned approved makes as per RC/ISI shall be provided with the approval of Sr.DEE/G.

**Sr. Divl. Elect. Engineer/G,
N.Rly., Ambala Cantt**

for & on behalf of the President of India.

I have carefully read all terms and conditions and above specifications and agree to abide by them fully.

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EXPLANATORY NOTES TO SCHEDULE OF PRICES FOR ELECTRICAL GENERAL SERVICE WORKS
GENERAL

These explanatory notes are for guidance of field staff. Each work has its own particular requirements. Engineer in-charge will be responsible for successful execution of work as per technical specifications.

- i) All electrical works should comply with Indian Electricity Act 1910 and Indian Electricity Rules 1956.
- ii. All electrical installations works shall conform to relevant Indian Standard Code of Practice and carried out as per relevant safety Code of Practices, Guide for Safety Procedures in Electrical Work as per I.S. 5216/Pt.I & II/1982 shall be observed
- iii) All components used in installation shall be of appropriate ratings of voltage, current, and frequency.
- iv) All minor items viz. hardware items, foundation bolts, termination lugs for electrical connections etc. as required and necessary for proper working of the equipment shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

EXPLANATORY NOTES OF Section-A(SOR Item):-

PVC/MS pipe - Laying of conduit shall be in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Fittings for rigid non-metallic conduit shall conform to IS 3419/1989(Latest Version) and accessories shall conform to relevant IS

Copper multistranded copper wire - Wiring of installation shall be in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Ceiling rose – ceiling rose shall conform to IS 371/1979 (Latest Version). Lamp Holder and ceiling rose shall be provided in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

14 SWG GI wire - Drawing of GI wire in existing pipe shall be in conformity with 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Pipe Earthing – This item shall be in conformity to IS 3043/1987 (Latest Version). Excavation shall be done complying with Code of Safety as per IS 3764/1992

6 SWG GI wire – This item shall be in conformity to IS 5613/Pt.I Sec. 1 & 2/1985 (Latest Version). GI wire shall conform to relevant IS.

Laying of cable – This item shall be in conformity to IS 1255 /1983 (Latest Version). Excavation shall be done complying with Code of Safety as per IS 3764/1992

Installation of Fl.tube fitting - FL Tube fitting shall be installed in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Installation of ceiling fan - Ceiling fan shall be installed in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Laying of G.I.Pipe. – This item shall be in conformity to IS 5613/Pt.I Sec. 1 & 2/1985 (Latest Version). GI pipe shall conform to IS 1239/Pt.I/1990 and fittings shall conform to IS 1239/Pt.II/1992

Meter cum distribution box - Fabrication of meter cum distribution box shall be as per Northern Railway Tech. Specification No. 81-Elect/P/1991 and shall conform to IS 8623/Pt.I & Pt. III/1993 (Latest Version) with degree of protection IP 42 and shall be installed in conformity with 732/1989 (Latest Version), IS 4648/1968 (Latest Version).

Distribution box comprising kit kat - Fabrication of distribution box shall conform to IS 8623/Pt.I & Pt. III/1993 (Latest Version) with degree of protection IP 53 and shall be installed in conformity with 732/1989 (Latest Version), IS 4648/1968 (Latest Version)

Iron clad plug socket:- Fabrication shall conform to IS 8623/Pt.I & Pt. III/1993 (Latest Version) with degree of protection IP 42 and shall be installed in conformity with 732/1989 (Latest Version), IS 4648/1968 (Latest Version)

Musical chime bell:-Musical chime bell shall be installed in conformity with IS 732/1989 (Latest Version), IS 4648/1968 (Latest Version) & IS 8884/1978 (Latest Version). Musical chime bell shall conform to IS 2268/1968 (Latest Version).

Sr.DEE/G/UMB

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SPECIFICATION FOR NON-MATALLIC CONDUIT (INTERNAL) WIRING

1.0 SCOPE

This specification covers the general technical requirements and measurement of the various components in internal electrical installation and wiring works in office and residential buildings.

2.0 Wiring :-

Wiring shall include all work necessary to complete wiring of ceiling rose, light holder, ceiling fan and exhaust fan outlets plug points etc. from the controlling switch. The scope of wiring for a point shall, however, include the wiring work necessary for a point, include the wiring work necessary in tapping from another point in the same distribution circuit. In case of call bell points wiring from the ceiling rose meant for connection to bell push shall be taken.

Following shall be deemed to be included in the wiring :

- a) Conduit, conduit accessories and wiring cables between switch box and point outlet.
- b) All fixing accessories such as staples, saddles, nails and screws etc.
- c) M.S switch boxes for mounting controlling switches sockets and regulators etc., recessed or surface type, and phenolic laminated top sheet over the switch boxes.
- d) Outlet boxes, junction boxes, pull through boxes etc. excluding loose wire boxes.
- e) Control switches
- f) 3 pin or 6 pin sockets, ceiling rose or connector etc.
- g) Connections to ceiling rose, connectors, sockets outlet, lamp holder and switches etc.
- h) Interconnecting wiring between points on the same circuit in the same switch box or from another.
- i) Protective (loop earthing) conductor from one metallic switch box to another in the distribution circuits and for socket outlets(The length of protective conductor run alongwith circuits/submains/mains is excluded from the scope of points)
- j) Bushed conduit or porcelain tubing/flexible conduit where wiring cables pass through walls.

Measurements:-

- i) Measurements for wiring work shall be done in running meters for individual materials to be installed such as conduit pipe, wires etc.
- ii) Measurements for other electrical accessories shall be done in numbers.
- iii) Measurements for earthing complete shall be done in number or per job
- iv) Measurement for switch box shall be in numbers.

The wiring shall be done with single core, multi stranded, PVC insulated, 1100 Volts grading, (as per CEE's approved list) unsheathed, copper conductor wires of 1.5mm sq.size for wiring of light and fan points. G.I. earth wire of required size shall be drawn for earthing purposes for light, fan and 5 Amps plug points terminating in 3 plate ceiling rose or 3 pin 5 Amps socket. Protective earth conductor shall be drawn outside the conduit and terminated on the earth terminal in switch box and three plate ceiling rose and 5 Amps 3 pin socket.

The 5 Amps plug and 15 Amps plug wiring shall be measured on linear basis for material i.e. conduit, wires etc., from the respective tapping point of the line cable, namely switch board, another socket outlet or the sub distribution board as the case may be, upto the socket outlet.

Note:-However, where point wiring is not adopted measurement of each item required to execute the work shall be made separately. Measurement of conduit shall be in meters run which will include all items required for providing conduit in walls or ceiling. No separate measurement shall be made for conduit accessories, saddles, cement etc.

3. Circuit Wiring.

Circuit wiring shall mean the wiring from the distribution board/meter cum DB board to room switch boards. Separate circuits from distribution board shall be drawn to each room switch board. Circuit wiring shall be measured on liner basis along the run of the wiring. The increase on account of diversion or slackness shall not be included in the measurement.(When wires of different circuits are grouped in a single conduit the same shall be measured on linear basis depending on the actual number and size of wires run) when circuit wires of different circuits are grouped in a single conduit the same shall be measured on linear basis depending on the actual number and size of the wires run. Protective loop earthing conductors which are run along the circuit wiring shall be measured along with the circuit. The circuits may be drawn with 1.5mm/2.5mm/4mm/6mm sq. single core, stranded PVC copper. 1100 V grading ISI marked wires for room switch board with 5 Amps, 3 pin, plug point and with 2.5mm sq. PVC, ISI marked wires .Wiring of installation shall be in conformity with IS 732/1989 (Latest version) IS 4648/1968 (Latest Version)

Any light circuit shall not have more than 10 points of light 2 fan or total connected load of 800 watts which ever is less. Common 14 SWG G.I. earth wire shall be used all along the route of circuits for protective loop earthing. The earthing conductor should be run outside the conduit. Each circuit shall be controlled by circuit breaker or fuse on the phase, provided on the distribution board.

The neutral conductors shall be connected to a common link and be capable of being disconnected

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individually for testing purposes. The power circuits shall be drawn in separate conduits. The power circuit shall be with only one outlet per circuit for non-residential buildings and shall be for not more than two outlets per circuits for residential buildings. Each power circuit shall be drawn with 4mm sq /6mm sq./10mm sq.. size PVC, Copper., single core, stranded, unsheathed wires in concealed conduit as the case may be. A continuous protective (loop earthing) 14 SWG G.I wire or as required size. Earth conductor shall be provided for power circuit. The MCB shall be connected on phase conductor. The circuit shall be designed on the basis of load where not specified the load shall taken as 1 KW per outlet point. Circuits wiring shall include conduit, conduit accessories, bends, fan boxes, inspection boxes, staples, saddles, nails, screws, PVC wires earth wire and all other required materials

4. Sub main wiring.

Sub. Main wiring shall mean from main distribution board to sub.D.B. or in case of residential quarters block distribution board to individual quarters meter cum distribution board. Sub main wiring shall be measures on running meter basis along the run of the wiring for conduit & wires. The measurements shall include all length from end to end of conduit exclusive of interconnections inside the switchboards. The increase on account of diversion or slackness shall not be included in the measurements. When wires of different sub mains are grouped in a single conduit the same shall be measured on running meter basis depending upon the actual number of sub mains. Protective (loop earthing) conductors of 14 SWG GI or 12 SWG GI as the case may be, run along the sub mains wiring this be measured on running meters basis.

