



ई-निविदा क्रमांक – भुसावल-एल-डब्लू-टी-56-2026

कार्य का नाम

**Name of work – Improvement of Earthing System by replacement of existing earthing system by Maintenance Free Earthing over Bhusaval Division (Phase II).**

**टेण्डर जारी किया :**

**टेण्डर दिया गया :**

वरिष्ठ मंडल विद्युत अभियंता (सामान्य),  
मध्य रेल, भुसावल

मेसर्स \_\_\_\_\_  
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**E-Tender No:-BSL-L-W-T-56-2026**

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## CENTRAL RAILWAY

### E-TENDER NOTICE NO BSL-L-W-T-56-2026 (ELECT. GEN) OPEN TENDER

**Senior Divisional Electrical Engineer (General Services) Central Railway, Bhusawal** for & on behalf of President of India invites **E-TENDER** from reputed & experienced contractors on website [www.ireps.gov.in](http://www.ireps.gov.in) for the following work –

SN	Tender No.	Description of work	Approx. Cost Rs.	Bid Security	Validity of offer	Completion period
1	BSL-L-W-T-56-2026	Improvement of Earthing System by replacement of existing earthing system by Maintenance Free Earthing over Bhusaval Division (Phase II).	4,06,02,986	8,12,100	60 days	9 Months

**Notes-(I)** Tender Closing Date Time of aforesaid tender up to 15.00 Hrs. of **20/07/2026**.

(II) The prospective tenderers are requested to visit the website – [www.ireps.gov.in](http://www.ireps.gov.in) for details of tenders & Corrigendum, if any.

(III) The tender notice is also displayed on **Notice Board** of Sr.DEE(G) Office, Bhusawal.

(IV) Tenderer may participate in above E- tender electronically through website [www.ireps.gov.in](http://www.ireps.gov.in) only & submission of manual offers against e-tender are not allowed & if any manual offers submitted shall neither be opened nor considered.

(V) **Bid Security** :- The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure-VIA** and shall be valid for a period of 90 days beyond the bid validity period.

#### **Exemptions:**

- (i) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid Security detailed above.
- (ii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.

**Note:-** Subject to exemptions provided above, the tender must be accompanied by a Bid Security as mentioned in tender document, failing which the tender shall be summarily rejected.

(VI) The contractor shall submit self-attested/digitally signed copy of valid Electrical Contractor License as per Clause No. 45 IE Rule 1956 along with the offer. The offer will be summarily rejected in absence of valid Electrical Contractor License.

- (VII) Tenderer should submit their credential of work done along with the offer as per 'Eligibility Criteria', Definition of "similar nature of work" and Para 7.0 given in tender booklet. (for details please see tender booklet Page. No. 5 to 9)
- (VIII) **Special Condition** - Tenderer, in case of other than Company / Proprietary Firm, Annexure-V(A) shall be submitted by the each member of a Partnership Firm / Joint Venture (JV) / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. as the case may be. **Non submission of Annexure-V(A) by the bidder shall result in summarily rejection of his/their bid.** It shall be mandatorily incumbent upon the tenderer to identify state and submit the supporting documents duly self-attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.

SENIOR DIVISIONAL ELECTRICAL ENGINEER.  
(GENERAL SERVICES)  
CENTRAL RAILWAY, BHUSAWAL  
On behalf of President of India

## PREAMBLE AND SCOPE OF WORK

**E-Tender No:- BSL-L-W-T-56-2026**

**NAME OF WORK :-** Improvement of Earthing System by replacement of existing earthing system by Maintenance Free Earthing over Bhusaval Division (Phase II).

### **SCOPE OF WORK :-**

The scope of work involves supply, erection, testing and commissioning of maintenance free earthing with necessary accessories, earthing with copper earth plate, ARC Fault detection device (AFDD), Lighting Circuit Board, various capacities switchgears etc in Bhusawal Divn:

1.0 APPROXIMATE COST OF THE WORK	:-Rs. 4,06,02,986
TIME AND DATE OF CLOSING	:-15.00 Hrs on 20/07/2026
COMPLETION PERIOD	:- 9 Months
VALIDITY OF OFFER	:-60 days.

**2.0 FOREIGN EXCHANGE:** No foreign exchange and/or import license shall be released/provided to the Contractor in connection with this contract.

**3.0 “Tenderer should participate electronically in E- tender through website www.ireps.gov.in& submission of manual offers against e-tender are not allowed & if any manual offers submitted shall neither be opened nor considered.”**

### **4.0 GENERAL**

- i) Water / electricity / transport shall be arranged by the Contractor at his own cost. The Purchaser shall not provide the same under any circumstances. The site for depot / workshop can be provided to the Contractor on his request.
- ii) The Contractor shall arrange at his own cost, all tools & plants, facilities required for erection, testing and commissioning of all the equipment in compliance with the respective specifications.
- iii) The schedule of rates and quantities enclosed should be read in conjunction with the explanatory notes given in the tender papers.
- iv) **Tenderer should submit their credential of work done as per Eligibility criteria of Tender and Similar Nature of Work**

**5.0 Bid Security:** The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure-VIA** and shall be valid for a period of 90 days beyond the bid validity period.

### **Exemptions :-**

- (i) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as ‘Startups’ shall be exempted from payment of Bid Security detailed above.
- (ii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.

**5.1 In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:**

- i. A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender.

- ii. The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document before closing date for submission of bids (i.e. excluding the last date of submission of bids)
- iii. Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non-submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.
- iv. The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.
- v. The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected
- vi. The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification “**Bid for the \*\*\*\*\* Project**” and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right hand top corner of the envelope.
- vii. The envelope shall be addressed to the officer and address as mentioned in the tender document.
- viii. If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.
- ix. Bank guarantee shall be in the name of “Senior Divisional Finance Manager, Central Railway Bhusawal” on minimum Rs. 500 stamp only.
- x. Successful tenderer will deposit Rs. 200 legal vetting charges before execution of work.

**Note :- (a)** Subject to exemptions provided under para 5.0 above, the tender must be accompanied by a Bid Security as mentioned in tender document, failing which the tender shall be summarily rejected.

**(b)** The Tenderer(s) shall keep the offer open for a minimum period of 60 days (in case of two packet system of tendering 90days) from the date of closing of the Tender. It is understood that the tender documents have been 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 \_\_\_\_\_ Railway. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited or Bank guarantee bond submitted as Bid Security for the due performance of the above stipulation, shall be forfeited to the Railway.

## **6.0 Eligibility Criteria (Refer clause 10 of Part-I of GCC April-2022):**

### **6.1 Technical Eligibility Criteria:**

The tenderer must have successfully completed or substantially completed any one of the following categories of work(s) during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

- (i) Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or
- (ii) Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or
- (iii) One similar work costing not less than the amount equal to 60% of advertised value of the tender.

## 6.2 DEFINITION OF SIMILAR NATURE OF WORK: -

<b>Definition of Similar Nature of Works</b>
Electrification / Rewiring of Service or Residential building / Yard / HT / LT substation work / HT / LT cable work / street lighting / platform or building lighting management / circulating area Lighting / Electrical overhead power supply work / Electrical pump work etc.

**Note:** (1) Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organization, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.

In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.

**Note:** (2) If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to subcontractor by a Govt. Organization or public listed company as defined in Note 1 above, the same shall be considered for the purpose of fulfillment of credentials.

**6.3 Financial Eligibility Criteria:** The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where

V= Advertised value of the tender in crores of Rupees

N= Number of years prescribed for completion of work for which bids have been invited.

The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.

The tenderers shall submit requisite information as per **Annexure-VIB**, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

**6.4** No Technical and Financial credentials are required for tenders having advertised value up to Rs. 50 lakh.

**6.5** Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under:

The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India or entity authorized by RBI to do so for the relevant date or immediately previous date for which rates have been published. Where, relevant date shall be as on the last day of month previous to the one in which tender is invited. In case of any other currency, the same shall first be converted to US Dollars as on the last day of month previous to the one in which tender is invited, and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates

published by the International Monetary Fund for the relevant date or immediately previous date for which rates have been published.

### **7.0 Tenderer Credentials:**

Documents testifying tenderer previous experience and financial status should be produced along with the tender.

Tenderer(s) shall submit along with his / their tender:

- (i) Certificates and testimonials regarding contracting experience for the type of job for which tender is invited with list of works carried out in the past.
- (ii) Audited Balance Sheet duly certified by the Chartered Accountant regarding contractual payments received in the past.
- (iii) The list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.
- (iv) Tenderer, in case of other than Company / Proprietary Firm, Annexure-V(A) shall be submitted by the each member of a Partnership Firm / Joint Venture (JV) / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. as the case may be. **Non submission of Annexure-V(A) by the bidder shall result in summarily rejection of his/their bid.** It shall be mandatorily incumbent upon the tenderer to identify state and submit the supporting documents duly self-attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.
- (v) The Railway reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the Railway, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by the Railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the Railway there under.
- (vi) (a) **In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the Bid Security and may also lead to any other action provided in the contract including banning of business for a period of upto two year.**  
  
(b) **In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, it will lead to termination of the contract, along with forfeiture of Bid Security/Security Deposit and Performance guarantee and may also lead to any other action provided in the contract including banning of business for a period of upto two year.**

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

**8.0 - Contractor shall ensure all precautions during digging work close to Rly signaling, telecom electrical cables etc. Penalties to be imposed for damages to any cable as per Railway board letter no. 2021/Tele/5(2)/3-Part(1)/(3425647) dtd 12.06.2023**

## 9.0 GENERAL CONDITION OF CONTRACT:

Unless otherwise stated in the tender papers, contract shall be governed by “**Indian Railways Standard General Conditions of Contract, April 2022**”, along with the amendments, if any, issued by the Government of India, Ministry of Railways (Railway Board) from time to time. In case of any contradiction with the regulations laid down here under, GCC April 2022 with latest orders, modification and amendments will prevail, copy of which may be downloaded from the website:

[https://indianrailways.gov.in/railwayboard/uploads/directorate/civil\\_engg/pdf/2022/GCC\\_April-2022\\_2022\\_CE-I\\_CT\\_GCC-2022\\_POLICY\\_27\\_04\\_22.pdf](https://indianrailways.gov.in/railwayboard/uploads/directorate/civil_engg/pdf/2022/GCC_April-2022_2022_CE-I_CT_GCC-2022_POLICY_27_04_22.pdf)  
and [https://indianrailways.gov.in/railwayboard/view\\_section.jsp?id=0,1,304,366,526](https://indianrailways.gov.in/railwayboard/view_section.jsp?id=0,1,304,366,526)

For block working in Bhusawal Division, rules/procedure stipulated in PDSR (Power Distribution & Subsidiary Rules) and G&SR (General & Subsidiary Rules) as applicable for Bhusawal Division shall be followed. Successful tenderer shall ensure himself & his staff for getting acquaintance of these rules. The complete tender document should be read in conjunction with GCC April 2022 and all forthcoming amendments.

## 10.0 ADDRESSES:

Relevant addresses for specified purposes in connection with the tender are given below:

### 10.1 For Contract execution –

**Senior Divisional Electrical Engineer,  
(General Service) Bhusawal,**  
DRM office Bldg., 1<sup>st</sup> floor,  
Central Railway, Bhusawal-425201.

**CHAPTER-I**

**INSTRUCTIONS TO TENDERERS**

**&**

**SPECIAL CONDITIONS OF CONTRACT**

## CHAPTER-I

### INSTRUCTIONS TO TENDERERS & SPECIAL CONDITIONS OF CONTRACT

The special conditions of contract shall supplement and to be read together with the General Conditions of Contract, April 2022 of the Indian Railway and the extant orders along with the amendments, if any, issued by the Government of India, Ministry of Railways (Railway Board) from time to time.

#### **1.0 Care in submission of Tenders: -**

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 Standard General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.

#### **2.0. Documents to be Submitted Along with Tender**

(i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Joint Venture (JV) / Registered Society / Registered Trust / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card 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, trust or society, as the case may be. **In case a tenderer is participating as Sole Proprietor in a tender, it is mandatory for him to submit an undertaking on suitable stamp paper to this effect clearly mentioning PAN number also along with tender document at the time of submission of tender.**

(ii) Following documents shall be submitted by the tenderer:

##### **(a) Sole Proprietorship Firm:**

(i) All documents in terms of Para 10 of the Tender Form (Second Sheet) of GCC April 2022

##### **(b) HUF:**

(i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.

(ii) All other documents in terms of Para 10 of the Tender Form (Second Sheet) of GCC April 2021

##### **(c) Partnership Firm:**

(i) All documents as mentioned in para 18 of the Tender Form (Second Sheet) of GCC April 2022

(d) **Joint Venture (JV):** All documents as mentioned in para 17 of the Tender Form (Second Sheet) of GCC April 2022

##### **(e) Company registered under Companies Act 2013:**

(i) The copies of **MOA (Memorandum of Association) / AOA (Articles of Association)** of the company

(ii) A copy of Certificate of Incorporation

- (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company.
  - (iv) All other documents in terms Para 10 of the Tender Form (Second Sheet) of GCC April 2022
- (f) **LLP (Limited Liability Partnership):**
- (i) A copy of LLP Agreement
  - (ii) A copy of Certificate of Incorporation
  - (iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP.
  - (iv) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.
  - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet) of GCC April 2022
- (g) **Registered Society & Registered Trust:**
- (i) A copy of Certificate of Registration
  - (ii) A copy of Memorandum of Association of Society/Trust Deed
  - (iii) A copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.
  - (iv) A copy of Rules & Regulations of the Society
  - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet) of GCC April 2022
- (iii) If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm / Partnership firm / Joint Venture / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.
- (iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF/LLP etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.
- (v) A tender from JV shall be considered only where permissible as per the tender conditions.
- (vi) The Railway will not be bound by any change of power of attorney or in the composition of the firm made subsequent to the submission of tender. Railway may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

**2.1 Note :-** The tenderer whether sole proprietor / a company or a partnership firm / joint venture (JV) / registered society / registered trust / HUF / LLP etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of 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 authorizing him/them to sign the

tender, submit the tender and further to deal with the Tender/ Contract up to the stage of signing the agreement except in case where such specific person is authorized for above purposes through a provision made in the partnership deed / Memorandum of Understanding / Article of Association /Board resolution, failing which tender shall be summarily rejected.

A separate 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, shall be submitted after award of work, specifically authorizing him/them to deal with all other contractual activities subsequent to signing of agreement, if required.

Note: A Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

### **3.0. Employment/Partnership etc. of Retired Railway Employees:**

- (a) Should a tenderer
- i) 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 pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, OR
  - ii) being partnership firm / joint venture (JV) / registered society / registered trust etc have as one of its partners / members a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, OR
  - iii) being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors

AND

in case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender

THEN

the tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and 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, 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.

- b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazette rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.

- c) Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in the Engineering or any other department of the railway, then the tenderer at the time of submission of tender, will inform the authority inviting tenders the details of such persons.

**Note:** - If information as required as per 3.0. a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of contract.

#### **4.0. Participation of Partnership Firms in works tenders:**

4.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.

4.2 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 Registrar or the partnership deed should have been notarized as per the Indian Partnership Act, prior to submission of tender.

4.3 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 any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.

4.4 Once the tender has been submitted, the constitution of the firm shall not normally be allowed to be modified / altered / 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 get vitiated. The re-constitution 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 submission of tender shall be with the consent of all partners 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 Bid Security shall be forfeited.

If any Partner/s withdraws from the firm after submission of the tender and before the award of the contract, the offer shall be rejected and Bid Security of the tenderer will be forfeited. If any new partner joins the firm after submission 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 his 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 due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract.

4.5 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.

4.6 The tender form shall be submitted only in the name of partnership firm. The Bid Security shall be submitted by partnership firm. The Bid Security submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.

4.7 On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.

4.8 On issue of Letter of Acceptance (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.

4.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities:

The partners of the firm to which the Letter of Acceptance (LOA) is issued, 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 the 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 of 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 change carried out by partners in the constitution of the firm without permission of Railway, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract.

(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 other partner/s and that of the Railway.

4.10 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:

- (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
- (ii) A notarized or registered copy of Power of Attorney in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
- (iii) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determined under Clause 62 of the Standard General Conditions of Contract.
- (iv) All other documents in terms of explanatory notes in clause 10 (i.e. Eligibility Criteria) of GCC, April-2022.

#### **4.11 Evaluation of eligibility of a partnership firm:**

- (i) Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in Clause 10 (i.e. Eligibility Criteria) of GCC, April-2022.

#### **5.0 TENDERER SPECIAL CONDITIONS:**

The tenderer should normally not stipulate any special conditions while submitting his tender. In such an eventuality, Central Railway reserves the right to summarily reject such tenders without assigning any reasons whatsoever. The tenderer should normally submit his tender in full conformity with the tender conditions of Central Railway, Bhusawal. If any particulars are furnished by the tenderer in response to specific tender conditions, by which such particulars are required to be furnished at the tender stage, this shall not be treated as special conditions for the purpose of this para.

