

BOOK No:-

Price :- ₹ 0/-

CENTRAL RAILWAY



MUMBAI DIVISION

ELECTRICAL DEPARTMENT

TRACTION DISTRIBUTION

FORM 'A'

REGULATION FOR TENDER AND CONTRACTS
CONDITION OF TENDER , SCHEDULE OF RATES
AND QUANTITIES
FOR

Tender No :- **BB-LD-583-P-Rev-26-02-CONT**
Due Date on :- **02-07-2026 at 11.00 Hrs.**
Bid Security :- **₹ 75,400/-**
Name of Work :- **Supply, installation, testing and
commissioning of Measuring and
Recording Instrumentation (MRI) on
1 No. of Tower wagon in Mumbai
division.**
Estimated :- **₹ 37,69,999.97/-**
Cost

Issued to :- M/s _____

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CHECK LIST

CHECK LIST FOR DOCUMENTS TO BE SUBMITTED BY THE TENDERER ALONG WITH THE TENDER. TENDERS WITHOUT THESE DOCUMENTS WILL BE SUMMARILY REJECTED: -

SN	MANDATORY DOCUMENTS
1	GST Registration Certificate
2	BID SECURITY as per clause 6 of Preamble of this Tender Document. (As per Clause No 5 of uploaded GCC April 2022 and advance correction slip No 5)
3	Certificate as per Annexure-V (2 pages) of this Tender Document. (As per Annexure-V of GCC April 2022 advance correction slip No1,2,3 and 4). Certificate as per Annexure V (A) of this tender document if applicable shall also be submitted (As per annexure V (A) of advance correction slip No2 of GCC April 2022)
4	The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / 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 as applicable mentioned below:
a	Sole Proprietor – An undertaking on suitable stamp paper to this effect clearly mentioning PAN number.
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.
c	Participation of Partnership Firms in works tenders: (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.
d	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.
e	LLP (Limited Liability Partnership): If the tender is submitted on behalf of a LLP registered under LLP Act-2008, the tenderer shall submit along with the tender: (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.
f	Registered Society & Registered Trust: (i) A copy of the 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
5	Valid Electrical Contractor License as per Clause 4.3 of Preamble of this tender document.
6	Documents as per Technical Eligibility Criteria as per clause 4.1 of Preamble of this tender document.
The above mentioned documents are mandatory and are to be submitted along with the tender. Tenders without these documents will be summarily rejected.	

Tender Notice

Open e-tender notice No.- BB-LD-583-P-Rev-26-02-CONT

Senior Divisional Electrical Engineer (Traction Distribution), Mumbai Division, Central Railway, Annex building, 2nd floor, Mumbai CST- 400001, for and on behalf of the President of India, invites open **e-tenders** through website **www.ireps.gov.in** from the reputed contractors. The time, date and submission are 11.00 hrs. on **02-07-2026** & will be opened after 11.00 hrs on same day.

S. N.	Name of work	Approx Value ₹	Bid Security ₹	Cost of Tender Form ₹	Completion period	Validity of offer
1	Tender No: BB-LD-583-P-Rev-26-02-CONT for Supply, installation, testing and commissioning of Measuring and Recording Instrumentation (MRI) on 1 No. of Tower wagon in Mumbai division..	37,69,999.97/-	75,400/-	0/-	6 Months	60 days

I) Tender closing date & time of aforesaid tender: Upto 11.00 hrs. of 02-07-2026 and will be opened after 11.00 hrs.

II) The prospective tenderers are requested to visit the website www.ireps.gov.in for details of tenders & corrigendum, if any.

III) Tenderer may participate in above e-tender electronically through website www.ireps.gov.in only & submission of manual offers against e-tender are not allowed. Manually, if submitted shall neither be opened nor considered.

IV) Bid security should be paid as per details given in tender document.

V) For further enquiry, may contact: Senior Divisional Electrical Engineer (Traction Distribution), Mumbai Division, Central Railway, Annex building, 2nd floor, Mumbai CSMT- 400001 on phone- 022-22612355.

Complete details of tenders are available at the website “www.ireps.gov.in”. The complete details of tenders are also available in the “Notice Board” of the Senior Divisional Electrical Engineer (Traction Distribution), Mumbai CSMT- 400001

Sr DEE (TD) BB

Tender Form
CENTRAL RAILWAY TENDER FORM (First Sheet)

Tender No. _____

Name of Work _____

To

The President of India

Acting through the **Sr. Divisional Electrical Engineer,(Traction Divisional)**
Central Railway

I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of **60** days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security". I/We offer to do the work for **Central Railway**, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within **6 Months** from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.

3. A Bid Security of ₹ /-has already been deposited online/ submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:

- (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
- (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and
- (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.

4. (a) I/We am/are a Startup firm registered by Department of Industrial Policy and Promotion (DIPP) and my registration number is valid upto (Copy enclosed) and hence exempted from submission of Bid Security.

(i) We are a Labour Cooperative Society and our Registration No. is withand hence required to deposit only 50% of Bid Security.

6. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Tenderer(s)
Date _____
Address of the Tenderer(s)

Part -1

REGULATION FOR TENDERS AND CONTRACT FOR THE GUIDANCE OF CONTRACTORS ELECTRICAL ENGINEERING WORKS

1. Meaning of terms: -

In these regulations for tender and contractor the following terms shall have the definitions, meanings assigned here under except where the context otherwise required: -

- a) “Railway” shall mean the President of the Republic of India or the Administrative Officers of the Central Railway or of the successor Railway authorised to deal with any matters which these presents are concerned on his behalf.
- b) “General Manager” shall mean the officer in administrative charge of the whole of Railway and shall mean and include the General Manager of the successor Railway.
- c) “Chief Electrical Engineer” shall mean the officer incharge of the Electrical Engineering Dept. of Central Railway and shall also include the Chief Electrical Traction Engineer of the successor Railway.
- d) “Engineer” shall mean the Senior Divisional Electrical Engineer, Traction Distribution or Divisional Electrical Engineer (TD) in executive incharge of the works and shall include the superior officers of the Electrical Engineering Dept. of the Central Railway and shall mean and include the Engineers of the successor Railway.
- e) “Engineers Representative” shall mean the Assistant Electrical Engineer in direct charge of the work and shall include Electrical Engineering department appointed by the Central Railway and shall mean and include the Engineer’s Representative of the successor Railway.
- f) “Contractor” shall mean the person, firm or company whether incorporated or not who enters into the contract with the Railway and shall include their executors administrators, successors and permitted assigns.
- g) “Divisional Railway Manager” shall mean the Administrative officer in charge of a Division of Central Railway for the time being and shall mean and include the Divisional Railway Manager of the successor Railway.
- h) “Tenderer” shall mean the person, the firm or company who tenders for the works with a view to execute the works on contract with the Railway and shall include their personal representatives, successors and permitted assigns.
- i) “Limited Tenders” shall mean tenders invited from all or some Contractors on the approved list of Contractors with the Railways.
- j) “Open Tenders” shall mean tenders invited in open and public manner and with adequate notice.
- k) “Works” shall mean the works contemplated in the drawings and schedules set forth in the tender forms and description of contract and required to be executed according to specification.

l) “Specification” shall mean the specification for materials Works, Central Railway issued under the authority of the Chief Electrical Engineer or as amplified added to or superscribed by special specification, if any, appended to the Tender Form. “Schedule of Rates, Central Railway” shall mean the Schedule of Rates issued under the authority of the Chief Electrical Engineer Central Railway from time to time.

m) “Drawings” shall mean the drawings plans and tracing or prints there of annexed to the tender form.

n) “Purchaser” shall means the President of the republic of India acting through his accredited officers or any one of them. The Divisional Railway Manager, incharge of this division shall deemed to be one of such accredited officers.

2. Singular & Plural:-

Words imparting the singular name also include the plural and vice versa where the context required.

3. These regulations for Tenders and Contract shall be read in conjunction with the General Conditions of contract which are referred to here in and shall be subject to modifications, additions or suppression by special conditions or contract and or special specifications, if any, annexed to the Tender form.

4. Contractor’s credentials and Eligibility Criteria:-

4.1 **Technical Eligibility Criteria:**

The tenderer should have successfully designed, developed, supplied and commissioned similar type of measurement/monitoring system in any Railway, Government Department, PSU, Metro Railway.

The supplied system should have been in satisfactory operation for a minimum period of one (01) year, and the tenderer shall submit documentary evidence along with performance certificate/performance report and Purchase orders accompanied by CRN issued by the user organization confirming satisfactory performance of the system.

OR

The vendors who have developed similar system and conducted successful field trials meeting required technical Specification enclosed as Annexure A. The tenderer shall submit field trial/test reports, field validation reports along with the offer.