Submains shall be of size 4mm sq.,6 sq.mm or 10mm sq as the case may be. For load conditions in non residential and residential buildings or as specified, sub main wiring shall include all the work necessary for wiring form main distribution board to sub main board and block DB or to individual quarter DB. This includes conduit, conduit accessories, staples, saddles, nails, screws, J.Boxes, bends, PVC wires, earth wire and all other materials required. Each sub main shall be controlled through proper capacity circuit breaker or fuse or MCB as the case may be.

5 Mains:

Mains means from outside source of supply such as LT overhead pole, outdoor type LT panel, LT 'KIOSK' etc. up to main switch/main distribution board in the building. This should be through underground cables, overhead conductors weather proof wires or with PVC wires in concealed/surface conduit as the case may be. The size and type of cables/wires/conductors shall be as per load requirements or as specified in the schedule of rates.

For underground cable laying attached cable lying specifications should be adhere to for passing cables below Rly.track, pucca road or surface, for rising cables on wall or on poles G.I. pipe, well clamped of adequate size and length shall be provided on wall or pole.

6. CONDUITING:-

The erection of conduits, each circuit shall be complete before the wires are drawn in. heavy gauge Conduit pipes. The conduit shall be fixed by means of staples at not more than 60cms apart & at either side of bends; saddle staples shall be fixed at a distance of 15 cm from the center of bends. The conduit pipe shall be fixed in nicely made recess. Concerned conduit work shall be done for all applications and surface conduit work may be adopted in places where concealed work is not possible to be done. The type of conducting shall be as specified in the individual work. Flexible PVC conduits shall be used only at terminals wherever specified. Laying of conduit shall be in conformity with IS 732/1989 (Latest Version) ,IS 4648/1968(Latest version)

All PVC rigid medium conduit shall be conforming to IS 9537 Part-III and IS 3419 for rigid conduit and IS 6946 for flexible conduit. The interior of the conduit pipe shall be free from obstructions. The conduit pipe should be ISI marked. No conduit less than 25mm in dia shall be used. The maximum number of PVC insulated aluminium/copper conductor cables of 1100 volt grade can be drawn in one conduit of various sizes is as under: -

Cross secd.area of conductor in sq.mm	20mm		25mm		32mm		38mm		51mm	
	S	B	S	B	S	B	S	B	S	B
1.5	5	4	10	8	18	12	-	-	-	-
2.5	5	3	8	6	12	10	-	-	-	-
4	3	2	6	5	10	8	-	-	-	-
6	2	-	-	4	8	7	-	-	-	-
10	2	-	4	3	6	5	8	6	-	-
16	-	-	2	2	3	3	6	5	10	7
25	-	-	-	-	3	2	5	3	8	6

Note:-

- i) S apply to runs of conduits which have distance not exceeding 4.25 meters between draw in

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- boxes and which do not deflect from straight line.
- ii) B apply to runs of conduit which deflect from straight line by an angle of more than 15 degrees.

Conduit sizes are the nominal external diameters.

All the joints shall be sealed. Damaged conduit pipes shall not be used in the work. All bends in the system should be formed by inserting suitable conduit accessories such as bends, elbows or by fixing metallic inspection boxes with covers. Radius of bends in conduit pipe shall not be less than 7.5 cm. No length of conduit shall have more than the equivalent of four quarters bends from outlet to outlet. The chassis in wall shall be neatly made of ample dimensions to permit the conduit to be fixed in a manner desired. The conduit shall be fixed in wall chassis by means of staples j-hooks not more than 60mm apart. In RCC work the conduit shall be laid in position and fixed to the steel reinforcement bars by steel binding wires before casting. Suitable number of MS inspection boxes and MS J.Boxes shall be provided for easy drawing of wire in each run of conduit.

7 **Providing Switch boxes:**

The switch boxes shall of 18 SWG(1.2MM) thick M.S. sheet fabricated. The M. S. switch boxes shall be duly painted with anticorrosive paint. The following sizes shall be used.:-

- i) 100mmx100mmx60mm (for single or double light point control)
- ii) 180mmx100mmx60mm (for plug point and 4 light points control)
- iii) 200mm x 250mmx 100mm (for rooms with one ceiling fan, with light fittings)
- iv) 300mm x 200mm x 100mm (for rooms with one ceiling fan, with light fittings)
- v) 375mm x 300mm x 100mm (for big halls for light and 2 fan points)

An earth terminal with stud and 2 metal washers shall be provided in each M.S. switch box for earth conductor. The switch box shall be installed so that the bottom of box is 1.25 meters above floor level flush to wall surface unless or otherwise specified in the tender documents. Two M.S. switch box shall have knock and holes for entry and exit of wires. Where a large number of control switches & fan regulators are required to be installed more than one switch box shall be used for easy maintenance.

Phenolic laminated sheet of approved shade shall be used for switch boxes covers. These phenolic laminated sheet shall be 3mm thickness conforming to grade P-1 of I.S. 2036. The phenolic laminated sheet shall be neatly cut to accommodate requirement number of switches, sockets and fan regulators. The switch board shall be located at convenient places consultation with zonal Electrical Incharges.

The switch box shall not be located above gas stove, sinks or within 2.5 meters of any washing unit. The top sheet shall be fixed with the help of brass screws of adequate required sizes. M.S. boxes may also be used as junction/inspection boxes in concealed conduit wiring if required for easy maintenance and easy drawing of wires. These boxes shall be covered with phenolic laminated sheet with the help of brass screws and cup washers.

8.0 **Meter box cum main switch box for residential quarter.**

Meter box shall of 1.2mm thick CRCA steel construction of overall size 500mm height, 300mm width, 135mm depth. Finished in grey stove enamel. It should be having two equal compartments independently lockable. The hinged lockable doors of both compartments should be properly rubber gasketed. The rubber gaskets shall be fixed in a groove provided in the door itself. The openings and doors of both compartments should have collar of 10mm width neat finish to prevent water. Upper compartment shall be suitable for accommodating 8 nos. SP MCB's (outgoing) of 5/16 Amps rating but shall be equipped with specified numbers of MCB as per requirement of quarter and as per schedule of work, directly mounted on an bus bar. The bus bar shall be insulated from body of box. This compartment shall also have Al. neutral link and one earth link. Lower compartment shall be suitable for 1 no. MCBs of 6Amps/16 Amps/32 Amps/63 Amps rating as per schedule (incoming). It shall be suitable for fixing single phase energy meter. This compartment shall also be provided with glass window size 90mmx70mm such that the meter reading is taken without opening the door. MCB's shall conform to IS 8828 for any of the approved makes and shall be suitably mounted in the box on elevated sheet steel supports so that only the knobs of the MCB's are outside for operation without opening the door. The meter box shall be suitable for mounting one single phase energy meter (supplied by Railways) in the lower compartment with suitable fixing base alongwith 6mm thick suitable size □quivalve sheet The box shall have knockout and type 40mm dia 3 nos. cable entry holes with grummet on the top and bottom of the meter box. The meter box overall shall conform to NR HQ specification no.81-Elect/P/1991 with degree of protection IP-42 conforming to IS 8623/Pt-I & III shall be conformity to IS 732 & IS 4648.. The meter box in quarters shall be located inside the quarter in such a position that it is easily accessible to maintenance staff and meter reader. However, the location of meter box shall be decided by the zonal Electrical Incharge at site "L" series MCB's shall be used for light circuits and "G" series for power circuits.

9 **Rewireable type Iron clad Distribution Box:-**

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The box may be used as block distribution board for blocks of residential quarters. The block distribution board shall be of 2.0mm thick CRCA steel construction of overall size 400mmx250mmx135mm shall be conform to IS 5623 Pt-I & III with degree of Protection IP-53. Finished in grey stove enamel paint with a prior coating into corrosion red oxide primer. The board shall have a hinged, lockable door. It should be properly gasketed with rubber gasket fixed in a groove knockout and 40mm dia holes on top and bottom for cable entry & exit. The box shall be painted inside and outside. The box consist of 32 Amps Kit-kat. Suitable insulated from body of box aluminium bus bar of cap. 60 Amps for phases and neutral. The box shall have earth link for connecting earth and neutral link. The DP shall be 4,6,8,10,12,16 way as specified in schedule The box shall have rewirable type proactive 16 Amps cap or 32 Amps Kit-kats for outgoing feeder to each quarter in a block of quarter as per schedule The DB shall be provided at center location on block of quarters or on service poles with proper clamps/foundation bolts as the case may be. The box may also be location in one block. Outgoing rewirable type porcelain kit-kats ways shall be provided according to number of quarters in a block. The location for fixing the block DB shall be given by zonal Electrical Incharge at site and shall be installed in conformity with IS 732 & IS 4648. On the door warning in bold letters in red colour "DANGER" shall be marked both in Hindi & English.

10 MCB type Distribution Board(if required):-

Single phase or three phase & neutral distribution boards of MS sheet (1.6mm thickness) fabricated having hinged door or detachable front cover, water and vermin proof shall be used as main DB or sub DB's The complete board shall be factory fabricated and shall be duly rewired in the work, ready for installation. The DB may be with or without loose wire box as specified in the tender documents. The DB shall be of minimum height 125mm incase of TPN and 100mm incase of SPN DB's.

The board shall have sufficient number of knock out holes at top and bottom for cable entry and exit. The DB shall be provided flush to wall surface and shall be suitable for accommodating MCB's of single, double or triple poles. Only the knob of the MCB's shall be protrude out of the front door/cover through openings neatly machine made for this proposal. The bus bars shall be of solid electrolytic copper of appropriate sections. Din bar/channel shall be provided for mounting MCB's. The cover/door shall be gasketed suitable for protection class IP 54. The DB's shall be 4/6/8/10/12/16 way single phase or 3 phase and neutral as per requirements and is specified in the tender documents. The DB shall be phophatised powder painted both inside and outside.