#### **6.0 PRICE VARIATION CLAUSE (PVC) : As per GCC along with latest amendments.**

#### **7.0 DEFECTIVE EQUIPMENTS TO BE CHANGED :**

Not with standing completion of work in partial or full use of any equipment, if the completed equipment or any portion thereof before it finally taken over at the end of the guarantee period be found to be or to have become defective in course of usage by the Railway due to faulty material, design or workmanship, or otherwise fails to fulfill the requirement of the contract and/or its purpose, the purchaser shall normally give the contractor prompt notice setting forth the particulars of each defects or failure and the contractor shall forthwith make the defects good or modify or replace the equipment, as may be directed by the purchaser's Engineer, at his own cost in all respects to make comply satisfactorily with the said requirements. Should the contractor fail to do within a reasonable time the service of the said notice upon him or should time not permit of service of such notice, the purchaser may repair or reject and replace the whole or part of such defective equipment as the case may be, at the cost of the contractor. The contractor's full liability under this clause shall be satisfied by the payment to the purchaser of the extra total cost, if any, of such replacement delivered and erected as provided for in the original contract, such extra cost being the ascertained difference between the price paid by the purchaser under the provisions above mentioned for such replacement and the contractor's price for the plant so replaced, plus the sum, if any, paid by the purchaser to the contractor in respect of such defective equipment. Should the purchaser not so replace the rejected equipment within a reasonable time, the contractor's liability under this clause shall be satisfied by the repayment by the contractor of all money paid by the purchaser to him in respect of such rejected equipment. Rejected/defective materials shall be returned to the contractor to the extent possible.

#### **8.0 FINAL ACCEPTANCE:**

The final acceptance of the entire equipment installed on the site shall take effect from the date of expiry of the period of guarantee. After expiry of the period of guarantee for each section, a certificate of final acceptance shall be issued by the Purchaser and the last of such certificate will be called the last and final acceptance certificate. The contract shall not be considered as completed until the issue of final acceptance certificate by the Purchaser. The Purchaser shall not be liable to the Contractor for any matter arising out of or in connection with the contract or execution of the work unless the Contractor shall have made a claim in writing in respect thereof before the issue of final acceptance certificate under this clause. Notwithstanding the issue of final acceptance certificate, the Contractor and the Purchaser (subject to sub-clause as above) shall remain liable for fulfillment of any obligation incurred under the provision of the contract prior to the issue of final acceptance certificate which

remains unperformed at the time such certificate is issued and for determining the nature and extent of such obligation the contract shall be deemed to remain in force between the parties hereto.

#### **9.0 ISSUE OF IDENTITY CARDS TO CONTRACTOR'S LABOURS:**

Following certificates/documents should be issued to each contract labourers nominated to work in the railway premises by the contractor, indicating Contract No, Name of the person, place of work etc.

1. Identity Card,
2. Character certificate issued by Police Department,
3. Certificate for technical competency.

If these are not issued to contract Labour, he / they will not be permitted to work in the Railway premises. The list of the labour should be submitted to this office for records.

#### **10.0 ISSUE OF MATERIALS TO THE CONTRACTOR:**

Contractors have to submit a Bank Guarantee for an amount equal to the cost of material paid to them and to be handed over to them for erection. The cost of material paid to them and handed over to them and under their possession at any time shall not exceed the value of the B.G. already submitted.

#### **11.0 STANDING INDEMNITY BOND:**

Cost of all the materials for which 'On Account' payments have been made to the contractor against the Contract and materials handed over to the contractor by the purchaser for the purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to the purchaser shall be covered by the standing indemnity bond(see FormNo.16).

#### **12.0 INSPECTION :**

All the material, required for this work shall be subject to inspection to ensure that the work is done in accordance with specification, drawings and is of the best quality suitable for the purpose. Following inspection schedule shall be followed.

- a) **Inspection of material :-**
- i) **At Firm's premises:-** Material having value above Rs.5 lakhs shall be inspected by RITES. Inspection of other materials shall be done by Railway's representative. Firm will submit manufactures original test certificate.
- ii) **After Receipt of material:-** Inspection of other item shall be done at depot / site by Railway Engineer's representative. Contractor shall produce all the test reports, material documents, etc. during inspection.
- iii) All the defects / discrepancies, if any, pointed out during inspection should be attended by the contractor immediately.
- b) **Stage Inspections:-** Stage inspections shall be carried out by Railway Engineer's representative from time to time during execution of the work at site. All the shortcomings noticed during stage inspection shall be attended by the contractor.
- c) **Final Inspections:-** After completion of work, contractor shall offer it for final inspection and testing. All the shortcomings noticed during final inspection shall be attended by the contractor, immediately and a joint inspection shall be carried out by Railway Engineer's Representative and by Contractor Representative after completion of the entire work and a joint inspection report shall be made. The joint inspection report shall be signed by the contractors representative, Railway's authorized Engineer for that work and shall be enclosed

along with the final bill with details of works carried out in individual location. Any defect / shortcomings noticed shall be attended by the contractor immediately.

### **13.0 MATERIALS/EQUIPMENTS:**

All materials used in the work shall be of the best quality and of the class most suited for the purpose specified. All the standard fittings, equipments, motor, gear box, breaks, governors, control panel, cables and other accessories required for this work shall be as per RDSO / RCF / ICF approved make conforming to relevant IS specifications against each schedule item. If any material does not appear in the RDSO / RCF / ICF approved list then make of material should approved by Sr.DEE(G) Bhusawal /Railway representative before supply.

All the equipments, materials, fittings and components will be subject to quality control program of being part of the quality assurance program of the contractor. All the major equipments / material shall be inspected as per inspection clause para 12.0.

### **14.0 WARRANTY/GUARANTEE :-**

After successful completion of entire work and the same has been taken over by Railway, it shall be guaranteed for 12 months. During this period if any defects arise the same shall be made good by the contractor free of cost. LED fittings shall be guaranteed for 5 years.

### **15.0 RELEASED MATERIAL: -**

The released materials should be returned by the contractor to Railways and acknowledged. The released materials should be transported to respective depot with the tenderers men and vehicle as per instruction of Railway's Engineer.

### **16.0 ELECTRICAL CONTRACTORS LICENSE:**

**The contractor shall submit self-attested copy of valid Electrical Contractor License as per Clause No. 45 IE Rule 1956 along with the offer. The offer will be summarily rejected in absence of valid Electrical Contractor License.**

### **17.0 OTHER SPECIAL CONDITIONS: -**

- 17.1 Tenderers should submit their offer with credentials regarding working capacity and financial capabilities.
- 17.2 Tenderers should submit the list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.
- 17.3 Contractors found using un-approved materials shall be, on the spot, stopped from executing further work and suitable action taken to terminate the contract. Particular note of this should be taken and it shall be strictly ensured that only quality work is done.
- 17.4 All completed work shall be jointly recorded by contractors with Railways in 'Measurement Books' which will be available with Rly's engineer No work, other than those recorded in M.B, will be recognized.
- 17.5 Bills shall be submitted in Rly's bill form only. All released materials shall be handed over to Railways at the depot of Senior Section Engineer (EM)'s. Contractors should keep a proper account of the released materials handed over, with proper acknowledgement from Railway's engineer and submit the same along with the bills.(NA)
- 17.6 During the process of work the contractor shall arrange to keep electric supply available to avoid any inconvenience to the occupant and the temporary wiring shall be safe and shall not pose any hazard to any points. It shall be contractor's responsibility to ensure the safety of his man and also materials and occupants from any hazard of electricity during the process of wiring. (NA)
- 17.7 During the process of work the contractors shall arrange to keep the material away from the LC gate to avoid any inconvenience of the traffic on gate.

- 17.8 The switchboard shall be of seasoned teak wood/ PVC confirming IS.
- 17.9 Code of practice for electrical wiring installation shall be followed as per IS-732 – 1989 with latest amendment.
- 17.10 PVC insulated wires for working voltages up to and including 1100 Volt shall be as per IS-694 – 1990 with latest amendment.
- 17.11 PVC insulated (heavy duty)/XLPE electric cables for working voltages up to and including 1100 Volt shall be as per IS-1554 – (Part – I) – 1988 with latest amendment.

**18.0 OTHER SPECIAL CONDITION OF THE WORK**

The Contractor shall maintain a register showing names and addresses of the person so engaged along with photographs of each person and shall produce the same for inspection on demand by Welfare Officer or such other person so authorized by the owner. The Contractor shall not use or allow to be authorized to be used train or any part thereof for dwelling purpose and shall not allow any outsiders to loiter in or around the train without valid authority.

- 18.1 The contractor shall be required to employ/engage only that number of employees/workers as may be specifically authorized by Railway Administration from time to time and shall maintain complete records of such employees/workers with regard to their names, address qualifications, experience and other required details. The Railway shall have absolute right to test, interview or otherwise assess or determine skills, knowledge, proficiency, capability, etc. so as to ensure that such employees/workers are competent, qualified or otherwise suitable for efficient working. Workers rejected on this account by the Railways shall not be employed/ engaged by the contractor on the work covered by this contract.
- 18.2 The contractor is liable to pay provident fund contribution. Leave salary, medical benefits to his employees and to observe statutory working hours. The contractor is responsible for the proper maintenance of registers, records and accounts so far as compliance with any statutory provisions/obligations is concerned. The contractor to keep proper records pertaining to payment of wages, etc. and also for depositing the provident fund contributions with the authorities concerned. The contractor is liable to defend, indemnify and hold harmless to the Railway from any liability or penalty which may be imposed by the Central, State or local authorities by reason of any violation by the contractor or such laws regulations and also from all claims, suits or proceedings that may be brought against the management arising under or incidental to or by reason of the work provided/assigned under the contract brought by the employees of the contractor, third party or by the Central or State Government authorities.
- 18.3 The contractor will make aware his employees that the contract employee are employee of contractor and the employee are not entitled for any regularization in Railway Service. If such situation arises in future contractor is liable to defend indemnify & hold harmless to the Railway Administration from any such liability.
- 18.4 The contractor shall follow all labour Law, rules, regulation pertaining to labour, whether mentioned or not.
- 18.5 (i)** Contractor is to abide by the provisions of Payment of Wages act & Minimum Wages act in terms of clause 54 and 55 of Indian Railways General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website ‘[www.shramikkalyan.indianrailways.gov.in](http://www.shramikkalyan.indianrailways.gov.in)’. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under:

- (a) Contractor shall apply for onetime registration of his company/firm etc. in the **Shramikkalyan portal** with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration in the portal within 7 days of receipt of such request.
- (b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LOAs issued in his favour.
- (c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LOA) / Contract Agreements on **shramikkalyan portal** within 15 days of issue of any LoA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LOA filled by contractor within 7 days of receipt of such request.
- (d) After approval of LOA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on **shramikkalyan portal** on monthly basis.
- (e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.
- (ii) While processing payment of any 'On Account bill' or 'Final bill' or release of 'Advances' or 'Performance Guarantee / Security deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at '[www.shramikkalyan.indianrailways.gov.in](http://www.shramikkalyan.indianrailways.gov.in)' till \_\_\_\_Month, \_\_\_\_Year."

**18.6** The payment to the contract labours should be made through Bank / EFT only.

**19.0** The registration of contractors working under Railway departments with ESIC is mandatory.

**20.0** Special Condition for employment of staff by the contractor for works contract as per HQ's Policy L.no. L.253.AC.AMC/Policy Dated-15.01.2010

#### **Employment of staff-**

- (a) The contract is liable for cancellation if either the contractor himself or any of his employee is found to be a person of Gazetted rank of Engineering Department which includes Civil, Mechanical, Signal & Telecommunication Department of Railways whether pensionable or non-pensionable who after retirement has sought engagement as contractor for or in connection with the execution of public works whether on Railway, P.W.D. or Defence Forces or as an employee of such contractor within 2 years of his retirement without obtaining the permission of the President of India before taking up such engagement or employment.
- (b) The contractor shall employ the following technical staff during the execution of the work.
  - i) At least one Graduate Electrical/ Electronics Engineer when the cost of the work to be executed is Rs. 50 lakhs and above.
  - ii) At least one qualified Electrical /Electronics diploma holder when the cost of the work to be executed is more than Rs. 10 lakhs, but less than Rs. 50 Lakhs.
- (c) Technical staff should be available at site whenever required by the Engineer –in-charge to take instructions. In case the desired level of technical staff fails to take instructions of the Engineer –in-charge, contractor shall liable to pay a reasonable amount to the Railways not exceeding a sum of Rs. 5000/- (Rupees five thousand only) for each calendar month or part

thereof for default in case of Graduate Engineer and Rs. 2500/- (Rupees two thousand five hundred only) for each calendar month or part thereof for default in case of Diploma holder.

- (d) The decision of the Engineer-in-charge as to the period for which required technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted from the contractor, shall be final & binding on the contractor.
- (e) The contract is liable to be terminated in case of persistent failure to engage suitable technical staff by the contractor.

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## **CHAPTER – II**

### **PRICES AND PAYMENT**

## CHAPTER – II

### PRICES AND PAYMENT

#### 1. SCOPE :-

This chapter deals with prices to be paid for the various items of work and other amount payable in accordance with accepted schedule of prices and conditions of payment herein mentioned.

#### 2. SCHEDULE OF PRICES :-

The unit rates given against various items of work in tender papers are the schedule of rates. The tenderers are required to quote **rates above /at par/ below as specified** against schedule of rates while quoting the summary of prices. The actual payment to be made against any item of Schedule of rates shall be derived after loading the Schedule of rates prices with the tenderer's quoted percentage. The prices so obtained shall be the unit prices for the various items of work given in Schedule of rates.

#### 3. INCIDENTAL CHARGES :-

The unit prices are including of loss, wastage, incidental charges for transportation, loading, unloading and handling of materials. It also include commissioning for arranging dispatch by rail, completing all necessary formalities in this respect, arranging payment of wages collection of railway receipt all insurance premier banker's charges etc.

#### 4. OTHER PRICE PAYMENT :-

No adjustment in unit price on account of price fluctuation will be permitted on any account.

#### 5. PAYMENT TERMS :-

##### (i) On A/c. payment for supply

(a) Payment to the extent of **70 %** towards cost of supply of materials will be made on receipt of the materials only either at site or at purchasers depot of the following tender schedule items as tabulated below :

<b>Sch.</b>	<b>1, 7, 8</b>
-------------	----------------

Received material shall be duly supported by Suppliers delivery challan and inspection certificates of Engineers representative. Engineers representative shall make proper accountal of material received.

(b) The following schedule items whose supply & erection rates are combined, payment to the extent of **60%** towards cost of supply of material shall be made subject to conditions as mentioned above:

<b>Sch.</b>	<b>4 to 6, 9 to 14, 16, 17</b>
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Further balance payment will be released after erection & satisfactory completion of each item and quantity as certified and measurements recorded in measurement book by engineer's representative.

(c) Firm will submit manufacturers original test certificate and material purchase proof from OEM or his authorized agents.

##### (ii) Issue of materials to the contractor for erection.

The material for which payment has been released will be issued by Railway to the contractor for execution of work as per site requirement and as per the discretion of 'Engineer'

**(iii) Progress on account payment for Supply & erection**

The contractor shall be paid payment to the extent of **30%** of supply & 100% of erection for such item as given above in **i)(a)** on satisfactory completion of each item and quantity as certified and measurements recorded in measurement book by engineer's representative.

**(iv)** 100% progressive payment for following schedule items of tender schedule shall be made after successful completion of same :

<b>Sch.</b>	<b>2, 3, 15, 18 to 22</b>
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**(v) Final payment:** - Final Bill of supply & erection shall be paid after successful completion of entire work as per terms, condition and scope of work of contract and provisional acceptance of the work.

**(vi)** Joint inspection report with engineer's representative and provisional acceptance certificate by engineer shall be submitted by contractor.

**The payment shall be made against**

- i) Certificate by the Railway representative that the work has been done in accordance with the provision of the contract agreement and all the material replaced by the contractor during the maintenance period has been of good quality and as per specification.
- ii) All the schedule as mentioned in the tender has been successfully carried out.
- iii) The statement of recovery if any.
- iv) Valid security deposit furnished in advance at the time of signing of agreement. All the above payments shall be subject to observance of all formalities viz. Signing of agreement, furnishing S.D., verification of power of attorney, MB formalities, bill in Railways standard form etc.

**Note: Following particulars to be furnished by firm**

**i) PAN NO. ii) FULL ADDRESS iii) GST REGISTRATION**

**6. FINAL PAYMENT :-**

On completion of entire work in all respect and on submission of joint inspection report and PROVISIONAL ACCEPTANCE CERTIFICATE, the contractor shall receive the final payment for remaining works.

**7. REFUND OF SECURITY DEPOSIT:-**

The security deposit will be refunded on submission of Final Completion Certificate after successful completion of the contract and after expiry of the guarantee obligation.

**8. TAXES :-**

**The contractor should have GST registration number.**

(i) Tenderers will examine the various provisions of The Central Goods and Services Tax Act, 2017(CGST)/ Integrated Goods and Services Tax Act, 2017(IGST)/ Union Territory Goods and Services Tax Act, 2017(UTGST)/ respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/ State Govt. & as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.