11. **Tenderer Credentials:**

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

Tenderer(s) who is / are not borne on the approved list of the Contractors of _____ Railway 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) **A copy of certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as Annexure-V. In addition to annexure –V, in case of other than Company/Proprietary firm, Annexure-V(A) shall also 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 a copy of certificate 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 are/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 tender Bid Security besides banning of business for a period of upto **two** years.
(b) In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, the contract shall be terminated. Bid Security, Performance Guarantee and Security Deposit available with the railway shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of upto **two** years.

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

4.2 DOCUMENTS TO BE UPLOADED ALONG WITH TENDER:

The following documents are required to be uploaded along with tender.

- a) **List of personnel**, Organisation available on hand and proposed to be engaged for the subject work.
- b) **List of Plant & Machinery**, available on hand (own) and proposed to be inducted (own & hired to be given separately) for the subject work.
- c) **List of works completed**, in the qualifying period giving description of work, organisation for whom executed, approximate value of contract at the time of award, date of award & date of scheduled completion of work, date of actual start, actual completion and final value of contract should also be given.
- d) **List of works on hand** indicating description of work, contract value, approximate value of balanced work yet to be done & date of award.

- Note :
- 1) In case of item (c) & (d) above, supportive documents/ certificates from the organisation with whom they worked/ are working should be enclosed.
 - 2) Certificates from the private individuals for whom such works are executed/being executed will not be accepted.

4.3 ELECTRICAL CONTRACTORS LICENSE:- The contractor shall fulfill valid Electrical Contractor License requirement as per IE Rule 1956 clause no-45. Electrical Contractors license shall be submitted along with the offer, failing which the offer will be summarily be rejected.

5. Omission & Discrepancies: -

Should a Tenderer find discrepancies in or omission from the drawings or any of the Tender forms or should be in doubt as to their meaning, he should at once notify the authority inviting tenders who may send a written instruction to all tenders. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of the tender and the successful tender shall take upon himself and provided for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.

6. Bid Security:-

- (1) (a) The tenderer shall be required to submit the Bid Security with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender. The Bid Security shall be as under:

Value of the Work	Bid Security
For all works	2% of the estimated cost of the work

Note:

- (i) The Bid Security shall be rounded off to the nearest ₹100. This Bid Security shall be applicable for all modes of tendering.
 - (ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid Security detailed above.
 - (iii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.
- (b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the Railway.
- (c) If his tender is accepted, this Bid Security mentioned in sub para (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.
- (2) 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 90days beyond the bid validity period.
- (3) **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.

Note:- The original Bank Guarantee for bid security should be delivered in the office of Senior Divisional Electrical Engineer (Traction Distribution), Mumbai Division, Central Railway, Annex building, 2nd floor, Mumbai CST- 400001 before closing date for submission of bids(i.e. excluding the last date of submission of bids).

7. Care in submission of tenders:-

- (a) (i) 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.
- (a)(ii) 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.
- (a)(iii) 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.
- (a)(iv) 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.
- (b) When work is tendered for by a firm or company, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
- (c) The Railway will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.
- (a)(v) Contractor shall be liable to pay/refund the amount collected as GST to the Indian Railways along with interest and penalties, if any imposed by the authorities, in case GST input tax credit of Indian Railways is

denied/rejected by the tax authorities due to reasons mentioned below but not limited to:

Wrong/incorrect invoices issued by Contractor;
No-filing of GST returns;
Non-payment of GST collected from Indian Railways to the authorities;
Any other non-compliance done by Contractor;

General Indemnity: Contractor hereby agrees to indemnify and hold harmless the Indian Railways from and against any and all losses, including loss on account of Input Tax Credit and all losses incurred by the Indian Railways relating to or arising out of or in connection with any actual or threatened claim, legal action, proceedings, prosecution or inquiry by or against the Indian Railways arising out, directly or indirectly, of failure by the contractor to comply with the provisions of GST and related laws, or based upon or arising from any failure by the Contractor.

Retention Money: Any payment liable to be paid by Indian Railways to contractor against the goods or services or both supplied by such contractor to Indian Railways shall be kept on hold in case supplier makes any noncompliance of any of the GST law provisions including non-reporting of invoices in GST returns. Such payment shall be released after proper verification of records and availability of ITC to Indian Railways as per provisions of GST Law.

7.1 The tenderers shall submit a copy of certificate stating that all their statements/documents submitted along with bid are true and factual. Standard format of certificate to be submitted by the bidder is enclosed as Annexure-V. In addition to annexure -V, in case of other than Company/Proprietary firm, Annexure-V(A) shall also 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 above certificate 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.

8. Opening of tenders:-

- a) Tender closing date & time of aforesaid tender: **Upto 11.00 hours of 02-07-2026 and will be opened after 11.00 hrs.**
- b) The prospective tenderers are requested to visit the website **www.ireps.gov.in** for details of tenders & corrigendum, if any.
- c) Tenderer may participate in above e-tender electronically through website **www.ireps.gov.in** only & submission of manual offers against e-tender are not allowed. Manually, if submitted shall neither be opened nor considered.

9. Right to Railway to deal with tender:-

The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/their tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders.

If the tenderer(s) deliberately gives / give wrong information in his / their tender or creates / create circumstances for the acceptance of his / their tender, the Railway reserves the right to reject such tender at any stage.

If any partner(s) of a partnership firm expires after the submission of its tender or after the acceptance of its tender, the Railway shall deem such tender as cancelled/contract as terminated under clause 61 of the Standard General Conditions of Contract, unless the firm retains its character as per partnership agreement. If a sole proprietor expires after the submission of tender or after the acceptance of tender, the Railway shall deem such tender as cancelled / contract as terminated under clause 61 of the Standard General Conditions of Contract.

10. Execution of contract documents: -

The Tenderer whose tender is accepted shall be required to appear in person at the office of Divisional Railway Manager or concerned Engineer, as the case may be, or if tenderer is a firm or corporation, a duly authorized representative shall appear (there would be no need for appear in person if agreement is signed digitally) and execute the contract agreement within seven days of notice from Railways that the Contract Agreement is ready. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender. The Contract Agreement shall be entered into by Railway only after submission of valid Performance Guarantee by the Contractor. In such cases the Railway may determine that such tenderer has abandoned the contract and there upon his tender and acceptance thereof shall be treated as cancelled and the Railway shall be entitled to forfeit the full amount of the Bid Security and other dues payable to the Contractor under this contract. The failed Contractor shall be debarred from participating in the re-tender for that work.

11. Every contract shall be complete in respect of the document it shall so constitute. Not less than 2 copies of the contract document shall be signed by the competent authority and the Contractor and one copy given to the Contractor (there would be no need of signing two copies if agreement is signed digitally).

12. Forms of contract documents:

a) For contracts for specified works, valued at more than ₹10,000/- the contract documents required to be executed by the tenderer whose tender is accepted.

13. Conditions of Tender:

1. The drawings for the works can be seen in the office of Sr. Divisional Electrical Engineer (Traction Distribution) Central Railway, Mumbai CST at any time during office hours.

2. The tender/tenderers shall quote his/their rates with reference to each item and must tender for all the items shown in the attached schedule or offer single percentage applicable to all the items shown in the attached schedule. The quantities is shown in the attached schedule are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway accepts no responsibility for their accuracy. The Railway does not guarantee work under each item of the schedule.

3. Tenders containing erasures and alternations of the tender documents are liable to be rejected. Any corrections made by the tender/tenderers in his/their entries may be attested by him/them.
4. The period of completion shall be **6 Months** from date of commencement of work.
5. The tender must be accompanied by a sum of ₹ 75,400/-/- as bid security deposited through net banking or payment gateway only as provided in www.ireps.gov.in website.
6. It shall not be obligatory on the said authority to accept the lowest tender and no tender/tenderers shall demand any explanation for the cause of rejection of his/their tender.
7. If the tenderer deliberately give wrong information in his/their tender or creates/create circumstances for the acceptance of his/their tender, the railway reserves the right to reject such tender at any stage.
8. If a tenderer expires after the submission of his tender or after the acceptances of his tender, the Railway shall deem such tender as cancelled. If a partner of a firm requires after the submission of their tender or after the acceptance of their tender, the Railway shall deem such tender as cancelled unless the firm remains its character.
9. Tenderers have to furnish an attested certificate from employer/client, audited balance sheet duly certified by the chartered Accountant etc.
10. The tender must be accompanied with bid security deposited through net banking or payment gateway only as provided in **www.ireps.gov.in website** failing which the tender will be summarily rejected. The tenderer shall hold the offer open till such date as may be specified in the tender. The tenderer should submit the tender and other required documents through online only within stipulated period. Manually submitted offer shall neither be opened nor be considered.
 - a) Tender closing date & time of aforesaid tender: **Upto 11.00 hours of 02-07-2026 and will be opened after 11.00 hrs.**
 - b) The prospective tenderers are requested to visit the website **www.ireps.gov.in** for details of tenders & corrigendum, if any.
 - c) Tenderer may participate in above e-tender electronically through website www.ireps.gov.in only & submission of manual offers against e-tender are not allowed. Manually, if submitted shall neither be opened nor considered.
 - d) Bid security should be paid as per details given in tender document.
 - e) For further enquiry, may contact: **Senior Divisional Electrical Engineer (Traction Distribution), Annex Bldg., 2nd floor, Central Railway, Mumbai CST** on phone. 022-22612355.
 - f) Complete details of tenders are available at the website “**www.ireps.gov.in**”. The complete details of tenders are also available in the “Notice Board” of the Sr. DEE (TD) Office, Mumbai CST.