"L" series MCB's shall be used for normal light circuits and "G" series MCB's for power circuits.

11 LT MS outdoor type switch board or 'KIOSK'(if required):-

The MS sheet fabricated KIOSK shall be fabricated out of 14 SWG MS sheet. Overall size of KIOSK height 800mm x 10mm for slinging roof, width 400mm and depth 200mm, The KIOSK shall have two separate compartment upper and lower. Upper compartment of height 350mm and lower compartment of 450mm, height. Both compartments shall have separate side opening, hinged, lockable, dust/vermin proof, and gasket doors with handles. Proper gaskets shall be provided in specially made gloves in the doors. The roof of the KIOSK shall be slanting/sloppy towards front and back of the KIOSK. The Kiosk shall have IP 65 Protection.

The slanting roof of KIOSK shall remain 10mm projected outside on front and backside of the KIOSK for proper protection from rains. Both the compartments of KIOSK shall have fabricated MS sheet supports/base plate for fixing meter and ICTP/ICDP switches. The KIOSK shall have four 50mmx50mmx5mm angle iron legs of 400mm length. These legs shall be properly welded to box. These legs shall be grouted in cement concrete platform to be provided. For fixing KIOSK. The details please see Drg. No.Elect/UMB./Genl./91 . The KIOSK shall be painted with light grey super enamel spray paint on a coating of red oxide primer both inside and outside. Location of the KIOSK should be got approved by the contractor from zonal Electrical Incharges at site before installation.

12 Nomenclature of equipments & materials.-

All the materials and equipments shall be new and they shall be such design, size and material as to satisfaction by function under the rated conditions of operation and to withstand the environmental conditions. All components shall conform to relevant Indian standard specifications. Similar parts of all switches, holders, DB's switchgear, and other components should be interchangeable.

1. PVC Insulated copper conductor stranded, 100 volts grading : IS 694(Latest version)
wires
2. PVC insulated Electric cables working voltage 1100 V copper : IS 1554 (Pt-I)
conductor
3. Metal Clad switches : IS 4064
4. MCB : IS 8828
5. Piano type switches : IS 3854

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6	Three pin sockets	: IS 1293
7	PVC Conduit 25mm dia(medium)	: IS 9537 (Pt-3)
8	Bakalite Holder	: IS 1258
9	Ceiling rose(Three pin)	: IS 371
10	MS switch Boxes(1.2mm thick CRCA sheet)	: IS 5133(Pt-1)
11	Phenolic Laminated sheet	: Grade P-1 of IS 2036

For items of materials for which makes are approved by Railway time to time, only such approved makes shall be permitted in the work. The conductor shall get samples of all materials approved by Sr.DEE/G/UMB before starting the execution of work at site.

13 Instructions to be strictly following:-

- i) Electric supply to whole quarter should not be disconnected during quarter rewiring and shall be restarted at end on day.
- ii) Wiring of quarters should be done circuit wise/section wise i.e. one circuit of one room should be taken in hand at a time to cause minimum discomfort to the occupant.
- iii) Supply of other circuits/rooms should not be disconnected.
- iv) Circuit for rewiring taken in hand should be completed before evening and restore the electric supply before evening.
- v) In case of quarters of one room, sufficient man power must be engaged to complete the work within one day.
- vi) While doing the conduit work debris as a result of wall cutting must be removed immediately from the quarters and should be disposed off in dust bin earmarked for garbage.
- vii) Instruction laid down in attached explanatory notes shall be strictly followed.

13 Testing:

On completion of installation following tests shall be carried out.

- a) Insulation resistance test.
- b) Polarity test of switches
- c) Earth continuity test
- d) Earth electrode resistance test

Testing shall be carried out for the complete installation in the presence of zonal Electrical Incharge to his satisfaction, all the test results shall be recorded and signed by contractor and zonal electrical incharge and submitted to Sr.DEE/G/UMB All necessary test instruments for testing shall be arranged by the contractor if so required by the zonal electrical incharge.

All the tests shall be carried out strictly according to latest ISS and IE rules & Act and rules framed hereunder. All the installation work shall conform in all respects to latest IE Act/Rules/regulations/ IS code practices for incharge shall submit a completion report of the work along with the measurements.

14 Guarantee :

The Guarantee will be applicable as per RDSO specification where ever the material is prescribed as per RDSO spec. In all other cases the tenderer shall guarantee the equipments/installations for satisfactory performance for a period of 12 months from the date of commissioning against any defect. The contractor should promptly attend complaint and replace/repair the defective equipments/parts free of cost promptly and satisfactorily. The equipments/parts so replaced by the contractor, shall be further guaranteed for a period of 12 months for satisfactory service from the date of such replacement

**Sr. Divl. Elect. Engineer,
N.Rly., Ambala Cantt**

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LAYING & INSTALLATION OF CABLE.

- 1.0 SCOPE:-
This specification covers the requirements for the selection and installation of power cables for low, medium and high voltage applications.
- 2.0 TYPE OF CABLES:-
- The cables for applications for low and medium voltage supply shall be XLPE . insulated. Conforming to 7098/pt I 1978
 - The cables for applications above 1.1KV but up to and including 11 KV supply shall be XLPE . insulated. Conforming to 7098/pt I 1978
 - The cables for applications above 11 KV but up to and inclusive of 33 KV supply shall be XLPE (E) . insulated. Conforming to 7098/pt II 1978
 - The cables shall have stranded aluminum conductors.
- 3.0 SELECTION OF CABLES:-
- Cable sizes shall be selected considering the current carrying capacity, voltage drop, maximum short circuit duty and the period of short circuit to meet the present and future anticipated loads.
 - Medium voltage distributions shall be designed such that the voltage available at final outlets are generally within the limits recommended by IS 732-1963.
 - Guidance for the selection of cables shall be derived from the relevant Indian Standards such as IS 3961(Part-I)_1967.IS 3961(Part II)- 1967, IS 5819-1970, IS 1255-1967 etc.
While deciding cable sizes, the derating factors for type and depth of laying, grouping, ambient temperature, ground temperature, and soil resistivity shall be taken into account.
- 4.0 HANDLING & STORAGE :-
- The cable drums should be stored on a well drained, hard surface, preferably a concrete platform,so that the drums do not sink into the ground causing flange rot land damage to the cable
 - During storage the drum should be rolled periodically at least once in three months through ninety (90) degrees in the direction of arrow marked on the drum.
 - During storage it should be ensured that both the ends of the cable are properly sealed with plastic caps to prevent ingress of moisture into the insulation.
 - Adequate protection should be provided from rain & sun. ventilation should be sufficient between the power cable drums. Adequate drainage between the cable drums should be ensured to avoid water logging.
 - The drum shall be rested on the flanges and not on the flat side.
 - In case the batons of drums get damaged, the same should be replaced.
 - Whenever the drums are required to be moved to short distance these should be rolled in the direction of arrow marked on the drums.
 - While transporting the drums over longer distance the drums should be mounted on cable drum wheel strong enough to carry the weight of drum and cable should be rolled with ropes. Alternatively, the drum should be mounted on a trailer for movement, otherwise suitable mechanical means of transporting should be utilized.
 - In order to unload the drum from the transport vehicle use of cranes should be made, otherwise the drum should be rolled down carefully on suitable ramps or rails wherever necessary.
 - For removing the cable from drum, the drum should be properly mounted on jacks or on a cable wheel ensuring adequate strength of jack and spindles for carrying the weight of drum.
 - If the cable is to be transferred from one drum to another, it should be ensured that new drum should not have diameter less that of the original drum.
 - While unloading, transporting or removing the cables, it should be ensured that cable should not be bent to small radius. The minimum safe bending radius for all types of PVC/paper insulated cable should be at least 15 times of the diameter of the cable, up to 11 KV grade and 20 times diameter for cables, above 11 KV grade.
 - For XLPE cables, minimum bending radius of 15 times the diameter for cables up to 11 KV and beyond is permissible 1.12. At the termination and under onerous site conditions, the binging radius for cables may be reduced from the value mentioned above, without causing any damages to the cables and taking adequate precautions.
 - At the joints and terminations bending radius for the individual cables should be above 12 times the diameter over the insulation.
 - The maximum permissible tensile strength for cables i.e. PVC and XLPE insulated armoured power cables shall be $9 D^2$ where D is the outer diameter of cables in mm. The force thus calculated shall be in Newtons (N).
 - It should be given due consideration when cables are pulled with stocking.
For the cables pulled with pulling eye the maximum permissible tensile stress shall be 50 N/mm² for

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alum. Conductored cables.

5.0 INSTALLATION OF CABLES

- It should be ensured that no cable with kinks or similar apparent defects like defective armouring shall be installed.

Prov. Of BIS 1255-1983 should be followed in general for laying of and installation of cables.

6.0 ROUTE OF THE CABLE

The route of the cable should be decided before the work of cable laying is under taken. It should be got approved from the Engineer-in-Charge. A proper drawing showing the route of the cable should be prepared and got approved before hand and should be preserved as proper record for posterity.