(ii) The successful Tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to Railway immediately after the award of contract, without which no payment shall be released to the

contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.

(iii) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the Railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority. **(Authority –Railway Board's Letter No.2017/CE-I/CT/4/GST Dated 23/06/2017.)**

**9. PENALTY :-**

- 1) As per relevant clause of GCC April 2022.
- 2) A suitable token penalty shall be imposed if any deficiency in workmanship or quality of work is noticed during inspection by competent authority.

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### **CHAPTER-III**

#### **TECHNICAL SPECIFICATION**

Central Railway

Electrical (G) Branch

Bhusawal Division

**E-Tender no.BSL-L-W-T-56-2026**

**This tender calls for the work of Improvement of Earthing System by replacement of existing earthing system by Maintenance Free Earthing over Bhusawal Division (Phase II).**

**1.Schedule item no. 1**

**Supply, erection, testing & commissioning of maintenance free earth as per RDSO specification no. RDSO/PE/SPEC/ PS/0109-008(REV '0') with improved earthing enhancing compound and exothermic welding, including Earthing Pit Box & necessary cementing work to make site as original. (Warranty 05 Years)**

The maintenance free earthing arrangement shall be done in accordance with RDSO specification no. RDSO/ PE/ SPE/ PS/ 0109-2008 (REV'0'). For transformers, substation earthing, LT line equipment (**40 kA**), The IR value shall be less than 1 ohm., in normal soil resistivity upto 50 ohm-mtr, single electrode type earth system.

The earthing system includes earth electrode, installation of earth electrode in suitable pit size, construction of earth pit with cover for the installation, connection of earth electrode with equipotential earth bus and connection of equipment to equipotential earth bus. The work shall be done in an approved manner as per site conditions as per the instructions of field Engineer.

**Concentric pipe earth electrode : (Current capacity 40 kA)****Primary conductor -**

MS pipe with 40 mm diameter, class B, ISI mark as per IS-1239, length 3000 mm + 100 mm minimum, copper coated, 300 microns minimum upto top of copper busbar (top 50 mm portion will be connected to horizontal busbar). There will be no joint in 3100 mm MS pipe.

**Secondary conductor -**

MS pipe with 80 mm diameter, class B, ISI mark as per IS-1239, Length 3000 mm.

**Current carrying capacity :** The design of the electrode should be such as to have current carrying capacity in 40 kA (for 1 second).

S.N.	Current Capacity	Primary Conductor diameter	Electrode dimensions (dia. X length)
1	40 kA	40 mm	80 mm x 3000 mm

**Dimensions and Nominal Mass of Steel Tubes — Medium (as per IS 1239)**

Nominal Bore	Outside Diameter		Thickness	Mass of Tube
(mm)	Maximum (mm)	Minimum (mm)	(mm)	Plain End (kg/m)
40	48.8	47.9	3.2	3.56
80	89.5	88.0	4.0	8.36

### **Conductive mixture**

- 1) For hermetically filling inside the cavity i.e. between secondary conductor and primary conductor, crystalline compound is to be injected in the electrode assembly. It is a combination of high conductivity metal alloys, copper and aluminium powder, conductive carbon/cement and bonding material etc. mixed in different portion. The mixture is forced (pressurized) filled inside the earth electrode in the paste form and after solidification of the same, the end caps are welded. The metal alloys shall help in conducting the current and conductive carbon gives anti corrosive property. Bonding material should provide strength to the mixture. Resistivity of the mixture shall be less than 0.2 ohm-meter. Resistivity shall be tested by making a 20 cm cube of the material and checking resistance across the opposite face of the cube.
- 2) Complete electrode shall be molecularly bonded by 99.99% pure, high conductivity copper on outer surface with copper coating thickness 300 micron or more.
- 3) Its surface shall be clean and free from any visible oxide layer or foreign material.
- 4) Copper bus bar of size 250 mm x 50 mm x 6 mm having electrical conductivity of 101% IACS, minimum 99.9% copper content shall preferably be exothermically welded to earth electrode or connected with the help of two number stainless steel nut bolts of appropriate size having 4 holes of 12 mm dia. (2 on each side) for connecting earthing conductor.

### **Minimum quantity of earth enhancement material to be supplies :**

For 5'x5'x10' earth pit – min 75 kgs per pit

For 300 mm bore type earth pit – min 50 kgs per pit

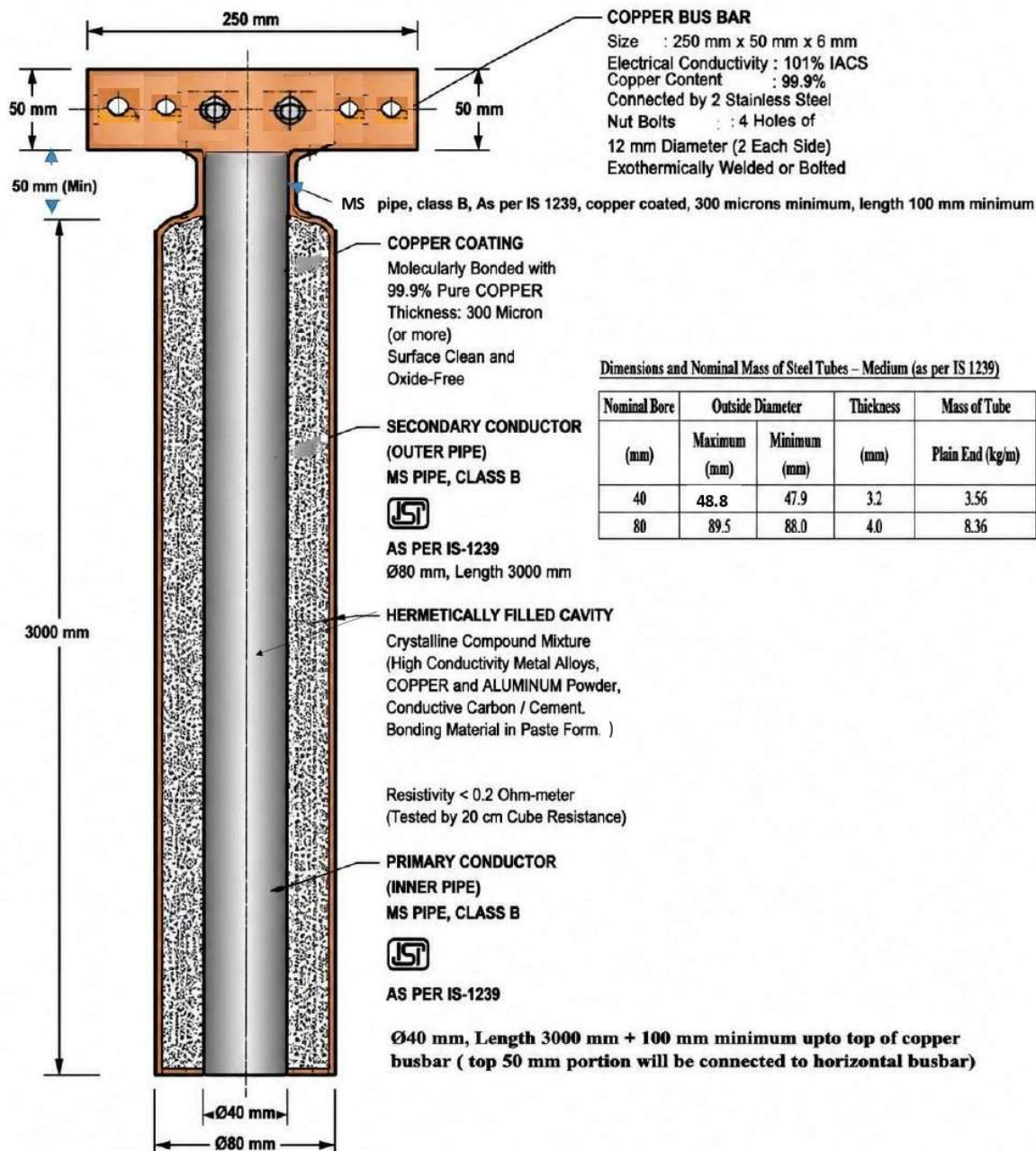
The earth enhancement material shall be supplied in sealed, moisture proof bags. These bags shall be marked with manufacturers name or trade name, quantity, batch no & date of manufacture.

**Warranty : 05 year against earth electrode for copper plating. If found faded or corrosive whole earthing is to be replaced by tenderer.**

**Note :** 1) Earthing Pit Box should be supplied & erected by contractor. Earthing pit box shall be properly grouted as per site requirement. Also necessary cementing work to be done by contractor to make site as original.

2) Inspection in mid stage of manufacturing will be carried out by Railway representative.

### CURRENT CAPACITY: 40 kA FOR 1 SECOND



#### R.C.C. earth pit box

R.C.C. earth pit box of size 450 X 450 X 50mm including cover of size 450 X 450 X 4.5mm along with white wash. The work shall be done in an approved manner as per the instructions of field supervisor.

#### PVC Large Earth Pit

PVC Large Earth Pit Cover (10 inches) At Top (Dia) -252 mm At Bottom (Dia) – 334 mm Height – 260 mm (IS-3043).

**Special Features -**

- A durable round valve box ideal for commercial and residential installation.
- Round Valve box extra support for strong load
- Twist lock design cover
- UV Resistant
- Pipe cutouts for quick and easy installation
- Damper proof

➤ **Every individual earth shall be allotted a serial number. Following information shall be suitably written with white or yellow paint.**

- a) Earth No. \_\_\_\_\_  
 b) Individual earth resistance \_\_\_\_\_ ohms  
 c) Overall earth resistance \_\_\_\_\_ ohms  
 d) Date of test \_\_\_\_\_

**Test report of earthing system (To be connected by earth Tester)****i) Individual Earth Resistance**

Earth Electrode No 1 \_\_\_\_\_ ohm  
 Earth Electrode No 2 \_\_\_\_\_ ohms  
 Earth Electrode No 3 \_\_\_\_\_ ohms

**ii) Overall Earth Resistance:**

- a) HT earth electrode \_\_\_\_\_ ohms  
 b) LT earth electrode \_\_\_\_\_ ohms  
 c) Neutral earth electrode \_\_\_\_\_ ohms

Note: Before energization of installation earthing system will have to be checked by contractor in presence of Sr. DEE/G/BSL's authorized representative/Site in charge and test report be submitted to Sr. DEE/G/BSL for his approval on above prescribed Performa.

Signature of Tenderer

**2.Schedule item no. 16, 17**

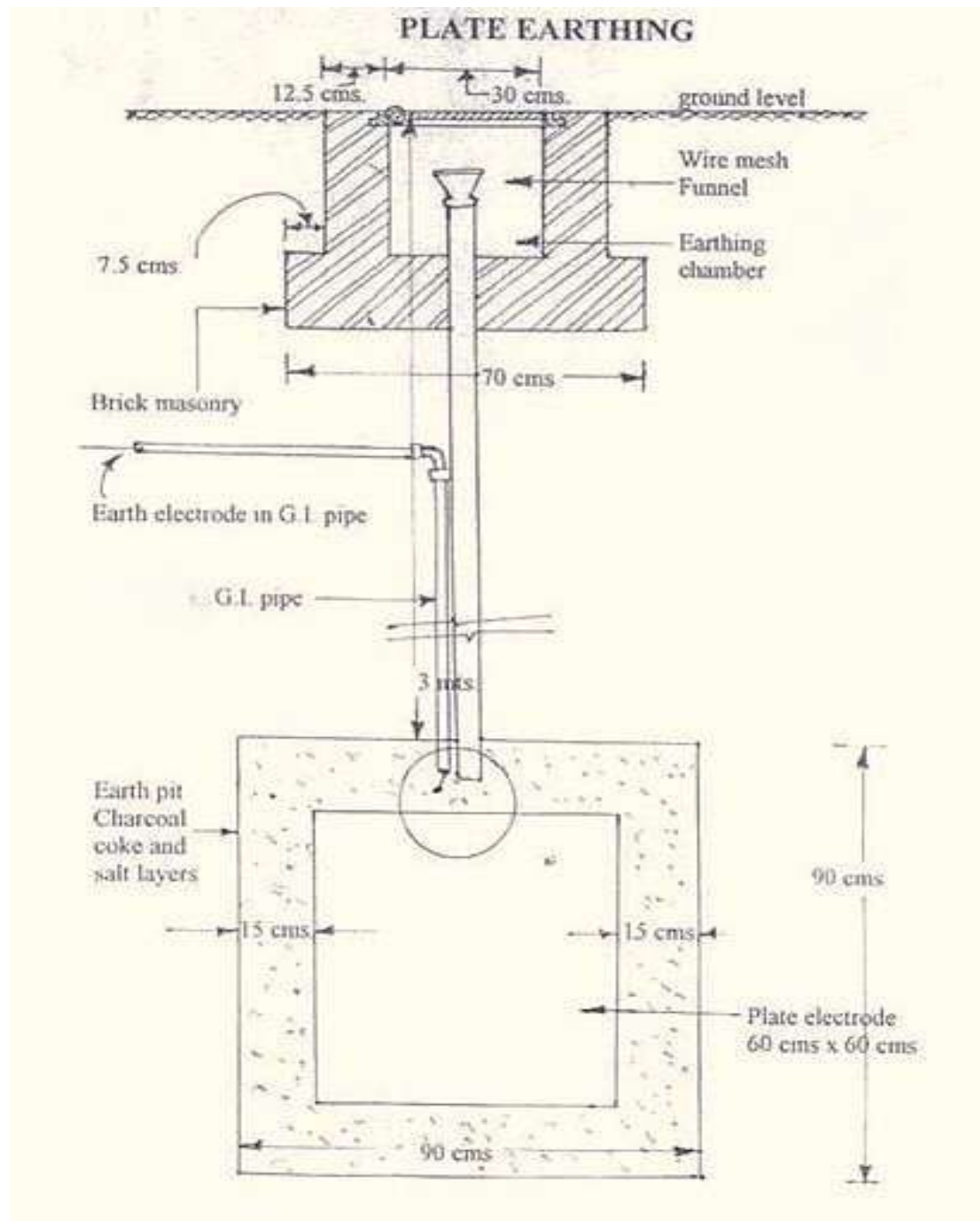
**Supply and provision of earthing with copper earth plate 600mm x 600mm x3mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and water pipe of 2.7 meter long etc. with charcoal/coke and salt as required**

**Supply and provision of 25mmx 5mm copper strip in 40mm dia G.I pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required**

The price shall cover the cost of supply, erection, testing and commissioning, loading, unloading of provision of earthing with copper earth plate 600mm x 600mm x3mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and water pipe of 2.7 meter long etc. with charcoal/coke and salt as required and provision of 25mmx 5mm copper strip in 40mm dia G.I pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.

1. Copper plate earthing shall be as per the drawing attached in the Tender Document conforming to be as per IS 3043 :1987 with latest amendments and correction slips.
2. Electrode should be of size 60cm X 60 cm X 3 mm thick.

3. The Copper plate earthing shall be buried deep in the ground with its face vertically and top not less than 3 m below ground. A cast iron/MS frame with cover having locking equipment shall be suitable embedded in the brick masonry to protect the watering arrangement and the earth pit from mechanical damages. The brick masonry enclosures should be not less than 55 cm X 55 cm X 55 cm. Layers of charcoal/coke and salt are to be made in the earth pit after putting the electrode in its place.



➤ **Note : - No additional Payment will be arranged for removal of old earthing system.**

**3.Schedule item no. 2****Supply, fabrication, laying welding and connection of GI Flat of size 25x3 mm from earth pit with GI nut Bolt suitable size.**

The work for Supply, fabrication, laying welding and connection of GI Flat/ strip of size 25x3 mm from earth pit with GI nut Bolt suitable size from main earth pit to main board/metallic body of installation. The work shall be done in an approved manner as per site conditions as per the instructions of field engineer. GI flat shall conform to IS-2062 & its latest amendments for steel & Galvanization as per IS-4759/1996 and its latest amendments.

**4.Schedule item no. 3****Supply, erection, testing and commissioning of G.I Strip (55x3 mm)**

The work for Supply, fabrication, laying welding and connection of GI Flat of size 55x3 mm from earth pit with GI nut Bolt suitable size from main earth pit to main board/metallic body of installation. The work shall be done in an approved manner as per site conditions as per the instructions of field engineer. GI flat shall conform to IS-2062 & its latest amendments for steel & Galvanization as per IS-4759/1996 and its latest amendments.

**5.Schedule item no. 4 to 6****Supplying, erecting and commissioning of ARC Fault detection device (AFDD) AFDD with RCBO (In accordance with IEC 62606 & IEC 61009-1)**

**16 A Combined 1P+N RCBO + AFDD with Metal enclosure.**

**Supplying, erecting and commissioning of ARC Fault detection device (AFDD) AFDD with RCBO (In accordance with IEC 62606 & IEC 61009-1)**

**32 A Combined 1P+N RCBO + AFDD with Metal enclosure.**

**Supplying, erecting and commissioning of ARC Fault detection device (AFDD) AFDD with RCBO (In accordance with IEC 62606 & IEC 61009-1)**

**40 A Combined 1P+N RCBO + AFDD with Metal enclosure.**

The price shall cover the cost of supply, loading, transportation and erection of ARC Fault detection device with RCBO & **metal enclosure**. It should comply with IS/IEC 62606 & IEC 60898-1, IEC 61009-1.