11. Non compliance with any of the condition set forth therein above is liable to result in the tender being rejected.

12. The authority for the acceptance of the tender will rest with the Chief Electrical Engineer/Engineer in Chief/Deputy Chief Electrical Engineer/Divisional Railway Manager/Senior Divisional Electrical Engineer/Divisional Electrical Engineer Central Railway who does not bind himself to accept the lowest or any other tender nor does he undertake to assign reason for declining to consider any particular tender or tenders.

13. The successful tenderer/tenderers shall be required to execute an agreement with the President of Republic of India acting through the Senior Divisional Electrical Engineer (Traction Distribution) Central Railway Mumbai CST, for carrying out the work according to the general conditions of Contract and specification for works and materials of Central Railway.

14. The tenderers shall keep the offer open for a minimum period of 60 days from the date of opening of the tender within which period the tenderer cannot withdraw his offer, subject to the period being extended further if required, by mutual agreement from time to time. Any contravention of the above condition will make the tenderer liable for forfeiture of his bid security.

15. Should the Railway decide to negotiate with a view to bring down the rates, the original offer will still be binding in case nothing materialize out of the negotiations.

14. Documents to be Submitted Along with Tender

GCC para 14.

(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.

(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) above.

(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) above.

(c) Partnership Firm:

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

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

(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) above.

(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).

(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) above.

(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.

15. The tenderer whether sole proprietor / a company or a **partnership firm / 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.

16. 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 16.a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of the Standard General Condition of contract.

JOINT VENTURE (JV) IN WORKS TENDERS

17. Participation of Joint Venture (JV) in Works Tender: This para shall be applicable for works tenders wherein tender documents provide for the same.

17.1 Separate identity/name shall be given to the Joint Venture.

17.2 Number of members in a JV shall not be more than three, if the work involves only one department (say Civil or S&T or Electrical or Mechanical) and shall not be more than five, if the work involves more than one Department. One of the members of the JV shall be its Lead Member who shall have a majority (at least 51%) share of interest in the JV. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with

more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/company with a minimum share of 51%.

17.3 A member of JV shall not be permitted to participate either in individual capacity or as a member of another JV in the same tender.

17.4 The tender form shall be purchased and submitted only in the name of the JV and not in the name of any constituent member. The tender form can however be submitted by JV or any of its constituent member or any person authorized by JV through Power of Attorney to submit tender.

17.5 Bid Security shall be submitted by JV or authorized person of JV either as :
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- (i) Cash through e-payment gateway or as mentioned in tender document, or
- (ii) Bank Guarantee bond either in the name of JV, or in the name of all members of JV as per MOU irrespective of their share in the JV if the JV has not been constituted legally till the date of submission of tender.

17.6 A copy of Memorandum of Understanding (MoU) duly executed by the JV members on a stamp paper, shall be submitted by the JV alongwith the tender. The complete details of the members of the JV, their share and responsibility in the JV etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.

17.7 Once the tender is submitted, the MoU shall not normally be modified / altered / terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Bid Security shall be liable to be forfeited.

17.8 Approval for change of constitution of JV shall be at the sole discretion of the Railway. The constitution of the JV shall not normally be allowed to be modified after submission of the bid by the JV, except when modification becomes inevitable due to succession laws etc., provided further that there is no change in qualification of minimum eligibility criteria by JV after change of composition. However, the Lead Member shall continue to be the Lead Member of the JV. Failure to observe this requirement would render the offer invalid.

17.9 Similarly, after the contract is awarded, the constitution of JV shall not be normally allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.

17.10 On award of contract to a JV, a single Performance Guarantee shall be submitted by the JV as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization Advance, Machinery Advance etc. shall be accepted only in the name of the JV and no splitting of guarantees amongst the members of the JV shall be permitted.

17.11 On issue of LOA (Letter of Acceptance), the JV entity to whom the work has been awarded, with the same shareholding pattern as was declared in the MOU/JV Agreement submitted alongwith the tender, shall be got registered before the Registrar

of the Companies under 'The Companies Act -2013' (in case JV entity is to be registered as Company) or before the Registrar/Sub-Registrar under the 'The Indian Partnership Act, 1932' (in case JV entity is to be registered as Partnership Firm) or under 'The LLP Act 2008' (in case JV entity is to be registered as LLP). A separate PAN shall be obtained for this entity. The documents pertaining to this entity including its PAN shall be furnished to the Railways before signing the contract agreement for the work. In case the tenderer fails to observe/comply with this stipulation within 60 days of issue of LOA, contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit the full amount of the Bid Security and other dues payable to the Contractor under this contract. The entity so registered, in the registered documents, shall have, inter-alia, following Clauses:

17.11.1 Joint and Several Liability - Members of the entity to which the contract is awarded, shall be jointly and severally liable to the Railway for execution of the project in accordance with General and Special Conditions of Contract. The members of the entity shall also be liable jointly and severally for the loss, damages caused to the Railways during the course of execution of the contract or due to non-execution of the contract or part thereof.

17.11.2 Duration of the Registered Entity - It shall be valid during the entire currency of the contract including the period of extension, if any and the maintenance period after the work is completed.

17.11.3 Governing Laws - The Registered Entity shall in all respect be governed by and interpreted in accordance with Indian Laws.

17.12 Authorized Member - Joint Venture members in the JV MoU shall authorize Lead member on behalf of the Joint Venture to deal with the **Contract**, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV.

17.13 No member of the Joint Venture shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the Railway in respect of the said tender/contract.

17.14 Documents to be enclosed by the JV alongwith the tender:

17.14.1 In case one or more of the members of the JV is/are partnership firm(s), following documents shall be submitted:

- (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
- (ii) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper,
- (iii) A notarized or registered copy of Power of Attorney in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm.
- (iv) 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.

17.14.2 In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed:

- (i) A copy of notarized affidavit on Stamp Paper declaring that his Concern is a proprietary Concern and he is sole proprietor of the Concern OR he who is signing the affidavit 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.

17.14.3 In case one or more members of the JV is/are companies, the following documents shall be submitted:

- (i) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement,
- (ii) The copies of MOA (Memorandum of Association) / AOA (Articles of Association) of the company
- (iii) A copy of Certificate of Incorporation
- (iv) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual, to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company

17.14.4 In case one or more members of the JV is/are LLP firm/s, the following documents shall be submitted:

- (i) A copy of LLP Agreement
- (ii) A copy of Certificate of Incorporation of LLP
- (iii) A copy of resolution passed by partners of LLP firm, permitting the Firm to enter into a JV agreement
- (iv) A copy of Authorization /copy of Power of Attorney issued by the LLP firm (backed by resolution passed by the Partners) in favour of the individual, to sign the tender and/or sign the MOU/ JV agreement on behalf of the LLP and create liability against the LLP.
- (v) 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. Any Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.

17.14.5 In case one or more members of the JV is/are Society/s or Trust/s, the following documents shall be submitted:

- (i) A copy of Certificate of Registration
- (ii) A copy of Memorandum of Association of Society/Trust Deed
- (iii) A copy of Rules & Regulations of the Society

- (iv) A copy of Power of Attorney, in favour of the individual to sign the tender documents and create liability against the Society/Trust.

17.14.6 Deleted

17.14.7 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.

18. Participation of Partnership Firms in works tenders:

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

18.2 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.

18.3 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.

18.4 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.

18.5 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.

18.6 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.

18.7 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.

18.8 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.

18.9 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/alterd/ 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.

18.10 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 Para 10 of the Tender Form (Second Sheet) above.

GCC 19.0 Advances to Contractor –

If specifically provided in Tender Documents of tender having advertised value more than Rs 50 Crores, Railway shall make payment, as an Interest bearing advances, as per Contractor's request. These advances shall carry a simple interest _____ as indicated in the Tender documents. The payment and recovery of such advances shall

be made as per manners prescribed in Clause 46.4 of the Standard General Conditions of Contract.

15. Permission to Bid for a bidder from a country which shares Land boundary with India: Any bidder from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.

16. Clarification of Bids: To assist in the examination, evaluation & comparison and pre-qualification of the Tender, the Railway may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Railway shall not be entertained or considered. The Railway request for clarification and the response of the bidder in this regard shall be in writing.

However, if a Bidder does not provide clarification of its bid by the date and time communicated in the Railway request for clarification, the bid shall be evaluated as per the documents submitted along with the bid.