- Always the shortest possible route should be preferred to economies in the use of cables. Cable runs should generally follow the fixed developments such of roads. Pathway etc. with proper off sets so that the future maintenance work, identification etc. can be easily done. Cross country runs for shorter routes should be avoided as it would create problem in identification and maintenance later on.
- Care should be taken to avoid the corrosive soil, around surrounding, sewage effluent etc. In case it is not possible to avoid such like corrosive soils etc. proper protection of the cable should be ensured for avoiding deterioration at a later stage.
- As far as possible the alignment of cable should be decided taking into consideration the present and future requirement of other services like water supply, sewage, telecommunication cable and other electrical LT/HT cables.
- The cable route should be kept adequately away from the drains to avoid any seepage of water. There should be adequate distance between HT & LT cables. The cables should be laid in well demarcated routes along the roads and other fixed developments.
- The cables of different voltages grading and power and control cables should be laid in different trenches. In case it is not possible to lay them in separate trenches, same trenches may be used, but in the trench adequate separation should be ensured.
- In case it is unavoidable to separate HT & LT cables. The high tension HT cable should be laid below LT cable.

Wherever the power and telecom cables are to cross each other the same should be laid at right angles to avoid interference. Wherever it is unavoidable to lay them in proximity, horizontal and vertical clearance between the two should not normally be less than 600mm.

7.0 RAILWAY CROSSING

Wherever the cables are to be laid under Railway tracks, the cables should be laid in RCC/CI/Steel pipes not less than 1000mm measured from the bottom of sleeper to the top of the pipe. Inside Railway station limits pipe shall be laid up to the point of railway boundary from a point to be decided by Railways. Outside the Railway station limits, pipe shall be laid up to the minimum distance of 3 m from center to the nearest track on either side.

8.0 LAYING OF CABLES:-

8.1 Method of laying of cables.

The cable shall be directly laid in ground., in RCC pipes, in open ducts or on surface depending upon the requirement and site condition. While deciding the route of the cable at preliminary stage it should be ensured that the joint in the cable shall be placed at most suitable place. Such increasable location like the water logged areas, carriages ways, pavements proximity to telecom cables, water mains pipes etc. should be avoided.

8.2 LAYING DIRECTLY IN GROUND

The cable should be laid directly in ground, wherever it is passing open country, along the roads/lanes etc. The area which is likely to be excavated frequently should be avoided. Care should be taken to select the area where re-excavation is easily possible without affecting the other services in the proximity.

9.0 PROVISION OF TRENCHES

9.1 WIDTH OF TRENCH :- The width of trench shall be determined on the following basis :-

The minimum width of cable trench shall be 400mm. Wherever more than one cable laid in the same trench in horizontal formation the width of trench shall be increased such that inter axial distance between the cable shall be at least 200mm.

There shall be clearance of 150mm between the end cables and the sides of the trench.

In addition to the protective cover over the cable laid in the underground trench, a brick on edge should be laid in between the two juxtaposed cables along the direction of the lay of the cable for providing separation.

v) DEPTH OF TRENCH :- The depth of the trench shall be determined on the following guide lines :-

Normally cables should be laid in single tier formation. Wherever the cables are laid in single tier formation, the total depth of the trench should not be less than 750mm for cables up to 1.1 KV grade and 1200mm for cables above 1.1 KV.

Wherever it is unavoidable to lay the cables in more than one tier the depth of trench should be

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- increased by at least 300mm for each additional tier to be formed.
- vi) **EXCAVATION OF TRENCH**
 To the extent possible the trench should be excavated in straight lines.
 In case gradient has to be provided in the depth of the trenches, it should be a gradual one.
 Manual or mechanical means should be employed for doing excavation. The soil shall be stacked one the side of the trench in such a manner that it should not fall back into the trench.
 Due care should be taken to avoid damage to any existing cables. Pipes or other such installations in the proposed route during excavation. While excavating, if route markers, bricks, tiles, bare or protective covers encountered further excavation should not be carried out without the approval of Engineer-in-Charge.
 In case existing property gets exposed during trenching the same should be temporarily supported or proposed adequately as directed by the Engineer-in-charge. The trenching in such case shall be limited to short lengths, Protective pipes should be laid for passing the existing cables therein, and the, trench should be refilled in accordance with clause 6. In case there is a danger of collapse, or the trench is endangering existing structure the site should be well supported before proceeding on with the excavation work.
 The bottom of the trench should be level, free from, brick-bats and gravel etc. The trench shall be provided with the layer of clean dry sand cushion of not less than 8cm in depth.
- vii) **LAYING OF CABLE IN TRENCHES :-**
 Before the cable is issued for laying, the individual cores should be tested for continuity and insulation resistance. The cable should be removed from drum by mounting the drum on jacks and spindles of adequate strength. Care should be taken of that the supporting arrangement does not creep to one side while the drum is in rotation.
 The cable should be pulled over rollers in trench, steadily and uniformly and without jerks and strains. The entire cable shall be as far as possible be paved off in one strength, however, it this is not possible. The remaining in reverse direction. After uncoiling the cable and laying into the trench over rollers the cable shall be lifted over the roller by helper sustaining about 1000m. apart and drawn straight. The cable shall then be taken off, the rollers by additional helpers by lifting the cable and then laying in reasonably straight line.
 In shorter runs sizes up to 50 sq.mm of cable and 9 grade up to 1.1 KV any other method with the approval of Engineer-in-Charge may be employed. After properly straightening the cable, the cores are tested for continuity and insulation resistance as per clause 1.0/Pt.IV and the cable is then measured. The ends of cable should be sealed suitably to avoid ingress of moisture. The cable laid in a single tier formation shall have covering of dry sand of not less than 150mm above the base cushion of sand before the protection cover is laid.
 In case of the multi tier formation, after laying the first cable, sand cushion of 300mm shall be provided if following tier are required to be provided. Each of the subsequent tier shall have sand cover of not less than 150mm before the protection cover is laid.
 Wherever straight through/Termination joint is to be provided, a surplus length of 3000 mm of cable should be left on both the sides in the formation of loop. Wherever longer run of cable length is provided., balance cable may be left at suitable entrance as specified by the Engineer-in-Charge.
 Wherever the cable is entering buildings, fixed structures like sub-station end/or back trenches, surplus length of 3000 mm should be left in the shape of loop, otherwise as decided by Engineer-in-Charge. Surplus cable of same locations as found suitable should be left in the cable of loop.
- 11.0 **FINAL PROTECTION :-** The cable shall be protected in accordance with sand layer provide warning to future excavators and also for avoiding any accidental mechanical damage by pickaxe blows etc.
- 11.1.1 The cable should be protected with well-burnt bricks of not less than 20x10x10 cms. Bricks shall be laid widthwise for the full length of the cable on the top of the sand to the satisfaction of Engineer-in-Charge. When more than one cable is laid in the same trench this protective covering shall cover all the cables and project at least 5 cm over the sides of the end cable
- viii) **BACK FILLING OF TRENCHES :-**
 After excavation and laying of cables, the trench should be back filled with excavated earth, free from stone or other sharp-edge debris and should be watered if necessary. A crown of earth of 50mm should be left in the center, tapering towards the sides of the trench to allow for subsidence. The trench should be inspected at regular intervals particularly during wet weather and any settlement shall be made good by contractor by future filling ,if required.
 Due to cable laying work any disturbance to existing equipments in the area like roads, pavements, garden should be made good after the cable laying work is over.
- ix) **ROUTE MARKERS**
 Route marker should be provided along straight runs of the cables at locations approved by the Engineer-in-Charge and generally at intervals not exceeding 100 Mtd. Wherever the cable route is

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changing or it is entering a fixed installation, route marker must be provided. Route marker shall also be provided at joints of cable.

Route marker shall be made out of 100x100x5mm CI/GI plate, welded or bolted on two 35x35x6mm angle iron 500mm long. The said route marker shall be mounted parallel to, and at a distance of .5 Mts. From the edge of the trench.

The word cables, the level of voltage, size of cable should be inscribed on the route marker.

14.0 CABLE IDENTIFICATION TAGS

Cable markers should be provided where more than one cable is laid in just posted configuration. The marker tags as approved described with cable identification details shall be permanently attached to all the cables in the manhole pull pits/entering points in buildings through open duct etc

x) LAYING OF CABLES IN PIPES/CLOSED DUCTS :-

Wherever the cable is To cross road, enter into any building, be mounted on poles be laid in paved areas, the cable areas, the cable shall be laid in pipes or closed ducts.

GI/CI/RCC pipes shall be used for such purposes. The diameter of such pipes shall be adequate for passing of cables. The pipes shall be laid on suitable bed provided on the ground. Sand cushion/brick/tiles if required can be provided under the pipe. The pipe should be filled with sand after laying the cable insides. The top surface of pipes shall be at a minimum depth of 100mm from the ground level.

The pipes on road crossings should be laid on the skew to reduce the angle of bend as the cables enters and leaves crossing. This is very important for high voltage cables, at convenient distance should be provided for facilitating inspection and maintenance of cables. Pipes shall be continuous and clear of any debris before drawing of cables sharp edges at ends should be smoothed to prevent injury to cable insulation and/or sheathing.

Wherever pipes are provided for entry of cable into building, the same shall slope downward and other ends shall be sealed to prevent entry of water inside the building.

All chases and passages necessary for the laying of service cables shall be cut as required and made good to the original finish to the satisfaction of Engineer-in-Charge.

Cable grips/draw wire and winches etc. be employed for drawing cables through pipes/close ducts etc. without damaging the conductor and insulation and ensuring proper safety.

xi) LAYING IN OPEN DUCTS :-

Open ducts with suitable removable covers should be preferred in sub-stations, switchrooms, generator rooms and workshops etc. The cable ducts should be of suitable dimensions so that the cable shall be laid conveniently. If required, the cable can be fixed with clamps on the walls of the ducts. The duct shall be covered with removable RCC slabs of suitable dimensions MS chequered plate covers so that covers can be lifted conveniently for maintenance inspection and replacement. The ducts should be filled with dry sand after the cable is laid and covered or finished with cement plaster specially in high voltage applications. No joint/splices should be permitted inside the ducts. As far as possible, laying of cable with different voltage grade in the same duct should be avoided. The cable trays, hooks or racks should be provided for supporting cables in masonry/concrete cable ducts etc. Otherwise the cable can be laid directly in the duct or trench or trough etc. While laying the cables in ducts due care should be exercised to ensure that unnecessary crossing of cable is avoided.