**Features –**

- Communication ready
- Add on Auxiliary
- 100% recyclable
- Inscription Window - Ensures circuit identification and hence reduces maintenance downtime.
- Large Cable Terminals - The terminals are Suitable for cables upto 35 mm<sup>2</sup> cross section area. Thus making it suitable for copper and aluminium cables.
- Safety Terminals - They guide the cable towards the cage terminal and avoid improper cable termination.
- Bi Stable Clip - Every device is provided with a dual position DIN rail clip, so it becomes much easier to change a device from a device bank connected to a bus-bar, without disturbing the existing wiring.
- Dual Termination - Two types of busbar can be used, that is, Fork Type and Pin Type
- Test Button - Test button for regular inspection/testing
- with metal enclosure.

Technical Specificaiton		AFDD with RCBO
1	Standard Compliance	IEC 62606 & IEC/EN 60898-1 & IEC 61009-1
2	No of Poles	1P+N
3	Module Type	4 Module
4	Rated Current In (A)	16 A, 32 A & 40
5	Rated Residual Operating Current (I $\Delta$ n)	30 mA
6	Operating Characteristics in case of residual currents	A Type
7	Rated Voltage Ue (V)	230 V ac
8	Insulation voltage Ui (V)	500 V ac
9	Min Threshold for protection against overvoltage (V)	270 V $\pm$ 5%
10	Rated Frequency (Hz)	50 Hz
11	Rated Breaking Capacity	10 kA
12	Ambient Temperature (°C)	-5 °C to 40 °C
13	Storage Temperature (°C)	-20 °C to 60 °C
14	Terminal Supply Side	Bottom/Top
15	Mounting Type	Clip on DIN Rail (35 mm x 7.5 mm)
16	Electrical Endurance	4000
17	Mechanical Endurance	10000
18	Tightening Torque	2 Nm (Bottom) / 1.2 Nm (Top)
19	Ingress Protection	IP 20
20	Max Power Loss	5 W
21	Conductor Cross-Section (Solid & Stranded)	0.75 mm <sup>2</sup> - 16 mm <sup>2</sup> (Top) 0.75 mm <sup>2</sup> - 35 mm <sup>2</sup> (Bottom)
22	Tripping Characteristic Curve	C Curve
23	Energy Limit Class	3
24	Indications	LED Indication (ON-Red, OFF-blank)

**Note :- Necessary wiring and fabrication will be in contractor scope.**

#### **6.Schedule item no. 7, 8**

**SETC of Lighting Circuit Board, Double Door Powder coated with locking arrangement consisting AFDD with RCBO 16 A Combined 1P+N RCBO + AFDD Complete as I/C and 2 Nos x 1 A SPMCB, 2 nos x 2 A SPMCB, 2 Nos x 3 A SPMCB & 2 Nos x 6 A SPMCB O/G Complete.**

**SETC of Lighting Circuit Board, Double Door Powder coated with locking arrangement consisting AFDD with RCBO 32 A Combined 1P+N RCBO + AFDD Complete as I/C and 2 Nos x 1 A SPMCB, 2 nos x 2 A SPMCB, 2 Nos x 3 A SPMCB, 2 Nos x 6 A SPMCB & 3 Nos DP RCBO 16 A O/G Complete.**

The price shall cover cost of supply, loading, transportation and unloading of material at site, erection testing and commissioning of single phase/ 3 phase distribution board as above. The DB shall be double metallic door type with earthing terminal, bus bars, neutral link, etc. housed in 16 SWG CRCA sheet enclosure powder coated type with all accessories with IP 65 **protection**. The minimum breaking capacity of MCB shall be 10 KA.

**MCB DB-** MCB Distribution board consisting with various capacity of MCB's as in schedule. MCB shall be 'C' Class, of 10 kA breaking capacity and conforming to IS 8828 –78 with latest

amendments. MCB shall be with ON/OFF indication, IP 65-degree protection, showing mid trip position in case of overload or short circuit conditions. MCB shall be having bi-connect terminals, load-line reversibility and with energy limitation class –III features.

Distribution board shall be made of high quality CRCA steel sheet with surface finish powder coated mat finish broken white distribution board double door & neutral link with box type terminal tin plated Electrolyte grade copper bus bar & phase link tin plated brass earthing link and wire set for internal wiring. DB shall be with IP 65 protection. It shall be provided with cements skill protection and side locking DIN bar interchangeable door.

#### **RCBO –**

RCBO shall have conformance to IS 12640-2 / IEC 61009-1.

RCBO shall be of breaking capacity of 10kA.

RCBO shall not be line load biased.

RCBO shall have minimum electric life of 10,000 electric operations.

Single Phase RCBO of 6A-40A to be in 2 Modules size with a breaking capacity of 10kA.

The RCBO shall have separate indications for short circuit fault and earth leakage fault.

The RCBO shall trip on leakage fault of AC waveform consisting of pulsating DC along with transients and harmonics.

The RCBO shall have pollution degree 3.

The RCBO shall have rated impulse withstand of 6 kV.

The RCBO shall have IP20.

The RCBO shall have a test button to check health of RCBO by creating artificial fault.

The RCBO shall be suitable for isolation.

The RCBO shall have bi-connect terminals for both bus bar and cable termination.

The RCBO, up to 63A, shall have cable termination capacity of 35 sq mm for rigid cable & 25 sq mm for flexible.

The RCBO shall have safety shutter to avoid any wrong insertion of cable.

The RCBO shall have operating temperature -5 °C to +60 °C.

The RCBO shall have a provision for padlock to prevent unauthorized access.

The RCBO shall have provision for mounting of accessories – Auxiliary Contact, Trip Alarm Contact, UV, OV, Shunt Release.

The RCBO shall have DIN clip on both the sides for easy removal of an RCBO from the DIN rail.

#### **Features –**

- Communication ready
- Add on Auxiliary
- 100% recyclable
- Inscription Window - Ensures circuit identification and hence reduces maintenance downtime.
- Large Cable Terminals - The terminals are Suitable for cables upto 35 mm<sup>2</sup> cross section area. Thus making it suitable for copper and aluminium cables.
- Safety Terminals - They guide the cable towards the cage terminal and avoid improper cable termination.
- Bi Stable Clip - Every device is provided with a dual position DIN rail clip, so it becomes much easier to change a device from a device bank connected to a bus-bar, without disturbing the existing wiring.
- Dual Termination - Two types of busbar can be used, that is, Fork Type and Pin Type
- Test Button - Test button for regular inspection/testing

Technical Specification		AFDD with RCBO
1	Standard Compliance	IEC 62606 & IEC/EN 60898-1 & IEC 61009-1
2	No of Poles	1P+N
3	Module Type	4 Module
4	Rated Current In (A)	16 A, 32 A & 40
5	Rated Residual Operating Current (I $\Delta$ n)	30 mA
6	Operating Characteristics in case of residual currents	A Type
7	Rated Voltage Ue (V)	230 V ac
8	Insulation voltage Ui (V)	500 V ac
9	Min Threshold for protection against overvoltage (V)	270 V $\pm$ 5%
10	Rated Frequency (Hz)	50 Hz
11	Rated Breaking Capacity	10 kA
12	Ambient Temperature (°C)	-5 °C to 40 °C
13	Storage Temperature (°C)	-20 °C to 60 °C
14	Terminal Supply Side	Bottom/Top
15	Mounting Type	Clip on DIN Rail (35 mm x 7.5 mm)
16	Electrical Endurance	4000
17	Mechanical Endurance	10000
18	Tightening Torque	2 Nm (Bottom) / 1.2 Nm (Top)
19	Ingress Protection	IP 20
20	Max Power Loss	5 W
21	Conductor Cross-Section (Solid & Stranded)	0.75 mm <sup>2</sup> - 16 mm <sup>2</sup> (Top) 0.75 mm <sup>2</sup> - 35 mm <sup>2</sup> (Bottom)
22	Tripping Characteristic Curve	C Curve
23	Energy Limit Class	3
24	Indications	LED Indication (ON-Red, OFF-blank)

#### **7.Schedule item no. 9 to 14**

**Supplying, fixing/replacement and commissioning 2 pole RCBO up to 16 A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification**

**Supplying, fixing/replacement and commissioning 2 pole RCBO 32/40A, with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification**

**Supplying, fixing/replacement and commissioning 2 pole RCBO 63A, with overcurrent, rated shortcircuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification**

**Supplying, fixing/replacement and commissioning 4 pole RCBO up to 16A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indications per specification**

**Supplying, fixing/replacement and commissioning 4 pole RCBO 32/40A, with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification**

**Supplying, fixing/replacement and commissioning 4 pole RCBO 63A, with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification**

It shall be 2 pole/ 4 pole RCBO 25/32/40/63 A, electromagnetic type with 30 mA sensitivity with earth leakage trip indication complete as per specification with Metal enclosure. It shall be Conforming to IS 12640-1/2000. It shall be erected in an approved manner as per site condition and instructions of field supervisor.

**RCBO –**

RCBO shall have conformance to IS 12640-2 / IEC 61009-1.

RCBO shall be of breaking capacity of 10kA.

RCBO shall not be line load biased.

RCBO shall have minimum electric life of 10,000 electric operations.

Single Phase RCBO of 6A-40A to be in 2 Modules size with a breaking capacity of 10kA.

The RCBO shall have separate indications for short circuit fault and earth leakage fault.

The RCBO shall trip on leakage fault of AC waveform consisting of pulsating DC along with transients and harmonics.

The RCBO shall have pollution degree 3.

The RCBO shall have rated impulse withstand of 6 kV.

The RCBO shall have IP20.

The RCBO shall have a test button to check health of RCBO by creating artificial fault.

The RCBO shall be suitable for isolation.

The RCBO shall have bi-connect terminals for both bus bar and cable termination.

The RCBO, up to 63A, shall have cable termination capacity of 35 sq mm for rigid cable & 25 sq mm for flexible.

The RCBO shall have safety shutter to avoid any wrong insertion of cable.

The RCBO shall have operating temperature -5 °C to +60 °C.

The RCBO shall have a provision for padlock to prevent unauthorized access.

The RCBO shall have provision for mounting of accessories – Auxiliary Contact, Trip Alarm Contact, UV, OV, Shunt Release.

The RCBO shall have DIN clip on both the sides for easy removal of an RCBO from the DIN rail.

**Note :- Necessary wiring and fabrication will be in contractor scope.**

**8.Schedule item no. 15**

**Supply of Digital Clamp on Earth Tester.**

Supply of approved make Digital Clamp on earth tester, range 0-0.01 Ohms/1000 Ohms, complete with all accessories such as pair of leads, carrying case, battery & instruction Manual etc. Make as per list attached in Annexure-I. Necessary test certificates should be supplied along with the meter.

Clamp on Earth / Ground resistance tester (Digital Earth Tester) equipped with Long Jaw suitable for grounding, earthing strip of 65 mm x 32 mm having non contact ground Resustable Tester, Data hold, Noise signal, Ground resistance measurement 0.01 M Ohm to 1000 Ohm suitable for grounding with the flat strip, Jaw size 65 mm. Leakage ground 0.5mA-30A. Auto ranging continuity loop test, Auto power OFF, Jaw 65x32 mm approximate, Battery . Display 4 digit 9999 Count LCD with Test Certificate. Safety as per CE Marking, ROHS and complies to Complies to: IEC61010-1 and IEC61010-2-032.

**Features**

- 1 Non Contact Ground Resistance Measurement
- 1 No Auxillary Electrodes Needed
- 1 Data Storing Memory
- 1 Data Hold, Noise Signal
- 1 Ground Resistance Measurement 0.01V ~1000V
- 1 Suitable for Earthing Strip upto 65mm
- 1 Suitable for Round Conductor upto 25mm F
- 1 Leakage Current (0.5mA~30.00A)
- 1 Auto Ranging
- 1 Continuity Loop Test
- 1 Auto Power Off

**Protection grade :** double insulation

- **External Magnetic Field :** < 40A / m
- **External Electric Field :** < 1V/m

**SAFETY :**

**EMC Directive 2004/108/EC for CE marking**

**Emission :** EN 61326-1:2006 Class B; EN 55011:2009/A1:2010 Group 1 Class B

**Immunity :** EN 61326-1:2006; EN61000-4-2:2009; EN 61000-4-3:2006/A2:2010

**ACCESSORIES :**

Standard Testing Coil (5.1W),  
Strong Carrying Case,  
Batteries & User Manual.

**ELECTRICAL SPECIFICATIONS :**

Accuracy :  $\pm\%$  reading  $\pm$  digits

Environment to guarantee accuracy :  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , less than 75% RH

**9.Schedule Item No. 18****Supply of Digital Megger 500 V.**

Supply of approved make Digital (Megger) type, 500 Volt, 2000 M -ohms with standard accessories and carrying case. Necessary test certificates should be supplied along with the meter.

**Safety** - Complies with ANSI/ISA 82.02.01 (61010-1) 2004, CAN/CSA-C22.2 NO. 61010-1-04, and IEC/EN 61010-1 2nd Edition for measurement category IV 600 V (CAT IV)

**Shock** - 1 meter drop per IEC 61010-1 2nd Edition (1 meter drop test, six sides, oak floor)

**High Accuracy.**

Designed to Generally Confirm to 10656 -1983 IS

Meets Requirement of 61010, Installation IEC

Category , 1000V Phase - Earth II

Terminal Voltage : The terminal voltage shall be with in  $\pm 25\%$  of rated voltage corresponding to the rated resistance & not less than 75% of rated voltage for the central scale mark

Carrying Case

Battery Adaptor.

Two Pair of Crocodile / Alligator Test Leads (Red & Black) x 1, Test and Calibration Certificate, Carrying Case x 1, Batteries, Instruction Manual x 1, Battery Adaptor x1.

**10.Schedule item no. 19**


**Digital Earth tester with in built rechargeable battery, 3.5 digit LCD display, testing range 0.01 ohm to 2000 ohm & all accessories as four spikes, suitable length cable (10M,20M,30M,40M) on winder.**

The price shall covers sply and testing for digital Earth tester with in built rechargeable battery, 3.5 digit LCD display, testing range 0.01 ohm to 2000 ohm & all accessories as four spikes, suitable length cable (10M,20M,30M,40M) on winder.

**Features :-**

- 3½ Digit (1999 Counts) 14 mm Display with Backlight
- LCD Auto Power Off Function (after 3-5 min.)
- Measurement Frequency 820Hz
- Capable of Measuring Earth Voltage (0 - 10V AC)
- Light Weight & Portable
- Extremely Simple to Operate Connect - Press - Read
- Designed to Reject High Levels of Noise & Interference
- Data Hold (DH) & Low Battery Indication
- Designed to Generally Confirm to 10656-1983 IS
- Range Selection & Single Person Push Button Operation Switches
- Two Ranges for Earth Resistance Measurement
- Functions Icons on Display
- Re-Chargeable Battery Operated with Built-in Charger
- IEC 1010 CATIII 200V
- Sturdy, Elegant & Compact Body

**General Specifications :**

1	Accuracy	$\pm(3\% \text{ rdg.} + 5 \text{ dgt.})$ For Earth Resistance Valid from 5% of Reading to 95% of Range	at 23°C $\pm$ 5°C
		$\pm (1\% \text{ rdg.} + 2 \text{ dgt.})$ For Earth Voltage	
2	Over Range Indication	"1" is displayed	
3	Operating Temperature	0° to 50°C	
4	Storage Temperature	-20° to 60°C	
5	Relative Humidity	80% Maximum	
6	Low Battery	‘  ’Is Displayed when Battery Voltage drops below Operating Voltage	
7	Power Supply	Internal Rechargeable 1.2V‘AA’x 8 Batteries	
8	Accessories (Standard)	Carrying Case x 1, 1.2V‘AA’Rechargeable Batteries (fitted in) x 8, Instruction Manual x 1, Carton x 1, 2 Pin Male-Female Wire for Battery Charging	
9	Accessories (Optional)	Test Leads x 1 Set (Red, Yellow, Black), Earthing Spikes (Rods) x 2	

**11.Schedule Item No. 20**

**Supply of laser distance meter of range 50 meters of model no: BOSCH GLM-500 of Bosch make or equivalent in reputed make with indication sensor, least count 0.5 mm, accuracy (+/-) 1.5mm, tilt measuring Range above horizontal +80 deg, Tilt measuring range below horizontal - 50 deg , response time 1 sec, levelling range (+/-) 10 deg, measurement record storage:30 records, data interface USB, Bluetooth, 4 line display, Class II laser, IP 54 and warranty of 1 year. Make: Fluke, Testo, Bosch.**