GCC Para- 7. Assignment or Subletting of Contract: The Contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the Chief Engineer, save as provided below. Any breach of this condition shall entitle the Railway to rescind the contract under Clause 62 of these Conditions and also render the Contractor liable for payment to the Railway in respect of any loss or damage arising or ensuing from such cancellation; provided always that execution of the details of the work by petty Contractor under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this clause.

In case Contractor intends to subcontract part of work, he shall submit a proposal in writing seeking permission of Chief Engineer for the same. While submitting the proposal to railway, Contractor shall ensure the following:

(a) (i) The Contractor shall not sub- contract the Works comprising more than 40% (forty per cent) of the Contract Price and shall carry out Works for at least 60% (sixty per cent) of the total Contract Price directly under its own supervision and through its own personnel. The Parties expressly agree that for the purposes of computing the value of sub-contracts under this Clause 3.2.1, the Contract Price shall exclude any sub-contract for the procurement of goods and equipment like [rails, sleepers and track fittings, signaling and telecommunication & Power supply equipment]. The Parties agree that all obligations and liabilities under this Agreement for the entire Railway Project shall at all time remain with the Contractor. {The Parties agree that works equal to at least 30% (thirty per cent) of the Contract Price shall be discharged solely by the Lead Member.}

\$ Procurement of material, hire of equipment or engagement of labour by prime contractor or procuring entity will not mean sub-contracting.

\$ May be deleted if the Contractor is not a Consortium/Joint Venture.

(ii) The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract in last 5 years, ending date of submission of proposal by Contractor to Railway, costing not less than 35% value of work to be subletted,

through a works contract. For fulfilment of above, Work Experience Certificate issued by a Govt. Department/Organisation shall be considered. Further, Work Experience Certificate issued by a Public listed company shall be considered provided the company is 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, registered at least 5 years back from the date of submission of proposal by Contractor to Railway and work experience certificate issued by a person authorised by the Public Listed Company to issue such certificates.

Note: for subletting of work costing up to Rs 50 lakh no previous work experience shall be asked for by the Railway.

In case contractor submits subcontractor's work experience certificate issued by public listed company, the contractor 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.

(iii) There is no banning of business with the sub-contractor in force over IR.

(b) The Contractor shall provide to the Engineer a copy of the agreement to be entered into by Contractor with subcontractor. No subcontractor shall be permitted without a formal agreement between Contractor and subcontractor. This agreement shall clearly define the scope of work to be carried out by subcontractor and the terms of payment in clear & unambiguous manner.

(c) On receipt of approval from Chief Engineer, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.

(d) The Contractor shall intimate to the Engineer not less than 7 days in advance, the intended date of commencement of subcontractor's work.

(e) Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of Railway, with prior intimation to Chief Engineer.

(f) The Contractor shall indemnify railway against any claim of subcontractor.

(g) The Contractor shall release payment to the Sub-contractor(s) promptly and shall endeavour to resolve all issues amicably and speedily with the Sub-contractor(s), so that the execution of work is not affected in any manner whatsoever.

(h) In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the sub-contractor.

Note: Work Experience Certificate to the subcontractor shall be issued only when the contractor's work is complete and contractor is entitled for the issuance of Work Experience Certificate. However, in the same contract, when the Chief Engineer, based on documents, is satisfied that the subcontractor has successfully carried out subletted work; without issuance of work experience certificate to subcontractor at this stage, the Chief Engineer can, only once, consider the successfully completed subletted work for

the fulfilment of eligibility for further subletting of work to the subcontractor in the same contract. When the contractor's work is complete and contractor is entitled for the issuance of work experience certificate, the subcontractor shall be issued one Work Experience Certificate for the total scope of work executed by the subcontractor in the contract.

(i) The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract.

(j) Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. No claim of Contractor whatsoever on this account shall be entertained by the Railway and this shall be deemed as 'excepted matter' (matter not arbitrable).

(k) The permitted subcontracting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the Railway and shall not relieve the Contractor of any responsibility under the Contract.

GCC PARA 52. Withholding and Lien in Respect of Sums Claimed: Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the Contractor, the Railway shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the Contractor and for the purpose aforesaid, the Railway shall be entitled to withhold the said cash Security Deposit or the Security if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the Contractor, the Railway shall be entitled to withhold and have a lien to the extent of the such claimed amount or amounts referred to supra, from any sum or sums found payable or which at any time thereafter may become payable to the Contractor under the same contract or any other contract with this or any other Railway or any Department of the Central Government pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the Railway will be kept withheld or retained as such by the Railways till the claim arising out of or under the contract is determined by the arbitrator (if the contract governed by the Arbitration Clause) or by the competent court as the case may be and that the Contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the Contractor. For the purpose of this clause, where the Contractor is a partnership firm or a company, the Railway shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner / company, as the case may be whether in his individual capacity or otherwise.

GCC PARA 52-A Lien in Respect of Claims in other Contracts:

(i) Any sum of money due and payable to the Contractor (including the Security Deposit

returnable to him) under the contract may be withheld or retained by way of lien by the Railway, against any claim of this or any other Railway or any other Department of the Central Government in respect of payment of a sum of money arising out of or under any other contract made by the Contractor with this or any other Department of the Central Government.

(ii) However, recovery of claims of Railway in regard to terminated contracts may be made from the Final Bill, Security Deposits and Performance Guarantees of other contract or contracts, executed by the Contractor. The Performance Guarantees submitted by the Contractor against other contracts, if required, may be withheld and encashed. In addition, 10% of each subsequent 'on-account bill' may be withheld, if required, for recovery of Railway's dues against the terminated contract.

(iii) It is an agreed term of the contract that the sum of money so withheld or retained under this Clause by the Railway will be kept withheld or retained as such by the Railway till the claim arising out of or under any other contract is either mutually settled or determined by arbitration, if the other contract is governed by Arbitration Clause or by the competent court as the case may be and Contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this Clause and duly notified as such to the Contractor.

GCC PARA 53. Signature on Receipts for Amounts: Every receipt for money which may become payable or for any security which may become transferable to the Contractors under these presents, shall, if signed in the partnership name by anyone of the partners of a Contractor's firm be a good and sufficient discharge to the Railway in respect of the moneys or security purported to be acknowledged thereby and in the event of death of any of the Contractor, partners during the pendency of the contract, it is hereby expressly agreed that every receipt by anyone of the surviving Contractor partners shall if so signed as aforesaid be good and sufficient discharge as aforesaid provided that nothing in this Clause contained shall be deemed to prejudice or effect any claim which the Railway may hereafter have against the legal representative of any Contractor partner so dying for or in respect to any breach of any of the conditions of the contract, provided also that nothing in this clause contained shall be deemed to prejudice or effect the respective rights or obligations of the Contractor partners and of the legal representatives of any deceased Contractor partners interse.

2. SPECIAL CONDITIONS OF CONTRACT.

2.1 The special conditions supplement the conditions of tender and contracts, the General conditions of contract and the notes appearing under the relevant chapters and sub chapters of the standard schedule of rates 1976 and should be considered a part of the contract papers. Where the provision of these conditions are at variance with the general condition of the contract, these special conditions should prevail.

2.2 The general conditions of the contract will mean the general conditions of contract as amended and or corrected from time to time and obtaining at the time of accepting of the tender and at the time of executing of the agreement mentioned in clause 15 under conditions of tender. It should be the responsibility of the contractors before submitting his tender and again before entering into said agreement to ascertain all amendments and or corrections made to the said general conditions of contract.

2.3 The indenting tenderer is advised to study the tender papers carefully. The tenderer shall also get acquainted himself with locations, local conditions means of access to site of works, nature of works and all other matters relating thereto before submitting their offer.

2.3.1. Tenderer shall note that the most of the work will be carried out during night time and under Power / Traffic block (if required) condition.

2.3.2. No extra payment will be admissible for night working.

2.4 SIGNING OF THE TENDER AND TENDERER'S ADDRESS.

a) Any individual or individuals signing the tender or other documents connected there with should specify whether he is signing:-

i) As sole proprietor of the concern, or his attorney or

ii) As a partner or partners of the firm or

iii) For the firm per procreation, or

iv) As a Director, Manager or Secretary in the case of Limited company. Partnership Act, all the partners of the Attorney duly authorised by all of them should sign the tender and all other connected documents. A copy of the documents empowering the individual, or individuals, to sign should also be sent with the form of tender In any case, the tenderer should disclose his constitution fully and attests copies of all necessary legal documents in support thereof should be submitted with the tender, and originals thereof should be produced as and when called for.

b) Every tenderer should state in the tender his postal address fully and clearly. Any communication sent to a tenderer by post at his said address shall be deemed to have reached the tenderer duly and timely not standing with the fact that the communication could not reach the tenderer at all or in the time because of any inaccuracy of defects in the said address.