17.0 LAYING ON SURFACE :

In the switching stations, factories, tunnels and for rising mains through special rack ways, the laying of cables on surface should be done. The cable shall be laid in troughs or brackets at regular intervals or directly cleared to wall ceilings. The cable should be laid over bracket support and clamps to prevent undue sag. The cable clamps should be made from material such as mild steel, porcelain wood, Alu. PVC, epoxy materials. These should be non-magnetic and non-corrosive in nature.

xii) LAYING ON MS LADDER TRAY :

The cables shall be laid in the existing MS ladder tray in straight line as far as possible & shall be clamped properly by providing suitable clamps as per site requirement. (The clamping arrangements to be got approved from Railways before providing).

Normally the distance between each clamp of one cable shall not be more than 1.5M (approx.).

19.0 CABLE JOINTING

19.1 Identification of cores :

19.2 Cores shall be provided with following co-lour scheme for PVC insulation.

- 1 Core - Red/Black/Yellow/Blue.
- 2 Core - Red & black.
- 3 Core - Red, Yellow and Blue.
- 3.5 Core - Red, yellow, Blue, Black (Black is for neutral).

19.3 Cable jointing :-

19.3.1 The manufacturer's instructions mentioned in the jointing kit should be followed.

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- 19.3.2 The manufacturer's instructions mentioned in the jointing kit should be followed.
- 19.4 Insulation resistance of cables to be jointed should be measured with 500V megger up to 1.1 KV grade and with 2500V megger for cables of higher voltage. Unless insulation resistance value of cables are satisfactory the jointing should not be done.
- 19.4.1 Before jointing work is taken up safety precautions like insulation, earthing etc. should be observed to ensure that the cable would not be inadvertently charged. Metallic Armour and external bonding should be connected to earth.
- 19.5.1 Wherever the system of permit to work is prevalent, the same should be followed for cable jointing work.
- 19.5.2 Identification of cables should be very properly done before jointing is taken up. Proper identification of individual core is also very important to avoid any cross connection and damage to installation.
- 19.6 Complete record of joint etc. shall be maintained as per Annexure-B in addition to site plan.

20.0 CABLE TESTING

1.0 Testing.

- 1.1 All cables before laying should be tested with 500V megger up to and including 1.1 KV grade or with 2500/5000V megger for cables of higher voltage. The cable cores should be tested for continuity, insulation resistance etc. All cables should be tested during laying and ; before covering. After laying and jointing the cable should be subjected to a 15 minutes pressure test.
- 1.2 After laying of cable and jointing, the cables should be subjected to a high voltage test as per guidelines of BIS; 1255-1983 and the results are recorded as per Annexure 'C'.
- 1.3 In case high voltage test is not possible at site, the cables should be tested for one minute with 1000V megger up to 1.1 KV grade and with 2500/5000V megger for cables of higher grade.

COMPLETION PLAN

- 1.0 The work should be carried out in accordance with the drawings enclosed with the tender. In case there is a deviation the same should be got approved from the Engineer-in-Charge before execution of the work is taken up. The completion plan should be drawn in a tracing sheet with polyester backing with ink indicating following :
- Layout of cable work.
 - Length, size, type and voltage rating of cables.
 - Method of laying, i.e. directly in ground/duct/pipes.
 - Location of each joint with joints followed.
 - Route marker and joint marker with clearance from permanent land mark available.
 - Name of work etc.

This specification confers to CPWD General Specification for Electrical works Part II External & IS 1255/1967 with latest amendment.

This confirms to CEE/C/NR/TKJ spec.no.CEE/C/TKJ/NR-15

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SPECIFICATION FOR MAINTENANCE FREE EARTHING

Introduction:

Good earth pits as per BIS / IEC specifications are made, using Copper Plates / Rods or GI Plates/ Pipes, dug deep in the ground in different configurations. Use of EARTH CONDUCTIVITY ENHANCEMENT COMPOUND not only makes the pits maintenance free, but also improves the soil conductivity by 3 – 20 times. Low resistance earth pits, ≤ 5 ohms for lightning and < 1 ohm for equipment are normally recommended. Rocks have high resistance and digging for placement of Plates is a difficult proposition. In order to facilitate the same, three pure Copper Rods, each 3 Meters long, & greater than 12 mm in diameter, deep driven in an equilateral triangle configuration, duly interconnected at the site, provide good earthing with support of Special Soil Mix and Vegetable Soil filling in the pit holes. Soil conductivity enhancement compound poured in the three holes along the electrodes makes the pit maintenance free and also improves its conductivity.

Material:

In order to achieve this, 95% pure, three copper Rods, with appropriate length of naked copper cable 70 mm² or Copper Strip 25 mm x 3 mm are taken with necessary clamps to be placed on electrodes for interconnection. One drum of EARTH CONDUCTIVITY ENHANCEMENT COMPOUND is adequate for one Earth Pit. Special Soil mix is used with one part of Vegetable Soil to fill the pit holes. One Manhole Cover and Inspection Joint with lead is required for each earth pit for protection and inspection.

Special Features:

- (a) Instead of a single copper plate, three copper rods are used in tripod positioning duly connected to each other. This ensures a better pit resistance and reliable earthing.
- (b) The tri-element equilateral triangle configuration pits are recommended for better noise reduction and phase difference in the power circuits.
- (c) The pits with use of Soil Conductivity Improving Gel shall remain totally maintenance free for all time.
- (d) Each electrode, though inter connected, still has the provision of terminals for direct earth termination of any installation to independent electrode.
- (e) Additional redundancy is available in the ear thing system.

Equipotential Bonding:

In order to achieve a common earth base at any installation, Equipotential bonding is done in which all earth pits are connected with a ring earth through the 70 square mm copper rope. It creates the redundancy and at no stage the system is exposed to any kind of surges. The ring earth is normally of copper tape 25mm x 3mm put either ½ meter deep in Ground or around the wall depending on the prevailing situation. It should be able to activate during a lightning strike or a surge /transient disturbance condition.

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RDSO/CEE Specification Details.

Description	Specification No.
Specification for 1x28W T-5 fitting with high efficiency T5 lamps	CEE Specification no CEE/NR/113/E/PS/2011

Note: Specifications can be seen at the office of Sr.DEE/G/UMB and may be made available on payment basis.

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List of Approved Makes

SN	Brief Description of Item	Ref. and No. of Specifications	Approved Sources
1.	ISI marked PVC insulated multi strand copper conductor cable working voltage up to and including 1100 Volts	IS:694/1990	NICCO, Grandlay, Finolex, CCI, ICC, Asian Cables, Gloster, Universal Cables, Galaxy. Ltd., Delton .KEI, Havells, Polycab, L&T, Alcon, RPG ,Fortgloster, Kalinga, Gautam,Suraj
2.	Piano type Switch & Flush type Sockets , Rotary step regulator	IS:3854/88 & 1293/1988	Anchor, SSK, North-west (Wipro), Crabtree, Legrand, Schneider,Fine, Rider,Havells,cona
3	Ceiling Rose/Batten Holder/Music Chime Bell.	IS:371/79	Anchor, SSK , North-west (Wipro), Crabtree, Legrand, Schneider. Cona , Fine Rider,Havells,
4	SFU/FSU/SDFU for all rating & equipments with suitable HRC/Rewire able fuses/Fuse Bases/COS.	IS:13947/Pt.I to III/1993 as applicable	Standard, L&T, Siemens, C&S, GEC (AREAVA T&D), Schneider, Havells, GE, ABB ,Crompton Greaves,indoasian,SSK
5	MCB & Pre-fabricated Distribution Board	IS: 12640-1/2000,IS:8828IEC: 60898-1/2002 ,IS:13032 :1991	Standard, Legrand, Schneider, Havells, L&T Indo Asian, C & S, ABB,BCH,GE, SIEMENS,
6	Ferrules/Lugs	Relevant IS	GJ Metal Works, Dowell's Usha Martin, KSE Electricals Pvt. Ltd. Universal Machines.
7	Clustered LED indication light	Relevant IS	C& S, L&T, Siemens, ESS bee,BCH,Rass control
8	MCCB	IS:13947/PtII/1993 IEC 60947-2	Schneider, Havells, L & T, C&S, Indo Asian Fusegear, Siemens, GE India, JSL Industries Ltd., Legrand, ABB Ltd ,Standard, BCH,
9	G I Pipe	IS 1239/Pt.I/1990	Tata, Jindal, BST,SAIL or equivalent
10	White Hylum Sheet/Phenalic laminated sheet	IS: 2036/1979	Hylem, Formica, Super Hylem, Anchor.
11	PVC Conduit Pipe	IS: 9537 (Pt.I & II)/1981,to IS-9537/Part-3	AKG, BEC, Kalinga, Setia. M.K, NIC, Stargold.Diplast or equivalent
12	C.T(LT).	IS: 2705/Pt-I. to Pt-IV/1992 as applicable	AE , Pnecile Indcoil, Siemens,Schneider , Havells, C&S, Standard,GE, ABB, L&T, indotech
13	Measuring Instrument	IS: 1248	Havells, AE, L&T, National Instrument, Kolkata/ Chennai, MECO Instruments, Secure Meters Ltd., Indo Tech,Neptune,Schneider
14	MH Fitting with lamp	As per Explanatory Note,as per IS/IE rule	,Phillips, Bajaj,Crompton Greaves,. Wipro, GE India, OSRAM, Havells.,Surya,C&S, halonix
15	Poly Carbonate exhaust fan	Relevant IS,as per explanatory notes.	Crompton, Khaitan , Usha,Orient
16	Selector Switch	Relevant IS	Kay Cee , L& T, Salzar ,Balaji
17	High Mast & Hot dip Galvanized Octagonal Pole	As per Explanatory Note,IS 2629/BSEN ISO 1461	Phillips India Ltd , Crompton Greave Ltd, Bajaj Electricals Ltd, GE India., ,C&S,Surya
18	T-5 Fitting	As per Explanatory Note	OSRAM, Philips, Bajaj, C&S,Surya , Wipro, Havells,halonix
19	CFL Lamp	Relevant IS	Philips, OSRAM, Crompton Greaves, Bajaj, GE India., Havells,Luster, C&S,Halonix, OSRAM,BAJAJ, PHILIPS, WIPRO
20	HDPE pipe	As per Explanatory Note,Relevant IS	Carlton, Emtelle, Awadh, Gwalior, Duraline, Rex Polyextrusion ltd
21	End Termination &straight through jointing Kits	IS: 13573	Yamuna Gases & Chemical Ltd., Mahindra Engg. & Chemical Product, Raychem RPG Ltd.