Tripod thread	1/4"
Measurement time, typical	0.5 s
Laser diode	635 nm, < 1 mW
Measurement range*	0.050 – 50.000 m
Laser class	2
Measurement accuracy, typical*	± 1.5 mm
Measurement range of incline measurement	0 – 360° (4 x 90°)
Measuring accuracy (typical)*	± 0.2°
Measurement time, max.	4 s
Power supply	2 x 1.5 V LR03 (AAA)
Automatic deactivation	5 min
Weight, approx.*	0.1 kg
Units of measurement	m/cm, ft/inch
Memory capacity (values)	20
Battery lifetime, individual measurements, approx.	10,000 unit
Battery lifetime, operating time, approx.	2.5 h
Dust and splash protection	IP 54
Laser colour	Red
Measuring range, up to	50 m

**12.Schedule item no. 21**

**Supply of Toolkit containing screw driver set, Plier, hack saw, Hammer similar to Bosch All-in-one Metal 108 piece hand tool Kit: Material Description: Item Dimension: 370mm x 270mm x 85mm Package should Contents: 9-Pieces Screwdriver Bits, 6-Pieces Hexagon Socket Wrench, 8-Pieces Precision Bits, 2-Pieces Adaptors, 1-Piece Ratchet Hand Screwdrivers, 8-Pieces Allen Keys, 3-Pieces Masonry Drill Bits, 30-Pieces S-Plugs, 30-Pieces Screws, 1-Piece Flat-Nose Pliers, 1-Piece Combination Pliers, 1-Piece Tester, 1-Piece Hammer, 1-Piece Cutter, 1-Piece Measuring Tape 3m, 1-Piece Insulation Tape, 1-Piece Torch, 1-Piece Wrench, 1-Piece Handsaw. 108-piece tool kit. Made of High quality metal with good quality insulating Plastic handles, Color: preferably Blue Accepted Make : Bosch/Stanley/Taparia**

The cost involves Supply of Toolkit containing screw driver set, Plier, hack saw, Hammer similar to Bosch All-in-one Metal 108 piece hand tool Kit: Material Description: Item Dimension: 370mm x 270mm x 85mm Package should Contents: 9-Pieces Screwdriver Bits, 6-Pieces Hexagon Socket Wrench, 8-Pieces Precision Bits, 2-Pieces Adaptors, 1-Piece Ratchet Hand Screwdrivers, 8-Pieces Allen Keys, 3-Pieces Masonry Drill Bits, 30-Pieces S-Plugs, 30-Pieces Screws, 1-Piece Flat-Nose Pliers, 1-Piece Combination Pliers, 1-Piece Tester, 1-Piece Hammer, 1-Piece Cutter, 1-Piece Measuring Tape 3m, 1-Piece Insulation Tape, 1-Piece Torch, 1-Piece Wrench, 1-Piece Handsaw. 108-piece tool kit. Made of High quality metal with good quality insulating Plastic handles, Color: preferably Blue Accepted, Box spanner set & Ring spanner set. Make : Bosch/Stanley/Taparia

**13.Schedule Item No. 22****Supply of Digital Clamp on Meter (Tong Tester).****SPECIAL FEATURES :-**

- DC 1000A / AC 800A Clamp-on + Full Multimeter ranges
- Versatile & Handy
- Fully Auto-ranging on all functions
- Backlighted Display (Model 2754A-T)
- 30ms Max HOLD to capture in-rush currents
- Data Hold, Max Hold & Relative Zero Mode
- Fast Audible continuity Test & Diode test
- Auto Power off

**General Specifications :-**

- Sensing : Average sensing (Model 2754A)  
AC TRMS Voltage & Current functions (Model 2754A-T)
- Jaws Opening size : 50mm Max.
- Display : 3¾ digits 4000 counts
- Update Rate : 3 per second nominal
- Polarity : Automatic
- Operating Temperature : 0°C ~ 40°C
- Relative Humidity : Maximum 80%R.H. for Temperature upto 31°C decreasing linearly to 50% R.H. at 40°C
- Altitude : Operating below 2000m
- Storage Temperature : -20°C ~ 60°C, <80% R.H. (with battery removed)
- Temperature Coefficient : Nominal 0.15 x (specified accuracy) / °C @ (0°C ~ 18°C or 28°C ~ 40°C),  
or otherwise Specified
- Power Supply : Standard 1.5V AAA Battery x 2
- Power Consumption : typical 11mA for DCA / ACA & 2.9mA for other Functions
- Low Battery : Below approx. 2.5V
- APO timing : Idle for 30 minutes
- APO Consumption : typical 10mA (Model 2754A); typical 190mA (Model 2754A-T)
- Dimension : 227(L) x 78(W) x 40(H)mm
- Weight : approx 290 gms.

**SAFETY :**

Safety : Meets IEC61010-2-032(2002), EN61010-2-032 (2002), UL61010B-2-032(2003)

Measurement Category : CAT III 600V AC & DC

E.M.C. : Meets EN61326(1997, 1998/A1), EN61000-4-2 (1995), & EN61000-4-3 (1996)

In an RF Field of 3V/m :

Capacitance function is not specified

Other function ranges : Total accuracy = Specified accuracy + 45 digits

Performance above 3V/m is not specified

**Overload Protection :**

Clamp-on jaws : DC 1000A or AC 800A rms continuous

+ & COM terminals : 600VDC/VAC rms

Pollution Degree : 2

Transient Protection : 6.5kV (1.2/50ms surge)

Battery cover with Probe holders

Rugged Fire retarded casing.

LVD EN61010-2-032 CAT III 600V

**ACCESSORIES :** Test lead pair, Batteries installed, User's manual & Carrying case

### **GENERAL CONDITIONS FOR SUPPLY AND ERECTION**

1. The work is to be done as per tender technical specification. In case of any doubt etc. the details as given in tender technical specifications will prevail.
2. All the supply and erection work shall be done in accordance with relevant IS.
3. Contractor shall supply the material duly inspected by Railway representative or agency as per inspection clause mentioned below.
4. Any kind of testing required to confirm suitability of material either at manufacturers premises or at Rly. Stores before material is accepted by consignee shall be the responsibility of contractor. All testing charges shall be borne by the contractor.
5. Due care has been taken while framing technical specification, however if any deviation from prevailing standard norms is noticed at the time of execution the same shall be rectified and made good by the contractor. Contractor shall also bring such things if ever noticed by them to the knowledge of this office and to field Engineer.
6. Site survey shall be carried out by the contractor and Rly. Representative on award of LOA and before starting the work. Targeted Action Plan with material delivery schedule based on above survey shall be prepared by the contractor. One copy of the same shall be submitted to Engineer for monitoring the progress.
7. All material to be used for work shall be duly supported with test/inspection reports shall be deposited with SSE in charge of execution for ensuing quality before fitment. Only after clearance and satisfaction of quality the material shall be taken to site for erection and commissioning. Contractor shall therefore supply material in bulk lots to avoid repetitions of inspections/ testing.
8. **INSPECTION and TESTING:-**
  - (i) The stores material shall be inspected by Railway Representative nominated by Sr.DEE (G) BSL. All the inspection and testing charges shall be borne by the contractor. The contractor shall submit details of the material being offered before inspection schedule date at manufactures premises/ consignee premises. Where RITES or any third party is nominated as inspection agency, the inspection fee charged to the agency shall be borne by Contractor.
  - (ii) Material having value above Rs.5 lakhs shall be inspected by RITES. Inspection of other materials shall be done by Railway's representative.
9. **Successful bidder/tenderer shall survey the site and submit action plan within 15 days immediately after issuing of LOA to this office.**
10. All released material to be deposited to concern field In-charge office/depot.
11. There may be minor variation in rating / other parameters from make to make. The variation in positive side and beneficial to Railway is acceptable. However, prior approval of Sr.DEE(G)BSL shall be required before delivery of material to Railways.
12. In case, any contradiction in schedule of rate and specification; final decision of Railway authority will be final as per railway requirement.
13. LED fittings shall be guaranteed for 5 years

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**CHAPTER –IV**

**SCHEDULE OF QUANTITIES**

**AND**

**RATES**

## CENTRAL RAILWAY

## ELECT (G) BRANCH

## BHUSAWAL DIVISION

## TENDER No. BSL-L-W-T-56-2026

**Schedule of work, rates and quantities for the work of Improvement of Earthing System by replacement of existing earthing system by Maintenance Free Earthing over Bhusawal Division (Phase II).**

S. N.	DESCRIPTION	Qty	Unit	Sup. Rate	Erec. Rate	Total cost of supply	Total cost of erec.	Grand Total
1	Supply, erection, testing & commissioning of maintenance free earth as per RDSO specification no. RDSO/PE/SPEC/ PS/0109-008(REV '0') with improved earthing enhancing compound and exothermic welding, including Earthing Pit Box & necessary cementing work to make site as original. <b>(Warranty 05 Years)</b>	1860	Nos	11708	1849	21776880	3439140	25216020
2	Supply, fabrication, laying welding and connection of GI Flat of size 25x3 mm from earth pit with GI nut Bolt suitable size.	7500	kg	94	29	705000	217500	922500
3	Supply, erection, testing and commissioning of G.I Strip (55x3 mm)	764	Mtr	59	9	45076	6876	51952
4	Supply, Erection, Testing and Commissioning of ARC Fault detection device (AFDD) AFDD with <b>RCBO</b> (In accordance with IEC 62606 & IEC 61009-1) <b>16 A</b> Combined 1P+N RCBO + AFDD with Metal enclosure.	30	Nos	14414	0	432420	0	432420
5	Supply, Erection, Testing and Commissioning of ARC Fault detection device (AFDD) AFDD with <b>RCBO</b> (In accordance with IEC 62606 & IEC 61009-1) <b>32 A</b> Combined 1P+N RCBO + AFDD with Metal enclosure.	30	Nos	14414	0	432420	0	432420
6	Supply, Erection, Testing and Commissioning of ARC Fault detection device (AFDD) AFDD with <b>RCBO</b> (In accordance with IEC 62606 & IEC 61009-1) <b>40 A</b> Combined 1P+N RCBO + AFDD with Metal enclosure.	30	Nos	15288	0	458640	0	458640
7	SETC of Lighting Circuit Board, Double Door Powder coated with locking arrangement consisting AFDD with RCBO 16 A Combined 1P+N RCBO + AFDD Complete as I/C and 2 Nos x 1 A SPMCB, 2 nos x 2 A SPMCB, 2 Nos x 3 A SPMCB & 2 Nos x 6 A SPMCB	30	Nos	22926	1333	687780	39990	727770

	O/G Complete.							
8	SETC of Lighting Circuit Board, Double Door Powder coated with locking arrangement consisting AFDD with RCBO 32 A Combined 1P+N RCBO + AFDD Complete as I/C and 2 Nos x 1 A SPMCB, 2 nos x 2 A SPMCB, 2 Nos x 3 A SPMCB, 2 Nos x 6 A SPMCB & 3 Nos DP RCBO 16 A O/G Complete.	30	Nos	34137	1333	1024110	39990	1064100
9	Supplying, fixing/replacement and commissioning <b>2 pole RCBO up to 16 A</b> , with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification	22	Nos	3252	0	71544	0	71544
10	Supplying, fixing/replacement and commissioning <b>2 pole RCBO 32/40A</b> , with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification	22	Nos	3449	0	75878	0	75878
11	Supplying, fixing/replacement and commissioning <b>2 pole RCBO 63A</b> , with overcurrent, rated shortcircuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification	22	Nos	4393	0	96646	0	96646
12	Supplying, fixing/replacement and commissioning <b>4 pole RCBO up to 16A</b> , with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indications per specification	20	Nos	4156	0	83120	0	83120
13	Supplying, fixing/replacement and commissioning <b>4 pole RCBO 32/40A</b> , with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA sensitivity and short circuit and earth leakage trip indication as per specification	20	Nos	4309	0	86180	0	86180
14	Supplying, fixing/replacement and commissioning <b>4 pole RCBO 63A</b> , with overcurrent, rated short circuit breaking capacity (10 kA) and earth leakage protection, with 30 mA	20	Nos	4870	0	97400	0	97400

	sensitivity and short circuit and earth leakage trip indication as per specification							
15	Supply of <b>Digital Clamp</b> on Earth Tester.	25	Nos	54900	0	1372500	0	1372500
16	Supply and provision of earthing with copper earth plate 600mm x 600mm x3mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and water pipe of 2.7 meter long etc. with charcoal/coke and salt as required	500	Nos	13031	0	6515500	0	6515500
17	Supply and provision of <b>25mmx 5mm</b> copper strip in 40mm dia G.I pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required	1207	Mtrs	1288	0	1554616	0	1554616
18	Supply of Digital Megger 500 V.	25	Nos	7075	0	176875	0	176875
19	<b>Digital Earth tester</b> with in built rechargeable battery, 3.5 digit LCD display, testing range 0.01 ohm to 2000 ohm & all accessories as four spikes, suitable length cable (10M, 20M, 30M, 40M) on winder	25	Nos	8447	0	211175	0	211175
20	Supply of <b>laser distance meter</b> of range 50 meters of model no: BOSCH GLM-500 of Bosch make or equivalent in reputed make with indication sensor, least count 0.5 mm, accuracy (+/-) 1.5mm, tilt measuring Range above horizontal +80 deg, Tilt measuring range below horizontal -50 deg, response time 1 sec, levelling range (+/-) 10 deg, measurement record storage:30 records, data interface USB, Bluetooth, 4 line display, Class II laser, IP 54 and warranty of 1 year. Make: Fluke, Testo, Bosch	25	Nos	4408	0	110200	0	110200
21	Supply of <b>Toolkit</b> containing screw driver set, Plier, hack saw, Hammer similar to Bosch All-in-one Metal 108 piece hand tool Kit: Material Description: Item Dimension: 370mm x 270mm x 85mm Package should Contents: 9-Pieces Screwdriver Bits, 6-Pieces Hexagon Socket Wrench, 8-Pieces Precision Bits, 2-Pieces Adaptors, 1-Piece Ratchet Hand Screwdrivers, 8-Pieces Allen Keys, 3-Pieces Masonry Drill Bits, 30-	250	Nos	2785	0	696250	0	696250

	Pieces S-Plugs, 30-Pieces Screws, 1-Piece Flat-Nose Pliers, 1-Piece Combination Pliers, 1-Piece Tester, 1-Piece Hammer, 1-Piece Cutter, 1-Piece Measuring Tape 3m, 1-Piece Insulation Tape, 1-Piece Torch, 1-Piece Wrench, 1-Piece Handsaw. 108-piece tool kit. Made of High quality metal with good quality insulating Plastic handles, Color: preferably Blue Accepted Make : Bosch/Stanley/Taparia							
22	Supply of <b>Digital Clamp</b> on Meter (Tong Tester).	24	Nos	6220	0	149280	0	149280
	<b>Grand Total</b>							<b>40602986</b>

S= Supply, E= Erection/laying, T= Testing, & C= Commissioning, Nos.= numbers, D-Dismantling.

- 1) The tender schedule shall be read in conjunction with scope of work and technical specification of the work for various items included therein
- 2) Tenderer / should Quote his / their own single & common percentage rates in offer sheet i.e. above /At Par / below the estimated rates of Railways schedule.
- 3) I/We agreed to execute the above work at -----% (In figure) -----  
(in words) above /At Par / below of the Railways schedule of rates.

**NOTE:-**

- (i) The above rates are inclusive all taxes and duties including GST.
- (ii) The tenderer shall quote the all-inclusive rates i.e. Labour, Material, tools / repair maintenance including **GST and income tax** etc. No additional payment shall be paid by railway other than accepted offer.