2.5 Right to accept any tender:-

The Railway shall not be bound to accept the lowest or any tender or to assign any reason for non acceptance or rejection of any tender. No tenderer shall be

deemed to have been accepted unless such acceptance has been notified in writing to the successful tenderer by the Railway. The Railway reserves the right to accept any tender for less than the tenderers quantity without assigning any reason whatsoever.

2.7. Contractor's credentials and Eligibility Criteria.

-As mentioned at Para 4 of Part 1.

2.8. Income tax certificate.

Deleted.

2.9. Bid Security.

(a) Subject to exemptions provided under para 5(1) (a) of Part-1 (ITT) of this document, the tender must be accompanied by a Bid Security as mentioned in tender documents, 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.

(c) If his tender is accepted,

- (i) the Bid Security mentioned in sub para(a) above deposited in cash through e-payment gateway will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract;
- (ii) the Bid Security mentioned in sub para(a) above submitted as Bank guarantee bond, will be encashed as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract.

The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation to the Bid Security that may happen thereto while in their possession, nor be liable to pay interest thereon.

(d) In case Contractor submits the Term Deposit Receipt/Bank Guarantee Bond towards either the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security so retained as per sub para(c) above, to the Contractor.

2.9.1 SECURITY DEPOSIT ON ACCEPTANCE OF TENDER.

GCC 16.(1) Security Deposit: The Security Deposit shall be 5% of the contract value. The Bid Security submitted by the Contractor with his tender will be

retained/encashed by the Railways as part of security for the due and faithful fulfillment of the contract by the Contractor. Provided further that, if Contractor submits the Cash or Term Deposit Receipt issued from a Scheduled commercial bank of India or irrevocable Bank Guarantee Bond from a Scheduled commercial bank of India, either towards the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security, to the Contractor.

Balance of Security Deposit may be deposited by the Contractor in cash or Term Deposit Receipt issued from Scheduled commercial bank of India or irrevocable Bank Guarantee bond issued from Scheduled commercial bank of India, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the Railway may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract.

The Irrevocable Bank Guarantee submitted towards Security deposit shall be initially valid up to the stipulated date of Maintenance period plus 60 days and shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17A and 17B of the Standard General Conditions of Contract.

Note: Security Deposit deposited in cash by the Contractor or recovered from the running bills of a Contractor or submitted by contractor as Term Deposit Receipt(s) can be refunded/returned to the contractor, in lieu of irrevocable Bank Guarantee bond issued from scheduled commercial bank of India, to be submitted by him, for an amount equal to or more than the already available Security Deposit, provided however that, in a contract of value less than Rs. 50 Crore, such refund/ return of the already available Security Deposit is permitted up to two times and in a contract of value equal to or more than Rs. 50 Crore, such refund / return of the already available Security Deposit is permitted up to three times.

16.(2)(i) Refund of Security Deposit: Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after, the following:

- (a) Final Payment of the Contract as per clause 51.(1) **and**
- (b) Execution of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor and
- (c) Maintenance Certificate issued, on expiry of the maintenance period as per clause 50.(1), in case applicable.

16. (2) (ii) Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of these conditions, the Security Deposit already with railways under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of these conditions, the Security Deposit shall not be forfeited.

16.(3) No interest shall be payable upon the Bid Security and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited in terms of Sub-Clause 16.(4)(b) of this clause will be payable with interest accrued thereon.

2.9.2 PERFORMANCE GUARANTEE

GCC 16.(4) Performance Guarantee

The procedure for obtaining Performance Guarantee is outlined below:

(a) The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day.

In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit Bid Security and other dues payable to the contractor against that particular contract, subject to maximum of PG amount. In case a tenderer has not submitted Bid Security on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.

The failed Contractor shall be debarred from participating in re-tender for that work.

(b) The successful bidder shall submit the Performance Guarantee (PG) amounting to 5% of the original contract value **and Additional Performance Guarantee as per clause 16(4)(h)** in any of the following forms:-

- (i) A deposit of Cash;
- (ii) Irrevocable Bank Guarantee;
- (iii) Insurance Surety Bond as per Annexure-XVII.

Note:

In case of extension of Date of Completion, selected bidder needs to submit extended Insurance Surety Bond/Fresh Insurance Surety Bond/fresh Performance Security, in any form as given above, before expiry of existing Insurance Surety Bond.

- (iv) Government Securities including State Loan Bonds at 5% below the market value;
- (v) Pay Orders and Demand Drafts tendered by any Scheduled Commercial Bank of India;
- (vi) Guarantee Bonds executed or Deposits Receipts tendered by any Scheduled Commercial Bank of India;
- (vii) Deposit in the Post Office Saving Bank;
- (viii) Deposit in the National Savings Certificates;

- (ix) Twelve years National Defence Certificates;
- (x) Ten years Defence Deposits;
- (xi) National Defence Bonds and
- (xii) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of FA&CAO (free from any encumbrance) may be accepted.

(c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.

(d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value.

(e) The Performance Guarantee (PG) shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily.

(f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed.

(g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

(i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.

(ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.

(iii) The Contract being determined or rescinded under clause 62 of these conditions.

(h) If a tender is accepted on the quoted rates of bidder which is below the advertised tender value, an additional performance security shall be submitted by the bidder as below:

Bid quoted in % of advertised cost	Additional Performan Guarantee(%)
Below 0 – 5% (inclusive)	Nil
Below 5%	5%

2.10 CONTRACTOR'S RESPONSIBILITY DUE TO ALTERATION OF WORKS:

2.10.1 The contractor shall be responsible for the cost for any alteration to the work due to any discrepancies, errors or commissions that may arise from incorrect readings and drawings or for other particulars supplied to him. If any dimensions, figures upon drawings differ from those obtained scaling the drawings, the figured dimension, are normally to be taken as correct. All dimensions, weights and measures shall be in metric units.

2.10.2 SUPPLY OF DRAWING TRACINGS OR DESCRIPTIONS TO THE PURCHASER'S ENGINEER.

Any detailed drawings or tracings required by the contractor to facilitate his work may be prepared by the contractor, but shall have to be approved by the purchaser before hand.

2.11 ALTERATION OF WORK.

The purchaser may require such alteration to be made on the work during its progress or any be necessary, but should such alteration in price justified, such alteration shall not be carried out until amended price submitted by the contractor admissible on account of any modification to drawings supplied by the purchaser to the contractor.

2.12. CONTRACTOR TO PROVIDE ALL TOOLS AND PLANTS.

All tools and plants, and stores of any description required for carrying out the work shall have to be provided for by the contractor. Cost of maintenance and operation of such tools and plants shall be borne by the contractor.

2.13. CONTRACTOR TO EXECUTE WORK WITH DILIGENCE AND EXPEDITION.

The contractor shall execute the work with the diligence and expeditiousness. Should he refuse or neglect to comply with any reasonable orders given to him in writing by the purchaser, in connection with work or contravention of the provision of the contract, the purchaser shall be at liberty to give 7 days notice in writing to the contractor requiring him to make good the neglect of contravention complained of and should the contractor fail to comply with the requisition made in the notice of 7 days from the receipt, it shall be lawful for the purchaser to take the work wholly or in part out of contractor's hands without any further reference and get the work or any part thereof as the case may be completed by other agencies at the expense of the contractor without prejudice in any other right or remedy of the purchaser.

2.14 CONTRACTOR TO MAKE GOOD THE DEFECTS FOR THE FAILURE TO COMPLY WITH THE WORK.

In the event of any loss to the purchaser on account of execution and/or completion of the work or any part thereof by agencies other than the contractor in terms of the above clause, the contractor shall be liable to reimburse the loss to the purchaser and the reimbursement shall be at the opinion of the purchasers from all or any of the following sources viz.

- a) The contractor's security deposit in the hands of the purchaser as far as available.

- b) Any other assets whatsoever of the contractor. In the event of reimbursement out of sources (a) and or (c) mentioned, the purchaser shall have the right of appropriation SUOMOTO.
- c) Any amount due and payable to the contractor by the purchaser on any accounts whatsoever.

2.15. INSPECTION.

- a) All the materials covered under this tender will be inspected by M/s RITES or by purchasers representative.
- b) In case of any dispute regarding the quantity of the material or a workmanship the decision of the Senior Divisional Electrical Engineer (TD) Mumbai CST shall be final and binding.

2.16. GCC clause 17 - Force Majeure Clause.

If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics/pandemics, strikes, lockouts or acts of God (hereinafter, referred to events) provided, notice of the happening of any such event is given by either party to the other within 30 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance, and works under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the Engineer as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other party.

2.17 GCC 17A Extension of Time in Contracts: Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the Contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:

- (i) **Extension due to Modification:** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances,

provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise.