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SN	Brief Description of Item	Ref. and No. of Specifications	Approved Sources
	suitable for 11 KV to 33 KV XLPE HT Cable		Hari Consolidated, 3M.
22	Heat shrinkable straight through Jointing Kit up to 1.1 KV	Relevant IS	Yamuna Gases & Chemical Ltd., Mahindra Engg. & Chemical Product, Raychem RPG Ltd. Hari Consolidated, 3M.
23	4 X14 W / 2X24 W energy efficient T-5 Street light fittings	As per Explanatory Note	OSRAM , Bajaj , C&S , Philips Surya , Wipro, GE, Havells
24	Disc/ Pin Insulator 11KV	IS 1445/1977 (Latest Version)	Bengal Potteries Ltd., BHEL, WS Industries (P) Ltd., Sheshayee Industrieiss Ltd, rashtriya
25	Time Switch (Timer)	As per Explanatory Note	GIC, HDS Legrand, Havell's, GE India, JSL Industrieies, Industrial Kalinga, Indo Asian Fuse gear, MDS, Legrand, Siemens, L&T, AEG, ABB
26	Flood light fitting	As per Explanatory Note	Phillips, Bajaj, Crompton Greaves, Wipro Lighting, Keslec schreder, GE India, , OSRAM,, Havells,Surya, halonix
27	LT Pin & Shackle insulator with Iron hard ware	IS 1445/1977 (Latest Version)	Bengal Potteries Ltd., BHEL, WS Industries (P) Ltd., Sheshayee Industrieiss Ltd, Rashtriya
28	ACSR Conductor	IS 398(Latest Version)	as per RC approved makes
29	AIR circulator fan	IP-55 as per ISS/IE rul	Philips, Bajaj, OSRAM, C&S, Khaitan, Crompton Greaves,Usha, Havells ,Orient
30	Automatic Power Factor Correction system		L&T,ABB,Siemens, Neptune ,Havells,BCH,Schneider
31	Inverter		SUKAM, Luminous or Microteck

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Chapter -5

SCHEDULE OF RATES QUANTITIES

Tender No. : 30-Elect./T-37/2013-14 (Open Tender)

Name of work : **Electrical work in connection with provision community hall at Jagadhari , microwave building at Saharanpur, electrification of office building for USFD staff at Ambala and replacement of Air washer filter at DRM office complex at Ambala Cantt over Ambala Division.**

Approx. Cost of work : Rs. 14.59 Lacs

Earnest Money : Rs. 29180/-

Date of Opening:- : 01/05/2014 at 15:00 hrs

Date of completion : 90 Days

Section A (SOR Items)

S. No.	Description	Qty	Unit	HQ SOR	Amount	Tenderer/s rate % above/below/at par on each item(in figure & words)
1	Supply & recessing/ fixing of PVC conduit pipe with accessories , junction box etc. including making chase , plastering/clamping etc. as per technical spec. Make: As per list attached.					
a)	PVC conduit pipe confirming to IS9537/part III/1983 (latest version)					
i)	25 mm (medium)	974	Mtr	31.00	30194.00	
2	Supply of PVC insulated multi stranded copper conductor single core cable confirming to IS: 694(latest version) & drawing & laid (recessed & surface); MS/PVC conduit pipe for wiring at point wiring/Circuit wiring/sub main /main as required. As per technical specification Make:- As per list attached.					
i)	2.5 sq mm	1470	Mtr	9.00	13230.00	
ii)	4 sq mm	1380	Mtr	15.00	20700.00	
iii)	10 sq mm	740	Mtr	33.00	24420.00	
3	Supply of MS switch box confirming to IS5133 (part-1) -1969(latest version) with white phenolic laminated sheet cover of approved make on front of box with brass screws & cup washer recessing as per technical spec including earthing.					
i)	100x100x60 mm deep	10	No.	33.00	330.00	
ii)	180x100x60 mm deep	34	No.	45.00	1530.00	
iii)	300x200x100 mm deep	20	No.	108.00	2160.00	
iv)	300x375x100 mm deep	10	No.	225.00	2250.00	
4	Supply of piano type switch as per IS 4949-1968(latest version)/ bell push as per IS 4794(part-2) -1986 (latest version)/ flush type socket outlet as per IS 1293 -1988(latest version) & installing on the recessed switch box including cutting of phenolic					

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S. No.	Description	Qty	Unit	HQ SOR	Amount	Tenderer/s rate % above/below/at par on each item(in figure & words)
	laminated sheet. Make: as per list attached					
i)	Piano type switch 5 Amp(1 way)	250	No.	10.00	2500.00	
ii)	Plug socket outlet 5 pin 5A	32	No.	12.00	384.00	
iii)	Piano type switch 15 Amp(1 way)	22	No.	25.00	550.00	
iv)	plug socket outlet 6 pin 5/15A	34	No.	25.00	850.00	
5	Supply of batten/ angle holder/ ceiling rose & installation on the junction box of laid conduit including connection, testing & commissioning as per tech. spec.. Make : As per list attached.					
i)	Bakelite batten/angle holder	30	No.	10.00	300.00	
ii)	Bakelite ceiling rose 3 plate	178	No.	11.00	1958.00	
6	Installation, on wall/ceiling with grouting of MS Nut & bolt 3/8" dia, connection with Twin core PVC insulated flexible copper conductor cable of size 14/0.0076" including testing and commissioning of 1x40W/2x40W prewired, box type FL tube fitting complete with choke, condenser, starter etc. and fl. tube as per tech. spec. including earthing. Note:- Box type fitting & FL. tube will be supplied by Railways in the store of zonal electrical incharge in packed condition.	60	No.	30.00	1800.00	
7	Installation , connection with twin core PVC insulated flexible copper conductor cable of size 14/0.0076" 1200/1400mm sweep ceiling fan with regulator (on the called CI/MS box) including earthing as per tech. spec. Note: ceiling fan with regulator in packed condition will be supplied by railway in the store of zonal electrical incharge	48	Job	36.00	1728.00	
8	Supply of 14 SWG GI wire & drawing in laid/on surface MS/PVC conduit pipe including earthing of installation as per IE rule.	774	Mtr	2.00	1548.00	
9	Supply & fixing of 3 mm thick white phenolic laminated sheet on Junction Box/fan Box etc. with brass screws and cup washers.	6	Per sq. Mtr.	464.00	2784.00	
10	Supply, erection ,testing ,commissioning of iron clad plug socket 20 amp with SP MCB 20Amps & metal clad plug top 20 amp as per technical spec. Make: As per list attached.	15	No.	539.00	8085.00	
11	Laying, underground/road/Railway track, recessing in platform /wall along with Rly. Track/in laid RCC/GI pipe as required 1.1 KV grade LT XLPE insulated armored, aluminum conductor cable including making chase & plastering after laying of cable/digging of cable trench, sand cushioning, protective covering with second class bricks, provision of cable route marker as per tech. spec. including end terminations with Al. Crimping socket/lugs testing and commissioning of following sizes. NOTE:- 1) All cable connection shall be made with proper					

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S. No.	Description	Qty	Unit	HQ SOR	Amount	Tenderer/s rate % above/below/at par on each item(in figure & words)
	size of crimping socket/grandest by the contractor at his own cost and labour ii)Road/floor where cable is to be laid shall be made good as original by the firm at his own cost and to the satisfaction of railway representative iii)The cable shall be fixed on wall/pole with suitable size of clamps iv)The cable will be supplied by railway from the store of concerned consignee to be collected by firm at his own cost / transport . No extra payment will be made for this work.					
i)	Up to 25 sq mm.	200	Mtr	30.00	6000.00	
ii)	Above 25 sq.mm to 120 sq.mm	800	Mtr	31.00	24800.00	
12	Supply , lying of GI pipe class B ISI marked under road clamping with erected pole or wall as per tech spec and drawing for passing cable of following size: Make: As per list attached.				0.00	
i)	50mm dia	20	Mtr	126.00	2520.00	
ii)	100 mm dia	30	Mtr	291.00	8730.00	
13	Supply & laying of 150mm dia RCC home pipe ISI marked under Rly. Track as per drawing and technical specification for passing cable.	200	Mtr	130.00	26000.00	
14	Supply & recessing/fixing on surface 6 SWG GI wire for loop earthing as required as per technical specification.	100	Mtr	5.00	500.00	
15	Fabrication of weather proof distribution board as per drawing approved by Railway with 2mm thick CRCA sheet, duly painted , suitable for operation on single phase 230 volts AC supply system complete with 6 No./4 No. -32 Amps. Pcelain Kit-Kat Fuse, Neutral link earthing ,inter connection supplytesting & commisioning as per tech. specification approx. size 400X250X135 mm				0.00	
i)	Comprising with 4 Nos 32 Amps. Pcelain kit-Kat fuse & neutral link	2	Job	375.00	750.00	
16	Earthing with 40 mm dia GI pipe class 'B' IS:3043(Latest Version) to achieve earth resistance less than 5 Ohm Masonry enclosure with hinged cover plate of cast iron with locking arrangement (approx size 400 mm X 400mm) on top , provision of earth plate, connection from earth electrode to switch gear/pole as per drawing. Make as per list attached	2	Job	883.00	1766.00	
	Total of Sec A				188367.00	