**Signature**  
**Address and seal of Contractor**

**Sr DEE(G)Bhusawal**

## The List of Makes to be used in works.

## Annexure-I

SN	Item description	Accepted Makes
1	Switch, Socket, industrial socket, Batton/Angle holder Ceiling rose, SDB	Lauritz Knudsen (L&T), Havells, Legrand, Cona, Crabtree, C&S, Press Fit, Anchor, Benlo
2	Time Switches / Astronomical timer	Lauritz Knudsen (L&T), Siemens, Legrand, Havells, GE
3	DP Switch	Lauritz Knudsen (L&T), Havells, Legrand Siemens, GE, ABB, Cona, Crabtree, HPL
4	MCB /RCCB/RCBO/PRCD/AFDD	Havells, Lauritz Knudsen (L&T), Legrand, Siemens, ABB, Schneider, Benlo
5	SFU /ACB / VCB / MCCB / ATS	Lauritz Knudsen (L&T), Siemens, Legrand, ABB, Schneider, Hager, Havells, Benlo
6	FRMUE/ EFS/ RMU/ Indoor compact switchgear / VCB Panel	ABB, L&T, Schneider, GE, Siemens
7	Switchgear for AMF/APFC panel	Lauritz Knudsen (L&T), Legrand, GE, Siemens, ABB, Hager, Schneider, Havells.
8	Thyrister, Contactors, Reactors	Lauritz Knudsen (L&T), Legrand, GE, Siemens, ABB, Hager, Schneider, Havells.
9	LT Panels (IEC 61439)	Siemens, ABB, Schneider, Lauritz Knudsen (L&T), Havells, Legrand
10	Ray roll plug socket	Legrand, Anchor, GE, Havells and Standard
11	Luminaries fittings/ Facade lighting	Philips, Havells, Jaquar, Wipro, Bajaj, Panasonic, Surya, Orient, Crompton
12	Sensor based Luminaries fittings	Philips, GE, Havells, Wipro, Bajaj, Tata Power.
13	PIR sensors	L&T, Philips, Legrand, Crompton, Havells, Jaquar, Wipro, Bajaj, Orient, Atomberg
14	LED	NICHIA / CREE / OSRAM / SEOUL / PHILIPS /LUMILEDS / Samsung
15	LED Pit Light	Philips, GE, Havells, Syska, Jaquar, Wipro, LED 4 India, Shakti.
16	LED indicators for panel.	Lauritz Knudsen (L&T), Siemens, ABB, Schneider.
17	Solar Standalone street light	Philips, Havells, Exide, Surya, Bajaj, Wipro, Jain Irrigation
18	Torch Light (1.5 -3 Kms range)	Nei, Ascentech, kinnav, Havells, Eveready, GE, Jaquar, Wipro, Yashika
19	High Masts, Flag mast, Poles	Bajaj, Utkarsh, Valmont, Havells, Wipro
20	FRP cable looping boxes	Sintex, Ercon, Bravo, National
21	Junction Boxes	Hensel, Cape Electric, National, Sintex.
22	Cable- HT, UG/Aerial Bunched Cable	Havells, Polycab, RR Kabel, KEI, Finolex
23	Cable/wire- LT, PVC/XLPE, UG/ Aerial Bunched Cable/ flexible, armoured/ unarmoured, domestic cables/wires.	Havells, Polycab, RR Kabel, KEI, Finolex, Vishal
24	Cable/Bus Duct, Bus trunking	Schneider Electric India Ltd. Legrand, Lauritz Knudsen (L&T), ABB, EAE
25	Cable joint and termination kit	M-seal, Dowells, Kaycee, Jainson, Cabseal, 3M, Mahindra & Mahindra.
26	BLDC Ceiling Fan / Pedestal fan / Exhaust Fan, Electronic Fan Regulator	Havells, Orient, Usha, Atomberg, Crompton, Bajaj
27	Wall Bracket fan/Air Circulator	Bajaj, Havells, Usha, Crompton, Orient, Almonard.
28	Casing Capping / PVC conduit	Prestoplast, Precision, Modi, Press Fit
29	Multi-Function meter & Electrical measuring instruments	Lauritz Knudsen (L&T), Siemens, Secure, ABB, Schneider, Set & De, trinity, MECO
30	Insulation resistance meter, Anemometer, Digital Multifunction (Loop Impedance Meter) Tester	Megger, Fluke, Stanlay, Testo
31	Earth tester	Meco, Nippen, Stanlay, Testo, Bosch
32	Digital Clamp on Meter (Tong Tester).	Meco, Stanlay, Fluke, Testo, Bosch
33	BDV Testing Kit	Stanley, Motwane
34	Digital lux meter, lazer distance meter	Fluke / Stanley / meco /Rishabh/Bosch
35	Digital clamp on earth tester	Motwane, kusum-meco, Megger, Fluke, Stanlay, Bosch, Testo
36	Digital Vernier caliper, Digital screw gauge	Baker, Freemans, Insize, MITUTOYO, TESA, Bosch
37	Cable Fault Locator	Megger, Stanlay, Kusum-meco, Radiodetection, Fluke
38	Surge Suppressor	Legrand, Rider, Costain, Havells, Schneider, ABB, GE
39	Pumps (Make of Motor for Pump shall be acceptable as per OEM of the Pump)	Kirloskar, Crompton, KSB Pumps, Deccan, Jyoti, Wilo, Flowmore, Goodwin. Mather Platt, CRI, Worthington.
40	Pump Guard	Minilec, Lauritz Knudsen (L&T), Crompton, Siemens, C&S
41	Motor Starter	Lauritz Knudsen (L&T), Kirloskar, Schneider, GE, Siemens, CG, BCH, C&S
42	VFD Drive / Soft Starter	ABB, Siemens, Lauritz Knudsen (L&T), Schneider.
43	Valves all types & Butterfly	C&R / Audco / Castel / Leader / Honeywell / Kirloskar
44	GI Pipes	Tata, Zenith, Jindal, Bansal, Surya Prakash, Swastik, Apollo
45	PVC Pipe/ Column Pipe	Finolex, Supreme, Astral, Ashirvad, Prince, Apollo
46	HDPE Pipe	Supreme, Utkarsh, Jain Pipes, CRI Pipes
47	Polyolefin Cable channel	Finolex, Supreme, Astral, Ashirvad, Prince, Apollo
48	M.S. Pipes	Jindal / Tata / Zenith / GST / Malhotra
49	TMC Pipe	IT Combo, Palak, Sagar, Mahavir
50	UPS Battery	AMARARAJA, EXIDE, CBS, PANASONIC, HITACHI, HBL, OKAYA, Microtek
51	UPS/ Inverter	Numeric Power Systems Ltd, APC, Schneider, Legrand, Emerson (Siemens), Luminous Power Technologies Pvt. Ltd. Luminous, Su-Kam, Microtek, Uniline
52	Standard Lead Acid Battery	Amararaja, Exide, Okaya, HBL

53	Geysers, Water Heater	Bajaj, Havells, Crompton Greaves, Jaquar, Racold, Morphy Richards
54	Flex for Glow Sign Board	LG 3m penaflex
55	Vinyl for Glow Sign Board	LG 3m penaflex
56	Cement	Ultratech, ACC, Ambuja, JK, Birla
57	Paints	Asian, Nerolac, Dulux, Shalimar, Berger
58	Sleeve Insulation	The Supreme Industries Ltd. / K Flex / Armaflex / A Flex
59	GI sheet	Jindal / Sail / Essar / Tata / Zenith
60	Fly Catcher Fitting	Fly, Kill lite, PCI, Avro, Orchids
61	Window AC / Split AC / AC Plant/ Cassette AC	Blue Star, Voltas, LG, Fedders Lloyd, Hitachi, Samsung, Daikin, O' General, Mitsubishi, Panasonic, Carrier, Godrej, IFB
62	VRF/VRV Units & Ductable split unit inverter type	Blue star / Samsung / Hitachi / Mistubishi / Daikin / O General/ Voltas, Panasonic/ LG
63	Duct Insulation	The Supreme Industries Ltd. / K Flex / Armaflex / A Flex
64	Air diffuser / Grill	Cosmos / Dynacraft / Carrier
65	Volume Control Damper	Cosmos / Dynacraft / Carrier
66	Ventilation Fans	Carrier / Systemair / Kruger / Nicotra/ Almonard
67	AC Compressor	Emersion Copeland/ Kirloskar/ Bluestar/ Carrier/ Daikin/ Tecumseh
68	AC Condenser	Blue Star / Carrier / Hitachi / Daikin
69	Motors	CG, Bharat Bijlee, ABB, Siemens, Kirloskar
70	AHU / IDU	Neutech / Blue Star / Ethos / Voltas / Systemair / Flaktwood / VTS / Trane / York / Blue star / Samsung / Hitachi / Mistubishi / Daikin / O General/ Voltas, Panasonic/ LG
71	Cooling Tower	Paharpur / National / Perfect / Omkar / Choksi Group
72	Chiller line Insulating	Thermoshell / Beardsell Ltd./ Armaflax / Superlone / Century / ECOFLACK
73	Package unit	Blue Star / Hitachi / Daikin / Carrier / Voltas
74	Water Cooler	USHA, Blue Star, Voltas, Sidwal
75	Refrigerator	LG, Voltas, Whirlpool, Haier, Godrej, Samsung, Panasonic
76	Diesel Generating Set	Kirloskar Oil Engines Limited, Mahindra, Cummins, Ashok Leyland.
77	APFC RELAY / Power capacitor	EPCOS, SELEC, L&T, Schneider, Havells, C&S
78	Transformers	ABB, Siemens, BHEL, GEC, Bharat Bijlee, Crompton, Schneider/ Areva, transdelta, Highvolt, Fairdeal, Tesla, Kirloskar, Power star, Transformer & Rectifier.
78	Oil filtration plant	Spera, CEE DEE, CBS, Minimac, Kristorr
79	Voltage stabilizer	Melcon, servokon, V-guard, Microtek, Jindal, Servomax, Power control systems, GE, Apex
80	IFD	ABB, Motorola, Siemens, JAISuS, Honeywell, L&T
81	ULT	Endress & Hauser, Siemens, Honeywell, Pepperl & Fuchs, Nivelco, Rosemount
82	AB switch	Kiran/ Pactil / ABB
83	Hammer Drill machine	Bosch, Stanley, Dewalt, Hilti
84	Hydraulic crimping tools	Bosch, Stanley, Dowel
85	Thermal image camera	Bosch, TIPL, Fluke, Meco, Testo
86	Electric air blower	Bosch, Dewalt
87	Tools & Plant, Chain Pipe Wrenches	Taparia, Tata, Freemans, Fluke, Bosch, Stanley
88	Furniture's, Almirah, BOOK SHELF	Godrej or equivalent.
89	Binoculars	Nikon, ZEISS, Canon, Celestron
90	Day light pipe	Skyshade/ E- VIEW Global/ SKY PIPE/ EGO LIGHT/ EKOOL PLUS
91	Earthing pit Box cover	Sintex, True power, National
92	Ball Bearing	SKF / NBC / FAG
93	Capacitors for fan	Tibcon / Epcos / Syscap / Jimcap / Keltron / Havells
94	Solar Panel	Tata, Waaree, Havells, ABB, Adani, Vikram
95	Solar inverter	Tata, Waaree, Havells, ABB, Adani, Sungrow, Solis, Microtek
96	Solar water heater	V-Guard, Jain Irrigation, Sudarshan, Havells, Racold, Green sense
97	Computer	HP, Dell
98	Printer	HP, Brother
99	Air Cooler /Industrial Cooler	Symphony, Breezeair, Greencon, Arctic
100	Storage Tank	Sintex, Plasto
101	Telescopic Ladder	Corvids, Gorilla
102	Voltage stabilizer for AC	V-guard, IFB, Microtek.
103	BESS	Su-vastika, Lotus, Waaree, Tata, Exide, Amararaja, Panasonic, Schneider, Cummins
104	Portable Generator(Petrol/Kerosene)	Honda, Birla

**Note** – i) Only ISI / BIS marked items shall be accepted. If ISI / BIS marked materials are not available in market then prior approval shall be taken from Sr. DEE(G)BSL before supply.

ii) The above makes are acceptable subject to fulfillment of technical specification requirement.

## Indian Standard codes/IEC List

## Annexure-II

<i>S.No</i>	<i>Standard</i>	<i>Title</i>	<i>Reaffirm Date</i>	<i>Amdt.</i>
(1)	IEC 61439	The standards for low voltage switchgear and control gear assemblies		
(2)	IS 732:1989	Code of practice for electrical wiring installations (third revision)	March 2010	
(3)	IS 4648:1968	Guide for electrical layout in residential buildings	August 2012	
(4)	IS 8061:1976	Code of practice for design, installation and maintenance of service lines upto and including 650 V	March 2011	
(5)	IS 8884:1978	Code of practice for the installation of electric bells and call systems	August 2012	
(6)	IS 5578:1984/ IEC 60391 (1972)	Guide for marking of insulated conductors (first revision)	March 2011	
(7)	IS 1353:1985/ IEC 60445 (1973)	Guide for uniform system of marking and identification of conductors and apparatus terminals	July 2012	
(8)	IS 3234:1991/ IEC 60909: 1988	Guide for short circuit current calculations in three-phase ac systems (superseding IS 5728)	August 2012	
(9)	IS 7752 (Part 1):1975	Guide for improvement of power factor in consumer installation: Part 1 Low and medium supply voltages	March 2011	
(10)	IS 3646 (Part 1):1992	Code of practice for interior illumination: Part 1 General requirements and recommendations for working interiors (first revision)	March 2008	
(11)	IS 3646 (Part 2):1966	Code of practice for interior illumination: Part 2 Schedule of illumination and glare index	March 2008	
(12)	IS 3646 (Part 3):1968	Code of practice for interior illumination: Part 3 Calculation of coefficients of utilization by the BZ method	March 2008	
(13)	IS 4347:1967	Code of practice for hospital lighting	May 2010	
(14)	IS 6665:1972	Code of practice for industrial lighting	May 2010	
(15)	IS 2672:1966	Code of practice for library lighting	May 2010	
(16)	IS 10118 (Part 1):1982	Code of practice for selection, installation and maintenance of switchgear and controlgear : Part 1 General	March 2011	
(17)	IS 10118 (Part 2):1982	Code of practice for selection, installation and maintenance of Switchgear and controlgear : Part 2 Selection	March 2011	
(18)	IS 10118 (Part 3):1982	Code of practice for selection, installation and maintenance of switchgear and controlgear : Part 3 Installation	March 2011	
(19)	IS 10118 (Part 4):1982	Code of practice for selection, installation and maintenance of switchgear and controlgear : Part 4 Maintenance	March 2011	
(20)	IS 4146:1983	Application guide for voltage transformers (first revision)	September 2011	
(21)	IS 4201:1983	Application guide for current transformers (first revision)	September 2011	
(22)	IS 5547:1983	Application guide for capacitor voltage transformers (first revision)	September 2011	
(23)	IS 2309:1989	Code of practice for protection of buildings and allied structures against lightning (second revision)	March 2010	1

(24)	IS 3043:1987	Code of practice for earthing	March 2011	2
(25)	IS 5216 (Part 1):1982	Recommendations on safety procedures and practices in electrical work: Part 1 General (first revision)	March 2010	
(26)	IS 5216 (Part 2):1982	Recommendations on safety procedures and practices in electrical work: Part 2 Life saving techniques (first revision)	March 2010	
<b>ELECTRIC FANS</b>				
(1)	IS 555:1979	Electric table type fans and regulators (third revision)	July 2010	2
(2)	IS 1169:1967	Electric pedestal type fans and regulators (first revision)	Mar 2009	6
(3)	IS 374:1979	Electric ceiling type fans and regulators (third revision)	September 2010	6
(4)	IS 2997:1964	Air circulator type electric fans and regulators	July 2010	8
(5)	IEC: 60665 (1981) IS 2312:1967	Propeller type ac ventilating fans (first revision) Draft Standard issued in wide circulation	July 2010	8
(6)	IS 3588:1987	Electric axial flow fans (first revision)	August 2009	1
(7)	IS 3963:1987	Roof extractor units (first revision)	August 2009	3
(8)	IS 4283:1981	Hot air fans (first revision)	August 2009	3
(9)	IS 6272:1987	Industrial cooling fans (man coolers) (first revision)	August 2009	2
(10)	IS 4894:1987	Centrifugal fans (first revision)	August 2009	3
(11)	IS 11037:1984	Electronic type fan regulators	August 2010	3
(12)	IS 12155:1987	General and safety requirements for fans and regulators for household and similar purposes		
<b>LOW VOLTAGE SWITCH GEAR AND CONTROL GEAR</b>				
(1)	IS 4237:1982	General requirements for switchgear and controlgear for voltages not exceeding 1000 volts ac or 1200 volts dc (first revision) [superseded by IS 13947 (Part 1):1993]		
(2)	IS 6875 (Part 1):1973	Control switches (switching devices for control and auxiliary circuits including contactor relays) for voltages upto and including 1000 V ac & 1200 V dc: Part 1 General requirements [superseded by IS 13947 (Part 5/Section 1)]		
(3)	IS 6875 (Part 2):1973	Control switches (switching devices for control and auxiliary circuits including contactor relays) for voltages upto and including 1000 V ac and 1200 V dc: Part 2 Push- buttons and related control switches [Superseded by IS 13947 (Part 5/Section1)]		
(4)	IS 6875 (Part 3):1980	Control switches (switching devices for control and auxiliary circuits including contactor relays) for voltages upto and including 1000 V ac and 1200 V dc : Part 3 Rotary control switches [superseded by IS 13947 (Part 5/ Section 1)]		
(5)	IS 10027:2000	Composite units of air-break switches and rewirable type fuses for voltages not exceeding 650 volt ac - Specification (first revision)	March 2010	
(6)	IS 4064 (Part 1):1978	Air-break switches, air break disconnectors, air-break switch disconnectors and fuse-combination units for voltages not exceeding 1000 V ac or 1200 V dc: Part 1 General requirements (revised) [superseded by IS 13947 (Part 3): 1993]		
(7)	IS 2675:1983	Enclosed Distribution Fuse Boards and Cut Outs for voltages not exceeding 1000 V A.C. or 1200 V D.C.	March 2011	
(8)	IS 8828:1996	Circuit-breakers for over current protection for		