- (ii) **Extension for Delay not due to Railway or Contractor:** If in the opinion of the Engineer, the progress of work has any time been delayed by any act or neglect of Railway's employees or by other Contractor employed by the Railway under Sub-Clause (4) of Clause 20 of these Conditions or in executing the work not forming part of the contract but on which Contractor's performance necessarily depends or by reason of proceeding taken or threatened by or dispute with adjoining or to neighbouring owners or public authority arising otherwise through the Contractor's own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the Contractor not having received in due time necessary instructions from the Railway for which he shall have specially applied in writing to the Engineer or his authorized representative then upon happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening, but shall nevertheless make constantly his best endeavours to bring down or make good the delay and shall do all that may be reasonably required of him to the satisfaction of the Engineer to proceed with the works. The Contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time.
- (iii) **Extension for Delay due to Railways:** In the event of any failure or delay by the Railway to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the Railway due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefor, but in any such case, the Railway may grant such extension or extensions of the completion date as may be considered reasonable.

The Contractor shall indicate the period for which the work is likely to be delayed and shall seek extension of time as may be considered necessary under clause 17A(i) or/and 17A(ii) or/ and 17A(iii) above, as soon as the cause thereof shall arise and, in any case, not less than 15 days before the expiry of the date fixed for completion of the works. The Engineer shall consider the same and shall grant and communicate such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable, as if such extended period of time was originally provided in the original contract itself.

The non-submission of request for extension or submission of request within less than 15 days before the expiry of the date fixed for completion of the works, shall make him ineligible for extension under these sub clauses, subject to final decision of Engineer.

17B Extension of Time with Liquidated Damages (LD) for delay due to

Contractor: The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17A, the Railway may, if satisfied that the works can be completed by the Contractor within reasonable short time thereafter, allow the Contractor for further extension of time (Proforma at Annexure-VII) as the Engineer may decide. On such extension the Railway will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the Contractor as agreed damages and not by way of penalty for each week or part of the week, a sum calculated at the ***rate of Liquidated Damages as decided by Engineer, between 0.05% to 0.30 % of contract value of the works for each week or part of the week.***

For the purpose of this Clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 5% of the contract value or of the total value of the item or groups of items of work for which a separate distinct completion period is specified in the contract.

Provided further, that if the Railway is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the Railway shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.

NOTE:

In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B.

17C Bonus for Early Completion of Work: In open tenders having advertised value more than Rs.50 crore and original period of completion 12 months or more, when there is no reduction in original scope of work by more than 10%, and no extension granted on either railway or Contractor's account, Contractor shall be entitled for a bonus of 1% for each 30 days early completion of work. The period of less than 30 days shall be ignored while working out bonus. The maximum bonus shall be limited to 5% of original contract value. The completion date shall be reckoned as the date of issuance of completion certificate by Engineer.

2.18 VALIDITY.

The offer shall be valid for a minimum period of **60 days**.

2.19 CONSIGNEE:

The consignee will be the representative of Divisional Electrical Engineer (Traction Distribution) Kurla, Central Railway. DPR will be submitted to DEE/TD/Kurla for billing purpose.

2.20 CORRESPONDENCE:

All correspondence with regard to this work shall be made to Senior Divisional Electrical Engineer (Traction Distribution) Central Railway Mumbai CST with a copy endorsed to the **Divisional Electrical Engineer (Traction Distribution) Kurla, Central Railway**.

2.21 COMPLETION PERIOD:

The Railway expects that a resourceful and experienced contractor should be able to complete the work within **6 (six) months** from the date of issue of Letter of Acceptance/work order. **The completion period for AMC is of 5 years after completion of warranty period.**

2.22 VARIATION IN QUANTITY:

GCC 41. Modification to Contract to be in Writing: In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Railway and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Railway unless and until the same is incorporated in a formal instrument and signed by the Railway and the Contractor, and till then the Railway shall have the right to repudiate such arrangements.

42.(1) Powers of Modification to Contract: The Engineer on behalf of the Railway shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

42.(2) (i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work (in which

no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below.

(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.

(iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates

- a. Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;
- b. Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;
- c. Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.
- d. Variation to quantities of Minor Value Item:
The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original contract value.
 - d.(i) Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender;
 - d.(ii) Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender;
 - d.(iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.

(iv) In case of earthwork items, the variation limit of 25% shall apply to the gross quantity of earthwork items and variation in the quantities of individual classifications of soil shall not be subject to this limit.

(v) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SSOR schedule(s) as a whole and not on individual SSOR items. However, in case of Non Standard Schedule of Rates (SSOR) items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).

42.(3) Valuation of Variations: The enlargements, extensions, diminution, reduction, alterations or additions referred to in Sub-Clause (2) of this Clause shall in no degree affect the validity of the contract; but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressively included and provided for in the Specifications and Drawings and the amounts to be paid therefor shall be calculated in accordance with the accepted Bill(s) of Quantities. Any extra item(s)/quantities of work falling outside the purview of the provisions of Sub-Clause (2) above shall be paid for at the rates determined under Clause-39 of these Conditions.

2.23 (1) Contractor to supply water for works: Unless otherwise provided in the Contract, the Contractor shall be responsible for the arrangements to obtain supply of water necessary for the works.

(2) Water supply from Railway System: The Railway may supply to the Contractor part or whole of the quantity of the water required for the execution of works from the Railway's existing water supply system at or near the site of works on specified terms and conditions and at such charges as shall be determined by the Railway and payable by the Contractor, provided that the Contractor shall arrange, at his own expense, to effect the connections and lay additional pipe lines and accessories on the site and that the Contractor shall not be entitled to any compensation for interruption of failure of the water supply.

(3) Water supply by Railway Transport: In the event of the Railway arranging supply of water to the Contractor at or near the site of works by travelling water tanks or other means, the freight and other charges incurred thereby, including demurrage charges that may be levied, shall be paid by the Contractor in addition to the charges referred to in sub-clause(2) of the clause provided that the contractor shall not be entitled to any compensation for interruption or failure of the water supply.

(4) (a) Contractor to arrange supply of Electric power for works: Unless otherwise provided in the contract, the Contractor shall be responsible for arrangements to obtain supply of Electric power for the works.

(b) Electric Supply from the Railway System: The Railway may supply to the Contractor part or whole of the electric power wherever available and possible, required for execution of works from the Railway's existing electric supply systems at or near the site of works on specified terms and conditions and such charges as shall be determined by the Railway and payable by the Contractor provided the cost of arranging necessary connections to the Railway's Electric supply systems, and laying of underground/overhead conductor, circuit protection, electric power meters, transmission structure, shall be borne by the Contractor and that the Contractor shall not be entitled to any compensation for interruption or failure of the Electric supply system.

2.24 CONTRACTOR TO EMPLOY QUALIFIED STAFF:

Contractor should employ only qualified staff to supervise and execute the work. Name of supervisor/employees should be furnished to Sr. Divisional Electrical Engineer (Traction Distribution) Central Railway Mumbai CST. Any change if any should also be similarly advised.

2.25 DEVIATIONS FROM THE CONDITIONS / SPECIFICATIONS:

Any deviations from the conditions, specifications and definitions given in the tender will not be accepted unless specific approval for the particular deviation has been accorded by the Senior Divisional Electrical Engineer (Traction Distribution), Central Railway, Mumbai CST.

2.26 LAWS OF INDIA:

The contract shall be governed in all respects by the laws of India for the time being in force.

2.27 CONVEYANCE OF STAFF EMPLOYED BY THE CONTRACTOR:

No railway pass for the conveyance of the contractor or his staff or agents and/or for stores will be granted.

2.28 CONTRACTOR'S RESPONSIBILITY IN CASE OF INJURIES OR ACCIDENTS SUSTAINED BY HIS WORKMEN & DAMAGE AND LOSS OF RAILWAY PROPERTY:

1. The contractor shall in respect of all staff engaged by him or by his sub contractor indemnify and keep the purchaser at all times indemnified and protected against all claims made and liabilities incurred under Workmen's Compensation Act, the Factories Act and the payment of Wages Act and rules made there under from time to time of under any other labour to Industrial Legislation made from time to time.
2. The contractor shall indemnify and keep the purchaser indemnified and harmless against all action, suits, claims demands, costs, charges or expenses arising in connection with any death or injury sustained by any person or persons within the Railway premise and any loss or damage to Railway property sustained, due to the acts or admissions of the contractors, his sub-contractors, his agents or his staff during the execution of this contract irrespective of whether such liability arises under the Workmen's Compensation Act 1923, or the Fatal Accidents Act or any other stature in force for the time being.
3. The contractor's liability to meet third party claims of the type outlines above will be applicable only in cases where accidents have been caused by bad design, workmanship material or negligence on the part of the contractor and further the liability of the contractor will be limited to Rs.2 Lakhs for any one accident.
4. The contractor shall be responsible for all repairs and rectification of damage to installation, erected or under erection, due to accidents or any other cause, until the installation is provisionally handed over to the purchaser.

2.29 PROCUREMENT AND SCRUTINY OF MATERIAL:

It would be responsibility of the contractor to arrange for the procurement of the full quantity of the materials mentioned in the Schedule-I as per specification given in the tender booklet.