- i) The percentage rate above/below/at par on each item (in fig.& words) to be quoted by the tenderer/s failing which the tender is liable to be rejected.
ii) The contract value given above approx. & subject to variation according to actual requirement to Railways. No claim on this account will be entertained by Railway Administration.
iii) I/we clearly understand that I/we are not entitled to any compensation on account of any variation in the value of contract and also agree to complete all such works allotted me/us within the stipulated period.
iv) Payment for each item shall be basis of rate indicated in above table duly modified by %age above/below/at par as accepted by Railway administration.

Section B (NON SOR)

SN	Description	Qty	Unit	Rate of each item in figure	Rate of each item in words
1	Supply, installation ,testing and commissioning of maintenance free earthing having less than 1 ohm earth resistance by using i)03 nos Copper rods 3 meter long >12 mm dia ii)03 nos copper cables 70 sq mm naked 1.5 meter	6	Job		

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SN	Description	Qty	Unit	Rate of each item in figure	Rate of each item in words
	<p>piece 01 nos .Copper cable 70 sq mm naked 0.3 meter pieces.</p> <p>iii)02 nos terminals- 3 ports.</p> <p>iv)Terminals- 4 ports.</p> <p>v)Inspection joints with 5 terminals SS nut bolts.</p> <p>vi)Manhole cover with locking facility.</p> <p>vii)Conductiver Plus.</p> <p>viii)Special soil mix.</p> <p>ix)Vegetable soil.</p> <p>x)Non corrosive and ecological soil conductivity improver Gel.</p>				
2	Supply fixing testing and commissioning of Hot Pressed SMC Junction box (with hinged door and base fitted with four ways connections with nut bolt of stainless steel and one kit Kat -16 amps duly fitted in syntax make model no GSJB 2520 for AC incoming and outgoing cables with two no plastic glands & neutral link or equivalent of other reputed brand) on poles with clamp.(Note:- 2 no bus bar of suitable size fixed on insulator will be provided for termination of cables.)	13	job		
3	Supply of PVC insulated multi stranded copper conductor single core cable conforming to IS:694(latest version) & drawing in laid (recessed & surface); PVC conduit pipe for wiring at point wiring/circuit wiring/sub main /main as required . As per technical spec. Make: As per list attached.				
i)	1.0 sq mm	1100	Mtr		
ii)	1.5 sq mm	3850	Mtr		
iii)	6.0 sq mm	400	Mtr		
4	Supply, fixing and commissioning of metal halide 70 watt low bay, single piece integral epoxy white powder coated die-cast aluminum housing, aluminum reflector with heat resistant toughened clear glass cover with mounting bracket, 70 watts double ended tubular shape clear metal halide lamp suitable for 220 volts to 240 volts 50 Hz. AC supply. The fitting shall be complete in all respect, control gear etc. The fitting and lamp shall be of make : As per list attached.	16	No		
5	Supply, fixing, testing and commissioning of 400 watts metal halide flood light fitting complete with die cast Aluminum housing, built in control gear, Al.reflector, heat resistant toughened clear glass cover with mounting/fixing arrangement and all other required accessories. 400 watts Metal halide lamp etc.	8	No.		
6	Design, manufacture, supply, & fixing of expanded metal cover for 70/150 W sodium/MH street light fittings. The size of expanded metal cover should be so designed to cover the acrylic cover of the fittings & should be 2" below the cover. The cover should be half round. The fitting arrangement should be made from 1/6"x1 " flat with suitable nuts & bolts. The protection cover should be duly painted on a layer of red oxide.	16	No		
7	Supply, fixing and commissioning of TP&N Switch fuse unit, 415 volts, 200Amps complete with fuses. The SFU shall be make as per list attached	1	No.		

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SN	Description	Qty	Unit	Rate of each item in figure	Rate of each item in words
8	Supply and fixing of 3 phase & neutral (8/10 way) Phophetised powder painted front side opening hinged lockable door with gaskets, the DB shall be suitable for 415 volts, 50 Hz, supply dust & vermin proof only knobs of MCB remain out for operation without opening of door . The DB shall have copper bus bars, din channels, 1 no. 100 Amps Cap. MCCB on main and 6 nos. 32 Amps DP MCB"s. The box & MCB shall conform to relevant IS spec. Distribution box shall be provided recessed in wall flush to wall surface as per site requirement.	2	No.		
9	Supply & fixing of 3 phase & neutral powder painted front side & back able open hinged lockable door with gasket distribution box made from 14SWG CRCA sheet size 1100x600x300mm shall be suitable for 415V, 50 Hz, supply .Dust& vermin proof with 125 AMP aluminum bus bar , 100 Amp 4 pole AC 415 , thermal & magnetic setting fixed , 10KA breaking capacity MCCB, as main & 4 no. 60 Amp DP AC 415V, 10KA breaking capacity MCCB for circuits. Feeder post shall be fixed after making concrete foundation as per Technical spec. Make for ACB and MCCB will be L&T, ABB, GE Siemens	1	No		
10	Supply, transportation, loading and erection of swaged welded steel Tubular poles 7.5 M length bottom 4.5 M long 139.7 mm dia, 4.85 mm thickness middle 1.5 M long 114.3 mm dia, 3.65 mm thickness Top portion of Pole 1.5 M long 88.9 mm dia, 3.25mm thickness completed with base plate (300x300x6mm) welded at bottom & 300mm long G.I. pipe bracket 40mm dia at top with M.S. fabricated cap on the top of the pole with nut bolts as per specification	8	No.		
11	Supply & erection of 7 mtr (410-SP-3) swaged type steel tubular pole with single bracket/pipe bracket 200mm long etc. conforming to IS 2713 Part I to III 1980(latest version) complete with base plate , earthing bolt, digging of pit in ground, making foundation as per drg. erection of pole vertically, earthing, painting as per tech. spec.	8	No.		
12	Supply, fixing and commissioning of wiring of pole I.e. from J.box fixed on pole to Metal halide fitting with 4mm sq. single core stranded, Al. conductor PVC insulated wires ISI marked complete with PVC Tape etc. as per site requirement on each pole	16	No.		
13	Supply, fixing of 40mm dia PVC cond./IS 9537 pipe for cable entry from U/G trench. The pipe shall be embedded in CC foundation/Muffing up to bottom of the J.box for cable entry to J.Box separate pipe to be provided for incoming to outgoing cables at each pole.	8	Mtr		
14	Supply, fixing of 40mm dia PVC conduit long bend to be provided at bottom of the PVC conduit pipe to be facilitate cable entry and exist at each pole.	8	No.		
15	Fabrication, supply, fixing and commissioning of international standard double side glow sign boards/signage's size 25" x 25" made of 24 SWG G.I. Sheet box spray painted, thickness of board 20 cms max. base white penaflox sheeting duly stretched, Yellow/blue/Red(as applicable) translucent vinyl sheeting, subject matter black/white(as applicable), The board shall have 2 nos. 2 feet 20 watts CEE's approved make tube light fitting complete with copper wound chokes, starters, holders, logo size 150mm & letters 30mm.	6	No.		

Signature of Tenderer's
(With Stamp)