		household and similar installations (second revision)		
(9)	IS 13032:1991	Miniature circuit breaker boards for voltage upto and including 1 000 Volt ac	March 2011	1
(10)	IS 12640 (Part 1):2008	Residual current operated circuit-breakers for household and similar uses : Part 1 circuit-breakers without integral over current protection (RCCBs) (First Revision)		
(11)	IS 12640 (Part 2):2008	Residual current operated circuit-breakers for household and similar uses: Part 2 circuit breakers with integral over current protection (RCBOs) (First Revision)		
(12)	IS 2959:1985	Contactors for voltages not exceeding 1000 V ac or 1200 V dc (first revision) [superseded by IS 13947 (Part 4/ Section 1)]		
(13)	IS 12021:1987	Specification for control transformers for switchgear and controlgear for voltages not exceeding 1000 Volt AC	March 2010	2
(14)	IS 5039:1983	Distribution pillars for voltages not exceeding 1000 volts (first revision)	March 2011	2
(15)	IS 8623 (Part 1): 1993/ IEC 60439-1 (1985)	Specification for low voltage switchgear and controlgear assemblies: Part 1 Requirements for type-tested and partially type tested assemblies (first revision).	March 2008	2
(16)	IS 8623 (Part 2):1993/ IEC 60439-2 (1987)	Specification for low voltage switchgear and controlgear assemblies: Part 2 Particular requirements for busbar trunking systems (busways)-(first revision)	March 2008	2
(17)	IS 8544 (Part 1):1977	Motor starters for voltages not exceeding 1000 V: Part Direction line ac starters [superseded by IS 13947 (Part 4/Section 1): 1993]		2
(18)	IS 8544 (Part 2):1977	Motor starters for voltages not exceeding 1000 V : Part 2 Star-delta starters [superseded by IS 13947 (Part 4/ Section 1): 1993]		
(19)	IS 8544 (Part 3/ Sec 1): 1979	Motor starters for voltages not exceeding 1000 V : Part 3 Rheostatic motor starters, Section 1 General requirements [superseded by IS 13947 (Part 4/Section 1): 1993]		
(20)	IS 8544 (Part 4):1979	Motor starters for voltages not exceeding 1000 V: Part 4 Reduced voltage ac starters: two step auto-transformer starters [superseded by IS 13947 (Part 4/Section 1): 1993]		
<b>POWER CABLE</b>				
(1)	IS 94:1990/ IEC 60227-1 to 5 (1979)	PVC Insulated cables for working voltages upto and including 1100 V	February 2010	5
(2)	IS 694: 2010	Polyvinyl chloride insulated sheathed and unsheathed cables with rigid and flexible conductor for rated voltages upto and including 450/750 V : Part 1 General requirements (fourth revision)		1
(3)	IS 1554 (Part 1): 1988/ IEC 60502 (1983)	PVC insulated (heavy duty) electric cables: Part 2 For working voltages upto and including 1100 V (Third revision)		
(4)	IS 3961 (Part 1):	Recommended current ratings for cables: Part 1 Paper insulated lead sheathed cables	November 2011	

	1967			
(5)	IS 4288:1988	PVC insulated (heavy duty) electric cables with solid aluminium conductors for voltages upto and including 1100 V (second revision) (withdrawn)		
(6)	IS 4289 (Part 1): 1984/ IEC 60245-5	Flexible cables for lifts and other flexible connections: Part 1 Elastomer insulated cables (first revision)		
<b>ELECTRIC WIRING ACCESSORIES</b>				
(1)	IS 9537 (Part 1): 1980/ IEC 60614-1 (1978)	Conduits for electrical installations: Part 1 General Requirements	November 2010	(1)
(2)	IS 9537 (Part 2): 1981	Conduits for electrical installations: Part 2 Rigid steel conduits (superseding IS:1653)	May 2012	(2)
(3)	IS 3480:1966	Flexible steel conduits for electrical wiring	May 2012	(1)
(4)	IS 2667:1988	Fittings for rigid steel conduits for electrical wiring (first revision) [Superseded by IS 14768 (Part 2): 2003]	February 2008	
(5)	IS 3837:1976	Accessories for rigid steel conduits for electrical wiring (first revision)	May 2012	(1)
(6)	IS 9537 (Part 4):1983	Conduits for electrical installations: Part 4 Pliable self-recovering conduits of insulating materials	May 2012	
(7)	IS 9537 (Part 5): 2000/ IEC 60614-2-3 (1990)	Conduits for a electrical installations: Part 5 Pliable conduits of insulating material [Superseding IS 6946]	June 2010	
(8)	IS 3419:1989	Fittings for rigid non-metallic conduits (second revision)	May 2012	
(9)	IS 14772:2000/ IEC 60670-1 (1989)	Enclosures for accessories for household and similar fixed electrical installations [Superseding IS 5133 (Part 1 and 2)]	May 2010	
(10)	IS 2412:1975	Link clips for electrical wiring (first revision)	May 2012	(2)
(11)	IS 371:1999	Ceiling roses (third revision)	March 2010	(4)
(12)	IS 3854:1997/ IEC 60669-1 (1998)	Switches for domestic and similar purposes (second revision)	July 2012	(6)
(13)	IS 4615:1968	Switch-socket outlets (non-interlocking type) (Withdrawn)		
(14)	IS 4160:2005/ IEC 60884-2-6 (1997)	Interlocking switch socket outlets - Specification (first revision)	June 2010	
(15)	IS 1293:2005/ IEC 60884-1 (2002)	Plugs and socket outlets of rated voltage upto and including 250 volts and rated current upto and including 16 amperes - Specification (third revision)	June 2010	(5)
<b>ELECTRICAL LAMPS AND THEIR AUXILIARIES</b>				
(1)	IS 418:2004/ IEC 60064 (1993)	Tungsten filament lamps for domestic and similar general lighting purposes (fourth revision)	March 2009	(4)
(2)	IS 2418 (Part 1): 1977/ IEC 81 (1974)	Tubular fluorescent lamps for general lighting service: Part 1 Requirements and tests (first revision)	December 2010	(8)
(3)	IS 9900 (Part 1):1981 / IEC 188 (1974)	High pressure mercury vapour lamps: Part 1 Requirements and test [Superseding IS 2183 and IS 7023]	October 2012	(4)

(4)	IS 9974 (Part 1): 1981/ IEC 662 (1980)	High pressure sodium vapour lamps : Part 1 General requirements and tests	October 2012	(4)
(5)	IS 1258:2005/ IEC 61184 (1997)	Bayonet lamp holders (fourth revision)	June 2010	(3)
(6)	IS 3323:1980/ IEC 60400 (1972)	Bi-pin lamp holders for tubular fluorescent lamps (first revision)	October 2012	(1)
(7)	IS 3324:1982/ IEC 400 (1972)	Holders for starters for tubular fluorescent lamps (first revision)	June 2008	
(8)	IS 2215:2006/ IEC 60155 (1993)	Starters for fluorescent lamps (third revision)	Jun 2010	
(9)	IS 1534 (Part 1):1977 / IEC 82 (1973)	Ballasts for fluorescent lamps: Part 1 For switch start circuits (second revision)	July 2011	(5)
(10)	IS 1569:1976/ IEC 566	Capacitors for use in tubular fluorescent	July 2011	(1)
(11)	IS 6616:1982/ IEC 262 (1969)	Ballasts for high pressure mercury vapour Lamps (first revision)	July 2011	(1)
<b>LIGHT FITTINGS AND LUMINAIRES</b>				
(1)	IS 1913 (Part 1):1978	General and safety requirements for luminaires: Part 1 Tubular fluorescent lamps (second revision)		
(2)	*IS 10322 (Part1) :1982 / IEC 598 - 1(1979)	Luminaires: Part 1 General requirements	May 2010	
(3)	IS 10322 (Part 2):1982 / IEC 598 - 1(1979)	Luminaires: Part 2 Constructional Requirements	May 2010	
(4)	IS 10322 (Part 5/ Sec. 2):2012	Luminaires: Part 5 Particular requirements, Sec 2 Recessed luminaires (First Revision)	March 2012	
(5)	IS 10322 (Part 5/ Sec. 3):2012/ IEC 60598-2-3 (1979)	Luminaires: Part 5 Particular requirements, Sec 3 Luminaires for road and street lighting (First revision)	March 2012	
(6)	IS 10322 (Part 5/ Sec 4):1987/ IEC 60598-2-4 (1979)	Luminaires: Part 5 Particular requirements, Section 4 Portable general purpose	May 2010	1
(7)	IS 10322 (Part 5/ Sec 5):1987/ IEC 60598-2-5	Luminaires: Part 5 Particular requirements, Section 5 Flood lights [superseding IS 1947]	May 2010	(1)
(8)	IS 3287:1965	Industrial lighting fittings with plastic reflectors		
(9)	IS 1777:1978	Industrial luminaires with metal reflectors (first revision)		
(10)	IS 2206 (Part 1):1984	Flameproof electric lighting fittings: Part 1 Well-glass and bulkhead types (first revision)		
(11)	IS 3528:1966	Waterproof electric lighting fittings	May 2010	

(12)	IS 3553:1966	Watertight electric lighting fittings	May 2010	
(13)	IS 8030:1976/ IEC 162 (1972)	Luminaires for hospitals	March 2008	
(14)	IS 7537:1974	Road traffic signals	March 2008	
(15)	IS 9583:1981/ IEC 598-2-22 (1980)	Emergency lighting units	March 2008	
<b>ELECTRICAL APPLIANCES</b>				
(1)	IS 302 (Part 1): 2008/ IEC 60335-1 (2006)	Safety of household and similar electrical appliances: Part 1 General requirements (sixth revision)		(1)
(2)	IS 2268:1994	Electric call bells and buzzers for indoor use (second revision)	March 2009	
(3)	IS 3412:1994	Electric water boilers (second revision)	March 2009	
<b>ELECTRICAL INSTRUMENTS</b>				
(1)	IS 6236:1971/ IEC 60258 (1968)	Direct recording electrical measuring Instruments	January 2010	
(2)	IS 1248 (Part 1): 2003/ IEC 600 51-1 (1997)	Direct acting indicating analogue electrical measuring instruments and their accessories: Part 1 General requirements (fourth revision)	Sep 2008	
(3)	IS 1248 (Part 2): 2003/ IEC 600 51-2 (1984)	Direct acting indicating analogue electrical measuring instruments and their accessories: Part 2 Ammeters and voltmeters (third revision)	Aug 2008	
(4)	IS 1248 (Part 3): 2003/ IEC 600 51-3 (1984)	Direct acting indicating analogue electrical measuring instruments and their accessories: Part 3 Wattmeters and varmeters (third revision)	Aug 2012	
(5)	IS 1248 (Part 4): 2003/ IEC 600 51-4 (1984)	Direct acting indicating analogue electrical measuring instruments and their accessories: Part 4 Frequency meters (third revision)	Aug 2008	
(6)	IS 1248 (Part 5): 2003/ IEC 600 51-5 (1984)	Direct acting indicating analogue electrical measuring instruments and their accessories: Part 5 Phase meters, power factor meters and synchroscope (third revision)	Aug 2008	
(7)	IS 722 (Part 1):1998	AC electricity meters : General requirement and tests		
(8)	IS 722 (Part 2):1977	AC electricity meters: Part 2 Single-phase whole-current watt-hour meters, Class 2 (first revision)		
(9)	IS 722 (Part 3):1988	AC electricity meters: Part 3 Three-phase whole current and transformer operated and single-phase transformer operated watt-hour meters, class 2 (second revision)		
(10)	IS 722 (Part 5):1980	AC electricity meters: Part 5 Volt-ampere hour meters for restricted power factor range, class 3.5 (first revision)		
(11)	IS 722 (Part 7/Sec 1): 1987	AC electricity meters: Part 7 Volt-ampere hour meters for full power factor range, Section 1 General requirements (first revision)		
(12)	IS 722 (Part 8):1972	AC electricity meters: Part 8 Single-phase 2-wire whole current watt-hour meter (class 1.0)		

(13)	IS 722 (Part 9):1972	AC electricity meters: Part 9 Three-phase whole current and transformer operated watt-hour meters and single- phase two-wire transformer operated watt-hour meters (class 1.0)		
(14)	IS 8530: 1977 IEC 60211:1966	Maximum demand indicators (class 1)		
(15)	*IS 2992:1987	Insulation resistance testers, hand operated (magneto generator type) (second revision)	Jan 2010	
<b>INSTRUMENT TRANSFORMERS</b>				
(1)	IS 2705 (Part 1): 1992/ IEC 60185 (1966)	Current transformers: Part 1 General requirements (second revision)	Aug 2012	(1)
(2)	IS 2705 (Part 2): 1992/ IEC 60185 (1966)	Current transformers: Part 2 Measuring current transformers (second revision)	Aug 2012	
(3)	IS 2705 (Part 3): 1992/ IEC 60185 (1966)	Current transformers: Part 3 Protective current transformers (second revision)	Aug 2012	
(4)	IS 2705 (Part 4): 1992/ IEC 60185 (1966)	Current transformers: Part 4 Protective current transformers for special purpose applications (second revision)	Aug 2012	
(5)	IS 6949:1973	Summation current transformers	Sep 2011	
<b>FUSES</b>				
(1)	IS 9224 (Part 1):1979	Low voltage fuses: Part 1 General requirements [superseded by IS 13703 (Part 1):1993]		
(2)	IS 9224 (Part 2):1979	Low voltage fuses: Part 2 Supplementary requirements for fuses for industrial applications (superseding IS 2208) [superseded by IS 13703 (part 2/Section 1):1993]		
(3)	IS 2086:1993	Carriers and bases used in rewirable type electric fuses for voltages upto 650 V (third revision) [Superseding IS 8724]	Mar 2009	(1)
(4)	IS 9926:1981	Fuse wires used in rewirable type electric fuses upto 650 volts	Mar 2011	
(5)	IS 8187:1976/ IEC 269-3 (1973)	D-type fuses		
<b>MISCELLANEOUS</b>				
(1)	IS 2551:1982	Danger notice plates (first revision)	Mar 2010	
(2)	IS 2448 (Part 1):1963	Adhesive insulating tapes for electrical purposes: Part 1 Tapes with cotton textile substrates	Oct 2010	(5)
<b>ELECTROTECHNICAL VOCABULARY</b>				
(1)	IS 1885 (Part 1):1961	Electrotechnical vocabulary: Part 1 Fundamental Definitions	Jul 2012	(2)
(2)	IS 1885 (Part 9):1992/ IEC 60050 (446):1983	Electrotechnical Vocabulary: Part 9 Electrical relays (second revision)	Jul 2012	
(3)	IS 1885 (Part 11):1966	Electrotechnical vocabulary: Part 11 Electrical Measurements	Jul 2012	
(4)	IS 1885	Electrotechnical vocabulary: Part 16 Lighting, Section	Jul 2012	

	(Part 16/ Sec 1):1968	1 General aspects		
(5)	IS 1885 (Part 16/ Sec. 2):1968	Electrotechnical vocabulary: Part 16 Lighting, Section 2 General illumination, lighting fittings and lighting for traffic and signaling	Jul 2012	
(6)	IS 1885 (Part 16/ Sec. 3):1967	Electrotechnical vocabulary: Part 16 Lighting, Section 3 Lamps and auxiliary apparatus	Jul 2012	
(7)	IS 1885 (Part 17):1979	Electrotechnical vocabulary: Part 17 Switchgear and control gear (first revision)	Jul 2012	
(8)	IS 1885 (Part 32):1993/ IEC 60050 (461):1984	Electrotechnical Vocabulary: Part 32 Electric cables (first revision)	Mar 2009	
<b>SAFETY</b>				
(1)	IS 4770:1991	Rubber Gloves for electrical purposes		
(2)	IS 5424:1969	Rubber mats for electrical purpose (Superseded by IS 15652:2006)	April 2011	(2)

## **CHAPTER- V**

### **FORMS FOR TENDER ETC.**

**Proforma A****LIST OF WORKS COMPLETED IN LAST THREE FINANCIAL YEARS**

SN	Description of work	Organization for whom executed	Approximate value of contract at the time of award.	Date of award	Date of scheduled completion of work	Actual completion	Final value of contract

Signature of the Contractor.