2.30 SAFETY MEASURES:

The contractor shall take all precautionary measures in order to ensure the protection of his own personnel moving about or working in the Railway premise but shall then confirm to the rules and regulations of the Railways.

The work must be carried out most carefully without any infringement of the Indian Railway Act, General and Subsidiary Rules in force on the Railway, Indian Electricity Rules and Acts in such a way that they do not hinder operation or effect the proper functioning of or damage any Railway equipment as agreed to by the Purchaser, provided that all damages and disfiguration caused by the contractor to any Railway property must be made good by the contractor at his own expenses failing which cost of such repairs shall be recovered from the contractor.

The contractor shall ensure that unauthorized careless and inadvertent operation of switch gears which may result in accident to staff and damage to equipment does not occur.

2.31 INSURANCE

1. The contractor shall take out and keep in force a policy or policies of insurance against all liabilities of the contractor or the purchaser at common law or under any statute in respect of accidents to persons who shall be employed by the contractors in or about the site or the Contractor's office for the purpose of carrying out the works on the site. The contractor shall also take out and keep in force a policy or policies of insurance against all recognised risks to their offices and depots. Such insurance shall in all respects be to the approval of the purchaser and if he so requires, in his name. The contractor shall invariably furnish copies of such insurance policies to the purchaser for his information, as and when taken.

2. The contractor shall take out and keep in force a policy or policies of insurance for all materials in storage and installations under erection and or erected, until such materials and installations are provisionally handed over to the purchaser. For this purpose, the installations shall be deemed to have been provisionally handed over, when a provisional acceptance certified is issued for the installation or equipment the contractor shall invariably furnish copies of the policies for information of the purchaser, so and when taken. The contractor shall not be liable for losses or damages to equipments erected, in the course of erection or in store in the Contractor's depot, in consequence of mutiny or other similar causes over which the contractor has no control and which cannot be insured. Such losses or damages shall, if required by the purchaser, be made good by the contractor, at the cost of the purchaser.

3. The contractor should however, insure the stores brought to site against risks in consequence of war and invasion as required under the emergency risks (goods) Insurance Act in force from time to time the amount of such insurance premium paid by the contractor will be reimbursed to him by the Administration on submission of bills in proof of payment of such insurance premium. The contractor shall invariably advise the purchaser before taking any such Emergency Risk (goods) Insurance.

2.32 DISCREPANCY AMBIGUITY AND ERROR.

Should there be any discrepancy, defective or incomplete description, ambiguity or error in the drawings and other documents, whether original or supplementary in the matter or things requisite for the proper execution of the work or for any of the purpose of the contract be omitted from the drawings and documents, the contractor shall immediately on discovering the same give notice of such discrepancy, defective or incomplete description ambiguity, omission, or error to the purchaser, we shall decide what work, matter or things are to be executed or done by the contractor. The contractor there upon shall be bound to execute and do such work matter and things as the purchaser shall decide and the same shall be executed or done by the contractor as though they were fully and properly described in the drawings and documents and shall not be entitled to any extra payment therefore.

2.33 DETERMINATION OF CONTRACT

61.(1) Right of Railway to Determine the Contract: The Railway shall be entitled to determine and terminate the contract at any time should, in the Railway's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in full at the rate specified in the contract. Notice in writing from the Railway of such determination and the reasons therefor shall be conclusive evidence thereof.

61.(2) Payment on Determination of Contract: Should the contract be determined under sub clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the Railways shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The Railway's decision on the necessity and propriety of such expenditure shall be final and conclusive.

61.(3) The Contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

62.(1) Determination of Contract owing to Default of Contractor:

If the Contractor should:

- (i) Becomes bankrupt or insolvent, or
- (ii) Make an arrangement for assignment in favour of his creditors, or agree to carry out the contract under a Committee of Inspection of his creditors, or**
- (iii) Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or
- (iv) Have an execution levied on his goods or property on the works, or
- (v) Assign the contract or any part thereof otherwise than as provided in Clause 7 of these Conditions, or
- (vi) Abandon the contract, or
- (vii) Persistently disregard the instructions of the Engineer, or contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the stipulated period, or
- (ix) Fail to Execute the contract documents in terms of Para 8 of the Instructions to Tenderers.
- (x) Fail to submit the documents pertaining to identity of JV and PAN in terms of Para 17.11 of Tender Form (Second Sheet) of Annexure I available in the Instructions to Tenderers.
- (xi) Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected under Clause 25 and 27 of these Conditions, or
- (xii) Fail to take steps to employ competent or additional staff and labour as required under Clause 26 of these Conditions, or
- (xiii) Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the works or any part thereof as required under Clause 28 of these Conditions, or
- (xiv) Promise, offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of the Railway or

to any person on his or on their behalf in relation to the execution of this or any other contract with this Railway.

(xv) Fail to adhere to the provisions of Para 16 of Tender Form (Second Sheet) of Annexure I of the Instructions to Tenderers, or provision Clause 59(9) of these Conditions.

(xvi) Submits copy of fake documents / certificates in support of credentials, submitted by the tenderer

Then and in any of the **said Clause**, the Engineer on behalf of the Railway may serve the Contractor with a notice (Proforma at Annexure-IX) in writing to that effect and if the Contractor does not within seven days after the delivery to him of such notice proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid of the entire satisfaction of the Engineer, the Railway shall be entitled after giving 48 hours' notice (Proforma at Annexure-X or XII, as the case may be) in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and after expiry of 48 hours' notice, a final termination notice (Proforma at Annexure-XI or XIII, as the case may be) should be issued.

Note: Engineer at his discretion may resort to the part termination of contract with notices (Proforma at Annexure- IX, XII and XIII), only in cases where progress of work is more than or equal to 80% of the original scope of work.

62.(2) Right of Railway after Rescission of Contract owing to Default of Contractor: In the event of any or several of the courses, referred to in Sub-Clause (1) of this Clause, being adopted:

(a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and Contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the contract unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.

(b) In the contract which has been rescinded as a whole, the Security Deposit already with railways under the contract shall be encashed/ forfeited and the Performance Guarantee already submitted for the contract shall be encashed. The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.

Further the authorized representative of failed Contractor cannot be accepted as authorized representative in new contract.

(c) In the contract rescinded in part or parts,

(i) The full Performance Guarantee available for the contract shall be recovered. No additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract. The contract value of part terminated contract stands reduced to the balance value of work under the contract.

(ii) The Security Deposit of part terminated contract shall be dealt as per clause 16(2) of these Conditions.

(iii) The defaulting Contractor shall not be issued any completion certificate for the contract.

(iv) The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.

(v) Further the authorized representative of failed Contractor will not be accepted as authorized representative in new contract.

(d) The Engineer or the Engineer's Representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.

(e) The Engineer shall as soon as may be practicable after removal of the Contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) had at the time of rescission of the contract been reasonably earned by or would reasonably accrue to the Contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any constructional plant and any temporary works upon the site. The legitimate amount due to the Contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

SETTLEMENT OF DISPUTES – INDIAN RAILWAY ARBITRATION AND CONCILIATION RULES

The provisions of clause 63 and 64 of GCC will be applicable only for settlement of claims of disputes between the Railways and contractor of a value less than or equal to 20% of the original contract value, so as to bring the claim within the scope of Arbitrability.

63. Conciliation of Disputes:

- (i) This clause is applicable in the tender having advertised value less than or equal to Rs 50 Crore.
- (ii) All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the "Chief Engineer" or "Divisional Railway Manager" through "Notice of Dispute" provided that no such notice shall be served later than 30 days after the date of issue of Completion Certificate by the Engineer. Chief Engineer or Divisional Railway Manager shall, within 30 days after receipt of the Contractor's "Notice of Dispute", notify the name of conciliator(s) to the Contractor.
- (iii) The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract.
- (iv) If the parties reach agreement on a settlement of the dispute, they shall draw up and sign a written settlement agreement duly signed by Engineer In-charge,

Contractor and conciliator(s). When the parties sign the settlement agreement, it shall be final and binding on the parties.

(v) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.

(vi) The conciliation proceedings shall be terminated as per Section 76 of 'The Arbitration and Conciliation Act, 1996.

63.1 Matters Finally Determined by the Railway: All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the GM and the GM shall, within 120 days after receipt of the Contractor's representation, make and notify decisions on all matters referred to by the Contractor in writing provided that matters for which provision has been made in Clauses 7(j), 8, 18, 22(5), 39.1, 39.2, 40A, 43(2), 45(i)(a), 55, 55-A(5), 57, 57A, 61(1), 61(2), 62(1), 63(iv) and 63.2.11 of the Standard General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, shall be deemed as 'excepted matters' (matters not arbitrable) and decisions of the Railway authority, thereon shall be final and binding on the Contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of the Dispute Adjudication Board (DAB) and Arbitration.

63.2 Dispute Adjudication Board (DAB): This clause is applicable in the tender having advertised value more than Rs 50 Crore.