SN	Description	Qty	Unit	Rate of each item in figure	Rate of each item in words
	The board shall have 1" x 1" M.S. square section 18 SWG gauge frame for fixing penaflox sheeting. These boards are to be provided for services, utilities and caution purposes at platforms and building as per requirement				
16	Fabrication, supply, fixing and commissioning of Double side glow sign boards made of 24 SWG G.I. Sheet box spray painted, thickness of board 20 cms(max) base white pen flex sheeting duly stretched, yellow/blue/Red(as per requirement) translucent vinyl sheeting, subject matter of required color. The board shall have 1" x 1" 18 SWG M.S. frame for fixing penaflox sheeting having 4 feet fluorescent tube light with copper wound choke, starter etc. of CEE/NR. Approved makes. Tube light fitting shall be provided as per design of board. The boards shall be provided for station name board or passenger amenities indication	40	Sq.ft.		
17	Supply , fixing , testing and commissioning of 1 X28 T-5 CRCA fitting with high efficiency T5 lamps from CEE approved sources as per CEE specification no RDSO/PE/SPEC/PS/0100 (REV-1) 2011 which can be seen in office of Sr DEE/G UMB .Make: As per list attached.	105	No.		
18	Supplying, laying, testing and commissioning of LT U/G cable 2x16 Sq.mm. PVC/XLPE insulated 1100 Volt grade armored aluminum conductor cable in the trench 0.8 mtr deep with supply and laying of GI wire 8SWG along the entire length of cable including supply and providing bed of soft sand 75mm below the cable and 75mm above the cable with supplying and laying of bricks widthwise and afterward filling the trench with excavated soil duly rammed to its original shape. When laying the cable along the electric pole, masonry wall and pucca floor, it should pass through GI pipe of suitable dia up to the height of 3Mts from ground level with provision of suitable cable markers. Make: As per RC approved makes	200	Mtr		
19	Supplying, laying, testing and commissioning of LT U/G cable 4x70Sq.mm. PVC/XLPE insulated 1100 Volt grade armored aluminum conductor cable in the trench 0.8 mtr deep with supply and laying of GI wire 8SWG along the entire length of cable including supply and providing bed of soft sand 75mm below the cable and 75mm above the cable with supplying and laying of bricks widthwise and afterward filling the trench with excavated soil duly rammed to its original shape. When laying the cable along the electric pole, masonry wall and pucca floor, it should pass through GI pipe of suitable dia upto the height of 3Mts from ground level with provision of suitable cable markers: As per RC approved makes	200	Mtr		
20	Supply installation ,testing and commissioning of submersible 450mm sweep polycarbonate Exhaust fan complete with all accessories and louvers shutters as per explanatory notes	14	Job		
21	Electronic Energy meter LT- CT operated 3 phase 4 wire kWh meter of accuracy class 1.0 with Backlit LCD display for measuring & displaying active energy of 2 sources in one meter.	1	No.		
22	Supplying, laying, testing and commissioning of LT U/G cable 4x50 Sq.mm. PVC/XLPE insulated 1100 Volt grade armored aluminum conductor cable in	750	Mtr		

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SN	Description	Qty	Unit	Rate of each item in figure	Rate of each item in words
	the trench 0.8 mts deep with supply and laying of GI wire 8SWG along the entire length of cable including supply and providing bed of soft sand 75mm below the cable and 75mm above the cable with supplying and laying of bricks widthwise and afterward filling the trench with excavated soil duly rammed to its original shape. When laying the cable along the electric pole, massonary wall and pucca floor, it should pass through GI pipe of suitable dia upto the height of 3Mts from ground level with provision of suitable cable markers. As per RC approved makes				
23	Supply & fixing of AC MCB four pole 415 volt 40 Amp with three protected poles as per spec in existing distribution board. Make as per list attached				
i)	63 Amps	2	No.		
24	Supply, fixing & commissioning of approved makes MCB with sheet steel enclosures. Make as per list attached				
i)	SPN 25 Amps	4	No.		
25	Supply, fixing by replacing the old air washer pre air filter of 10 micron 5 mm thick size (72" x 72" x 8") as per tech spec. make AIREF Egg. Or equivalent.	10	Job		

**Sr.Divl.Elect.Engineer/G,
N.Rly.,Ambala Cantt**

- i) I/We clearly understand that I/We are not entitled to any compensation on account of any variation in the value of contract and also agree to complete all such works allotted to me/us within the stipulated period
- ii) It will be part of contract that all ceiling fan, fan regulator, tube fitting and other electrical accessories which will be dismantle/removed during the course of wiring/rewiring and other electrical work, shall be refitted again at it own place by the firm at his own cost and labour or same shall be deposited with the consignee (if the same are not required to be fitted)
- iii) The contractor shall under take to finish the civil Engg; work of place where the work of electrical wiring have been carried out as per aesthetic requirement of catch area/finish the civil Engg; job.
- iv) If any minor item which are not specified in the scope of work/schedule of rates and required for completeness of job, shall be provided by the firm.
- v) The contractor may go through the SOR/site and specification before submitting their offer. The detailed specifications are guidelines for the contractor for carrying out the work however SOR shall supersede the specification.
- vi) Competent authority reserves the right to accept/cancel/delete any item from SOR and or accept partial / full quantity of any item without giving any reason.
- vii) The drawing / design / sample of items shall be got approved by the contractor from competent authority before/ utilizing manufacturing the same
- viii) Contractor will collect the material to be supplied from stores of consignee at his own cost / Labour / transportation etc. No extra payment will be made
- ix) As per need site may be changed any where in Ambala Division with the approval of competent authority. No extra payment will be made.
- x) Make mentioned in SOR are indicative, in case other make is offered prior approval of Competent Authority shall be obtained before start of work.

Signature of Tenderer's
(With Stamp)

Open Tender Notice No -16-2013-14

The Sr. Divisional Electrical Engineer/G, N.Rly, Ambala Cantt for & on behalf of the President of India invites "SEALED OPEN TENDERS" on prescribed form for the following works to be deposited in the tender box upto 15.00 hrs. on the following dates shown against each work and will be opened immediately thereafter

S. N.	Tender No.	Name of work	Date of Opening	Approx. Cost. Rs.	Earnest Money	Completion period	Validity period	Cost of tender form
1	30-Elect/T-34/2013-14 (Open Tender)	Electrical work in connection with repairing/ replacement of various parts of Air conditioners, Water coolers and Refrigerators installed at various locations over Ambala Division.	17/04/2014	11.36 Lacs	22720/-	180 days	90 days	Rs.2000/- (By cash) Rs.2500/- (By Post)
2	30-Elect/T-35/2013-14 (Open Tender)	Electrical work in connection with repair/ rewinding/ replacement of pumps and motors lying defective in store of SSE/OE&P of Ambala Division.	17/04/2014	32.11 Lacs	64220/-	90 days	90 days	Rs.3000/- (By cash) Rs.3500/- (By Post)
3	30-Elect/T-36/2013-14 (Open Tender)	AMC of Power Car of Shatabadi Express running between Chandigarh and New Delhi.	17/04/2014	44.44 Lacs	88880/-	90 days	90 days	Rs.3000/- (By cash) Rs.3500/- (By Post)
4	30-Elect/T-37/2013-14 (Open Tender)	Electrical work in connection with provision of community hall at Jagadhri workshop and repair to EDP centre in DRM office Ambala Cantt.	17/04/2014	11.44 Lacs	22880/-	90 days	90 days	Rs.2000/- (By cash) Rs.2500/- (By Post)

1. Tender documents can be had from the office of the Sr. Divisional Electrical Engineer/G,N.Rly., DRM Office, Rail Vihar, Ambala Cantt on any working day from 20 days advance and upto 11.00 hrs. of the stipulated date of opening of the tender on cash payment of prescribed tender cost. Cost of tender document is non refundable and tender document non transferable.
2. Please refer to the website www.nr.indianrail.gov.in for detailed tender notice and tender documents.

No. 30-Elect/T/Notice/16/2013-14
Dt 06/03/2014

**Sr. Divl. Elect. Engineer/G,
N.Rly, Ambala Cantt
for & on behalf of the President of India.**

Copy forwarded to the following for information & n/action please

- i) CPRO/NDLS alongwith 10 copies for publication in leading national newspaper in India. One copy may please be sent to the Editor ,Indian Railway PB No.467 ,New Delhi for publication in magazine. Tender notice may also be put on the Internet web site of N.Rly .The cost is debitable to Sancd. Engg. Est. 16-Elect/G/Rev 2013-14 Allocation 06530 (Original advertisement published in various newspapers may please be sent to this office as soon as these are available for perusal.
- ii) DRM/Elect., N.Rly., LKO, ALD, BKN, JU, MB, FZR & DLI
- iii) DRM/UMB for kind information.
- iv) Sr.DFM/UMB is requested to depute Finance official 17/04/2014 at 11:00 hrs. for closing sale & 15:00 hrs. for opening the tender
- v) CEE/NDLS : for kind information please
- vi) All Electrical Incharges over Ambala Division.
- vii) Notice Board of DRMs office Ambala Cantt.
- viii) Sr.EDP Supervisor, DRM Office, Ambala Cantt for uploading the notice on Ambala Division website

Signature of Tenderer's
(With Stamp)

Corrigendum No. 1 Open Tender Notice No. 16/2013-14

Open tender invited by Sr.Divl.Electrical Engineer/G, N.Rly.,Ambala Cantt for & on behalf of the President of India for tender no. 30-Elect/T-37/2013-14(Open Tender) published in newspaper on 12/03/2014 and scheduled to be opened on 17/04/2014.

The name of work will be read as **“Electrical work in connection with provision of community hall at Jagadhri, microwave building at Saharanpur, electrification of office building for USFD staff at Ambala and replacement of Air washer filter at DRM office complex at Ambala Cantt over Ambala Division” instead of “Electrical work in connection with provision of community hall at Jagadhri workshop and repair to EDP centre in DRM office Ambala Cantt.”**

The revised cost will be Rs 14.59 lacs instead of Rs 11.44 Lacs and Earnest Money will be Rs 29180/- instead of Rs 22880/- and the date of opening of the tender will be now 01/05/2014 instead of 17/04/2014.

Revised tender documents are available on www.nr.indianrail.gov.in

No. 30-Elect/Corrigendum/T-Notice/16/2013-14

Date: 07/04/2014

**Sr. Divl. Elect. Engineer (G)
N.Rly., Ambala Cantt
For & on behalf of the President of India**

Copy forwarded to:-

- i) CPRO/NDLS: Along with 10 copies for press advertisement in leading newspapers.
- ii) DRM/Elect., N.Rly., LKO, ALD, BKN, JU, MB, FZR & DLI.
- iii) DRM/UMB for kind information.
- iv) Sr. DFM/UMB.
- v) CEE/NDLS: for kind information.
- vi) All electrical Incharges over UMB Ambala Division.
- vii) Notice Board of DRMs office Ambala Cantt.
- viii) Tender Case files No 30-Elect./T-37/2013-14.

END OF TENDER DOCUMENT

Signature of Tenderer's
(With Stamp)