**Proforma B****LIST OF WORKS ON HAND**

SN	Description of work	Contract value	Approximate value of balanced work yet to be done	Date of award

Signature of the Contractor

**FORM 14****उपबंद**

सविंदा करार सं.....तारीख.....यह करार आनुचछेद एक पक्षकार के रूप में.....रेल प्रशासन के माध्यम से कार्यरत भारत के राष्ट्रपति, जिनहे ईस्मे आगे "रेल" कहा गया है, तथा दूसरे पक्षकार के रूप में मेसर्स..... जिनहे इसमें आगे ठेकेदार कहा गया है, के बीच आज तारीख.....को किया गया ।।

ठेकेदारों को इसमें उपापबद्ध अनुसूची में उपवर्णित.....कार्य के निष्पादन के लिए ता.....की मुद्रित/अग्रिम संशोधन पर्ची सं.....संशोधित कार्य पुस्तिका भाग III में और ता..... की मुद्रित/अग्रिम संशोधन पर्ची सं.....तक संशोधित सवाछता संबंधी कार्य पुस्तिका में अंतर्विष्ट मध्य रेल के विनिर्देशों तथा तारीख..... की मुद्रित/अग्रिम संशोधन पर्ची सं ..... तक संशोधित मध्य रेल की दर अनुसूची, भाग I तथा विशेष विनिर्देशों, यदि कोई हो, पर और इससे उपापबद्ध रेखाचित्र के अनुरोध कार्य करो का करार किया है और उक्त का निष्पादन ऐसा कार्य है, जिससे जाता हितबद्ध है।

अब यह विलेख इस बात का साक्षी है की, रेलों द्वारा किए जो वाले संदायों के प्रतिफलस्वरूप, ठेकेदार उक्त अनुसूची में उपवर्णित उक्ता कार्य का सम्यक रूप से निष्पादन करेंगे और उक्ता कार्य मध्य रेल के समाधानप्रद रूप में बहुत तत्परता, सावधानी और सही ढंग से कुशलता से करेंगे तथा तारीख.....को या इससे पहले उक्ता विनिर्देशों और उक्ता रेखाचित्रों तथा सविन्दा की उक्ता शर्तों के अनुसार पूरा करेंगे और उक्ता कार्यों के पूरा होने की प्रामाणिक तारीख से.....कलेंडर मास अवधि के लिए उनका अनुरक्षण करेंगे तथा उसमें उल्लेखित सभी शर्त (जिनहे इस सविन्दा का भाग समझा और मान जाएंगा मानें वे इसमें पूर्णता उपवर्णित की गई है) को मानेंगे, पूरा करेंगे उनका निर्वाह करेंगे और रेल इसके दुवारा करार करती है की, यदि ठेकेदार उक्ता कार्य का पूर्वोक्त रीति से सम्यक रूप से निष्पादन करेगा उक्ता निर्बंधनों और शर्तों का पाला और विवाह करेगा तो रेल उक्ता कार्यों के अंतिम रूप से पूरा हो जाने पर ठेकेदार को उक्ता कार्यों के संबंध में इससे उपबद्ध अनुसूची में विनिर्दिष्ट दरो पर देय रक्कम का संदाय करेंगी या कराएंगी ।

ठेकेदार.....	पदनाम.....
पता.....	भारत के राष्ट्रपति के लिए
तारीख.....	तारीख.....
ठेकेदार के हस्ताक्षर, साक्षियों के हस्ताक्षर तथा पते	साक्षी
1.....	1.....
2.....	2.....

## **MANDATE FORM FOR EFT/NEFT**

### **1. Particulars of the Party.**

- i) Name:- \_\_\_\_\_
- ii) Address:- \_\_\_\_\_
- iii) Phone No.:- \_\_\_\_\_ Mobile No. \_\_\_\_\_  
Fax No:- \_\_\_\_\_
- iv) Income Tax PAN No. \_\_\_\_\_
- v) E Mail ID \_\_\_\_\_

### **2. Particulars of Bank Account**

- i) City :- \_\_\_\_\_
- ii) Bank Name: \_\_\_\_\_
- iii) Branch: \_\_\_\_\_
- iv) Bank Address:- \_\_\_\_\_
- v) Bank Tel. No. \_\_\_\_\_ FAX no. \_\_\_\_\_
- vi) Bank MICR Code(9 Digit) \_\_\_\_\_
- vii) Bank IFS Code: \_\_\_\_\_
- viii) Bank Account No. \_\_\_\_\_  
(Please enclose a canceled blank cheque)
- ix) Account type :- (Saving/Current/Cash Credit) \_\_\_\_\_

### **3. Certified that the particulars furnished with reference to Bank Account are correct and the bank guarantees to honor all EFT/NEFT advices/reports as per RBI Regulations.**

\_\_\_\_\_  
Bank Seal Signature of the authorized official of the bank

### **4. DECLARATION BY THE PARTY**

- i. I hereby declare that the particulars given in this mandate form are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, the User institution i.e. FA & CAO/Central Railway Mumbai will not be held responsible.

Date \_\_\_\_\_  
Signature of the party with stamp

**FORM-15**  
**(On Stamp Paper of Requisite Value)**  
**GUARANTEE BOND FOR SECURITY DEPOSIT**

**(TO BE USED BY APPROVED SCHEDULE BANKS/NATIONALISED BANKS)**

1. In consideration of the President of India " hereinafter called "the Government" having agreed to exempt.....(hereinafter called "the said Contractor (s)" from the demand, under the terms and conditions of an Agreement dated.....made between.... and..... for (hereinafter called "the said Agreement") of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contented in the said Agreement, on production of a Bank guarantee for Rs.....(Rupees.....only). We,..... (indicate the name of Bank) hereinafter referred to as "the Bank" at the request of..... (Contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor (s) of any of the terms or conditions contained in the said Agreement.
2. We..... (indicate the name of Bank) do hereby undertake to Pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement or by reason of the Contractor (s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding.....
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor (s)/ supplier (s) in any suit for proceeding pending before any court or Tribunal relating thereto our liability under this present contract being absolute and unequivocal.

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)/supplier (s) shall have no claim against us for making such payment.

4. We..... (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till..... office / Department Ministry of.....certifies 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. Unless a Demand or claim under this guarantee is made on us in writing on or before the..... (b) we shall be discharged from all liability under this guarantee thereafter.
5. We..... (indicate the name of Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said Contractor (s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor (s) or for any forbearance, act or omission on the part of the 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 would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor (s)/ Supplier (s).

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

Dated : the..... day of.....20

for.....

(indicate the name of Bank)

.....  
(a) The guarantee shall be valid for a period of two months after the expiry of the guarantee period of the equipment.



**FORM-16****STANDING INDEMNITY BOND FOR 'ON ACCOUNT' PAYMENTS****(On paper of requisite stamp value)**

We, M/s..... hereby undertake that we hold at our stores Depot/s at..... for and on behalf of the President of India acting in the premises through the General Manager or his successor of Central Railway (hereinafter referred to as "The Purchaser") all materials for which 'On Account' payments have been made to us against the Contract for supply and erection of (Name of work) \*.on the section/s of Central Railway also referred to as Group/s..... vide letter of Acceptance of Tender No..... dated..... and materials handed over to us by the purchaser for the purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the purchaser or as he may direct otherwise and shall indemnify the purchaser against any loss damage or deterioration whatsoever in respect of the said materials while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any officer authorized by the General Manager incharge of Railway Electrification (whose address will be intimated in due course).

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and refund becomes due, the Purchaser shall be entitled to recover from us the full cost as per prices included in Schedule 3 to the Contract (as applicable) and in respect of other materials as indicated in part I, Chapter- IV, section 1 and also compensation for such loss or damage if any long with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

Dated this day..... day of..... 20

for and on behalf of

M/s.....(Contractor)

Signature of witness

Name of witness in Block Letters

Address.

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\* Strike out whichever is not applicable

**FORM-19**  
**(On Stamp Paper of Requisite Value)**  
**GUARANTEE BOND AGAINST "ON ACCOUNT" PAYMENTS**

**(TO BE USED BY APPROVED SCHEDULE BANKS/NATIONALISED BANKS)**

1. In consideration of the President of India " hereinafter called "the Government") having agreed to exempt.....(hereinafter called "the said Contractor (s)") from the demand, under the terms and conditions of an Agreement dated.....made between.... and..... for (hereinafter called "the said Agreement") of "On- Account" Payments for the due fulfillment by the said Contractor (s) of the terms and conditions contented in the said Agreement, on production of a Bank guarantee for Rs.....(Rupees.....only).

We,..... (indicate the name of Bank) hereinafter referred to as "the Bank" at the request of..... (Contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor (s) of any of the terms or conditions contained in the said Agreement.

2. We..... do hereby undertake to Pay (indicate the name of the Bank) the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said Contractor (s) of any of the terms or conditions contained in the said Agreement or by reason of the Contractor (s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding.....
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor (s)/ supplier (s) in any suit for proceeding pending before any court or Tribunal relating thereto our liability under this present contract being absolute and unequivocal.

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)/supplier(s) shall have no claim against us for making such payment.

4. We..... (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till..... office/ Department Ministry of.....certifies 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. Unless a Demand or claim under this guarantee is made on us in writing on or before the..... (b) we shall be discharged from all liability under this guarantee thereafter.
5. We..... (indicate the name of Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said Contractor (s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such

variation, or extension being granted to the said Contractor (s) or for any forbearance, act or omission on the part of the 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 would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor (s)/ Supplier (s).
7. We..... (indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Government in writing.

Dated : the..... day of..... 20

for.....

(indicate the name of Bank)

1. The guarantee shall be valid for a period of two months after the completion of installation and testing to the satisfaction of Engineer-in-Charge.



**FORM-21****(On Stamp Paper of Requisite Value)****GUARANTEE BOND AGAINST PROVISIONAL ACCEPTANCE PAYMENTS****(TO BE USED BY APPROVED SCHEDULE BANKS/NATIONALISED BANKS)**

1. In consideration of the President of India " hereinafter called "the Government" having agreed to exempt.....(hereinafter called "the said Contractor (s)" from the demand, under the terms and conditions of an Agreement dated.....made between.... and..... for (hereinafter called "the said Agreement") of Provisional Acceptance Payments for the due fulfillment by the said Contractor (s) of the terms and conditions contented in the said Agreement, on production of a Bank guarantee for Rs.....(Rupees.....only). We,..... hereinafter referred to as "the Bank" (indicate the name of Bank) at the request of..... (Contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor (s) of any of the terms or conditions contained in the said Agreement.
2. We..... (indicate the name of the Bank) do hereby undertake to Pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said Contractor (s) of any of the terms or conditions contained in the said Agreement or by reason of the Contractor (s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding.....
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor (s), supplier (s) in any suit for proceeding pending before any court or Tribunal relating thereto our liability under this present contract being absolute and unequivocal.  
The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor (s)/supplier (s) shall have no claim against us for making such payment.
4. We..... (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till..... office/Department Ministry of.....certifies 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. Unless a Demand or claim under this guarantee is made on us in writing on or before the..... (b) we shall be discharged from all liability under this guarantee thereafter.
5. We..... (indicate the name of the Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said Contractor (s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor (s) or for any forbearance, act or omission on the part of the 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 would but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor (s)/ Supplier (s).

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

Dated: the..... day of..... 20

for.....

(indicate the name of Bank)

---

(a) The guarantee shall be valid for a period of two months after the completion of work.

## ANNEXURE 'A'

## DECLARATION FORMAT

As per GCC April 2022, Clause No.16 Employment / Partnership etc. of Retired Railway Employees.

Clause	CONDITIONS	WRITE YES/NO WHICH IS APPLICABLE
16 (a)	(i) 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 pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being,	YES/NO In case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the Tender.
	OR (ii) Should a tenderer being partnership firm / joint venture (JV) / registered society / registered trust etc. have as one of its partners a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement,	THEN The tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and 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, 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.
	OR (iii) Should a tenderer being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors	
16 (b)	In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazette rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, and now in his employment.	YES/NO If yes then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.
16 (c)	Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s) / shareholder(s) or member(s) of the family of partner(s)/shareholder(s)having share of more than 1% in the tendering entity employed in gazetted capacity in the Engineering or any other department of the railway	YES/NO If yes then the tenderer at the time of submission of tender, will inform the Authority inviting tenders the details of such persons.
Note: - If information as required as per 16. a), b), c) above has not been furnished; contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of contract.		

Date:  
Place:

Signature  
(Name of contractor/firm)

**Annexure-B****SAMPLE FORMAT OF COMPLETION CERTIFICATE**

<b>SN</b>	<b>Name of Item</b>	<b>Description</b>
1	LOA No. and date	
2	Name of the work	
3	Contract Agreement No. and date	
4	Name of the contractor	
5	Original Agreement Value	
6	Revised Agreement Value, if any	
7	Date of commencement of work	
8	Date of completion of work as per original / revised agreement	
9	Date of actual completion	
10	Cumulative payment made to the contractor up to the Last paid bill	
11	Total Penalty Imposed (If No penalty, please specified as NIL)	
12	Performance of the contractor	

This certificate submitted by the tenderer should be signed by competent authority of the concerned department.

**Annexure –VIA**

Para 5 of the Instructions to Tenderers

**(Bid Security)**

**Bank Guarantee Bond from any scheduled commercial bank of India**  
*(On non-judicial stamp paper, which should be in the name of the Executing Bank).*

**Name of the Bank: -----**

President of India,

Acting through .....,

..... Railway,

Beneficiary: ..... Railway

Date:.....

**Bank Guarantee Bond No.:****Date:-----**

In consideration of the President of India acting through----- (***Designation & address of Contract Signing Authority***), ..... Railway, ....., .... (hereinafter called "The Railway") having invited the bid for \_\_\_\_\_ through Notice inviting tender (NIT) No. \_\_\_\_\_, We have been informed that [***Insert name of the Bidder***]..... (***hereinafter called "the Bidder"***) intends to submit its bid (hereinafter called "the Bid")

WHEREAS, the Bidder is required to furnish Bid Security for the sum of [***Insert required Value of Bid Security***], in the form of Bank Guarantee, according to conditions of Bid.

**AND**

WHEREAS,.....[***Insert Name of the Bank***], with its Branch.....[***Insert Address***] having its Headquarters office at..... [***Insert Address***], hereinafter called the **Bank**, acting through.....[***Insert Name and Designation of the authorised persons of the Bank***], have, at the request of the Bidder, agreed to give guarantee for Bid Security as hereinafter contained, in favour of the Railway:

1. KNOW ALL MEN that by these present that I/We the undersigned [***Insert name(s) of authorized representatives of the Bank***], being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay to the Railway full amount in the sum of [***Insert required Value of Bid Security***] as above stated.
2. The Bank undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Bank shall be final, conclusive and binding, absolute and unequivocal on the Bank notwithstanding any disputes raised/ pending before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Bidder or Bank.
3. The Bank shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the Bidder and without the Railway being required to show grounds or give reasons for its demand of the amount so demanded.
4. The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Bidder.
5. The Bank agrees that no change, addition, modifications to the terms of the Bid document or to any documents, which have been or may be made between the Railway and the Bidder, will in any way absolve the Bank from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification made by Railway at any time.
6. This guarantee will remain valid and effective from.....[***insert date of issue***]till .....[***insert date, which should be minimum 90 days beyond the expiry of validity of Bid***]. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.

7. The Bank Guarantee is unconditional and irrevocable.
8. The expressions Bank and Railway herein before used shall include their respective successors and assigns.
9. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the Railway. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.
10. The Bank hereby confirms that it is on the SFMS (Structured Financial Messaging System) and shall invariably send the advice of this Bank Guarantee to the following bank details –

IFSC CODE	SBIN000RAIL
IFSC TYPE	BRANCH
BANK NAME	STATE BANK OF INDIA
BRANCH NAME	RAIL
CITY NAME	NAVI MUMBAI
ADDRESS	SECTOR-11, CBD BELAPUR, NAVI MUMBAI
DISTRICT	NAVI MUMBAI
STATE	MAHARASHTRA
BG ENABLED	YES

11. The Guarantee shall be valid in addition to and without prejudice to any other security Guarantee(s) of Bidder in favour of the Railway. The Bank, under this Guarantee, shall be deemed as Principal Debtor of the Railway.

Date .....

Place.....

.....

Bank's Seal and authorized signature(s)

*[Name in Block letters]* .....

*[Designation with Code No.]*.....

*[P/Attorney]* No.

Witness:

1 Signature, Name & Address & Seal

2 Signature, Name& address & Seal

Bank's Seal

*[P/Attorney]*No.

**Note: All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.**

**Annexure –VIB**

Reference -Para 10.2 & 17.15.2 of Tender Form (Second Sheet) of Annexure I of ITT

**Each Bidder or each member of a JV must fill in this form separately:**

**NAME OF BIDDER/JV PARTNER:**

<b>Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only)</b>			
<b>Year</b>	<b>Amount Currency</b>	<b>Exchange Rate</b>	<b>Indian National Rupees Equivalent</b>
<b>Average Annual Contractual Turnover for last 3 years</b>			

1. The average annual contractual turnover shall be calculated as an average of “total contractual payments” in the previous three financial years. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years in respect of the bidder or all members constituting the bidder.
3. Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant.

**SEAL AND SIGNATURE OF THE BIDDER**

Certified that all figures and facts submitted in this form have been furnished after full consideration of all observations/notes in Auditor’s reports. \_\_\_\_\_

**(Signature of Chartered Accountant)**

**Name of CA:** \_\_\_\_\_

**Registration No:** \_\_\_\_\_

**(Seal)**

**ANNEXURE-V(A)**

Reference -Para 6.1 of ITT

(This certificate is to be given by attorney/authorized signatory/each member of Partnership firm/Joint Venture (JV)/ Hindu Undivided Family (HUF)/ Limited Liability Partnership (LLP) etc.)

I/We.....(Name), attorney/authorized signatory of the .....(constituent firm / constituent partner) and member/partner of the .....(tendering firm) hereby solemnly affirm and state as under:

1. I/we certify that.....(Constituent firm/constituent partner) is/are not blacklisted or debarred by Railways or any other Ministry/ Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm LLP/JV/Society/Trust.
2. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed),

SEAL AND SIGNATURE  
OF THE CONSTITUENT FIRM/CONSTITUENT PARTNER

Place :

Dated :

-----End of the document---