63.2.1 Any dispute/s if not settled with the Engineer, shall be referred to DAB.

The DAB shall consist of a panel of three Retired Railway Officers, retired not below senior administrative grade (SAG). The DAB shall be formed within 90 days of signing of Contract Agreement. For this purpose, a panel of DAB members shall be maintained in the General Manager's office. The complete panel, which shall not be less than five members, shall be sent by Chief Engineer to the Contractor to nominate one member of the DAB from the panel as Contractor's nominee within two weeks of receipt of the panel. On receipt of Contractor's nominee, the Chief Engineer shall nominate one member from the same panel as Railway nominee for the DAB. Both above nominees shall jointly select presiding member of the DAB from the same panel.

63.2.2 The appointment of DAB shall be effectuated by way of a tri-partite agreement among the Railway, Contractor and the respective DAB members. The terms of the remuneration of each member shall be as fixed by Ministry of Railways from time to time. Each party shall be responsible for paying one-half of this remuneration.

63.2.3 If one or more of the members appointed refuses to act as DAB member, or is unable or unwilling to perform his functions as DAB member for any reason whatsoever or dies or in the opinion of the Chief Engineer fails to act without undue delay, the parties shall terminate the mandate of such DAB member and thereupon

new DAB member shall be appointed in the same manner, as the outgoing DAB member had been appointed.

63.2.4 The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Railway or the Contractor acting alone. Unless otherwise agreed by both the Parties, the appointment of the DAB (including each member) shall expire upon expiry of this Contract Agreement.

63.2.5 Before start of DAB proceedings, each DAB member shall give the following certificate to the Railway and the Contractor:

“I have no any past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind. Further, I have no any past or present relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality.”

63.2.6 DAB proceedings shall be conducted as decided by the DAB. The DAB shall give its decision within 90 days of a Dispute referred to it by any of the Parties, duly recording the reasons before arriving at the decision. The DAB shall decide the issue within terms and conditions of the contract. This time limit shall be extendable subject to the Parties mutual agreement.

63.2.7 The DAB decision shall not be binding on both the Parties. In case any party is not satisfied by the decision of DAB, then the aggrieved party may approach Arbitral Tribunal for arbitration proceedings.

63.2.8 No dispute shall be referred to Arbitral Tribunal unless the same has been referred to DAB for adjudication. However, in case DAB is not formed due to any reason, the disputes can be directly referred to Arbitral Tribunal to adjudicate the dispute.

63.2.9 In the specific cases of any misconduct by any of the members of the DAB, the parties shall have the right to specifically bring it to the notice of the DAB such conduct, through a statement filed with necessary documents in proof of such misconduct and the DAB, after taking NOTICE of such conduct initiate the replacement of the member concerned, in the same manner the member to be replaced was appointed.

63.2.10 Once the decision is given by DAB, DAB cannot review the decision at its own or on the request of one party, unless both parties agree for review of decision by DAB.

63.2.11 In case DAB decision is not challenged by either party within 180 days of receipt of decision of DAB, the decision shall be considered as final and parties would be barred for referring the same to Arbitral Tribunal for adjudication.

63.2.12 The obligation of the Railway and the Contractor shall not be altered by reasons of issue being or under reference to DAB.

63.2.13 The DAB shall conduct the proceedings at any convenient venue which shall be decided by DAB in consultations with parties.

63.2.14 It is a term of this contract that the Parties shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through DAB and Arbitral Tribunal.

64.(1) : Demand for Arbitration:

64.(1)(i)(a): In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the Railway of any certificate to which the Contractor may claim to be entitled to, or if the Railway fails to make a decision within 120 days, then and in any such case, but except in any of the “excepted matters” referred to in Clause 63.1 of these Conditions, the Contractor, after 120 days but within 180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration.

64.(1)(i)(b): Arbitration as a method of dispute resolution should not be routinely or automatically included in procurement contracts/tenders, especially in large contracts.

64.(1)(i)(c): As a norm, arbitration as a method of dispute resolution may be restricted to disputes with a value less than Rs. 10 crore. This figure is with reference to the value of the dispute (not the value of the contract, which may be much higher).

64.(1)(i)(d): Inclusion of arbitration clauses covering disputes with a value exceeding Rs. 10 crore, should be based on careful application of mind and recording of reasons and with the approval of an officer not below the rank of Senior Grade (SAG) or the Accepting Authority of the tender whichever is higher.

64.(1)(ii)(a): The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item-wise. Only such dispute or difference, in respect of which the demand has been made, together with counter claims or set off, given by the Railway, shall be referred to arbitration and other matters shall not be included in the reference.

64.(1)(ii)(b): The parties may waive off the applicability of Sub-Section 12(5) of Arbitration and Conciliation (Amendment) Act 2015, if they agree for such waiver in writing, after dispute having arisen between them, in the format given under Annexure XV of these conditions.

64.(1)(iii)(a): The Arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the Railway.

64.(1)(iii)(b): The claimant shall submit his claims stating the facts supporting the claims alongwith all the relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

64.(1)(iii)(c): The Railway shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from Tribunal, unless otherwise extension has been granted by Tribunal.

64.(1)(iii)(d): Place of Arbitration: The place of arbitration would be within the geographical limits of the Division of the Railway where the cause of action arose or the

Headquarters of the concerned Railway or any other place with the written consent of both the parties.

64.(1)(iv): No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defense thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

64.(1)(v): If the Contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the Railways that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Railway shall be discharged and released of all liabilities under the contract in respect of these claims.

64.(2): Obligation During Pendency of Arbitration: Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Railway shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should continue during arbitration proceedings.

64.(3) : Appointment of Arbitrator:

64.(3)(a) : The Arbitral Tribunal shall consist of a panel of three arbitrators. General Manager/Additional General Manager will appoint two arbitrators, one railway nominee and other from among the contractor's nominee. Contractor can recommend his nominee either from approved panel of Railways or from approved panel of Indian Council of Arbitration (ICA) within 30 days from the date of dispatch of approval of written and valid acceptance of demand for arbitration by the General Manager/Additional General Manager.

64.(3)(a)(i): If contractor wants to choose his nominee from Railway panel, the Railway will send a panel of at least four (4) names of retired Railway Officers empanelled to work as Arbitrator within 30 days from the day when a written and valid demand for arbitration is received by the General Manager/Additional General Manager. Contractor will be asked to suggest to General Manager/Additional General Manager at least 2 names out of the panel for appointment as contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager/Additional General Manager shall appoint at least one out of them as the Contractor's nominee within 30 days from the receipt of the names of Contractor's nominees. The railway panel shall be provided free of cost to the contractor.

64.(3)(a)(ii): If contractor wants to choose his nominee from Indian Council of Arbitration panel, Contractor will send at least 2 names of Arbitrators from the ICA panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager/Additional General Manager shall appoint at least one out of them as the contractor's nominee within 30 days from the receipt of the names of Contractor's nominees. Nomination and appointment of arbitrators from ICA panel shall be as per the ICA Rules for Domestic Commercial Arbitration and amended from time to time.

Some general guidelines of ICA Rules for Domestic Commercial Arbitration are as under:-

- i. Contractor may access the ICA's panel of arbitration through ICA's official webpage: <https://icaindia.co.in/pdfEngineers.pdf>.
- ii. A formal request for nomination shall be submitted to ICA, accompanied by:-
 - a. A brief Statement of Claim outlining the nature and quantum of the disputes.
 - b. A copy of the relevant contract and any supporting documents.
 - c. A copy of the notice intimating the other party of the initiation of arbitration proceedings, with proof of delivery (if any).

- iii. Ad-hoc appointment fees for the nomination and appointment of arbitrators shall be as per the ICA Rules for Domestic Commercial Arbitration and revised from time to time and shall be submitted along with the request.

64.(3)(b): Two selected arbitrators are free to select presiding arbitrator (3rd arbitrator) within thirty (30) days from the date of their appointment. The presiding arbitrator may be selected from approved panel of Railways or approved panel of Indian Council of Arbitration (as per mutual agreement), which will be approved by General Manager/Additional General Manager. General Manager/Additional General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of all the three arbitrators.

64.(3)(c)(i): If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the General Manager/Additional General Manager fails to act without undue delay, the General Manager/Additional General Manager shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).

64.(3) (c) (ii): (a) The Arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay. The proceedings shall normally be conducted on the basis of documents and written statements.

(b) Before proceeding into the merits of any dispute, the Arbitral Tribunal shall first decide and pass its orders over any plea submitted/objections raised by any party, if any, regarding appointment of Arbitral Tribunal, validity of arbitration agreement, jurisdiction and scope of the Tribunal to deal with the dispute (s) submitted to arbitration, applicability of time 'limitation' to any dispute, any violation of agreed procedure regarding conduct of the arbitral proceedings or plea for interim measures of protection and record its orders in day to day proceedings. A copy of the proceedings duly signed by all the members of tribunal should be provided to both the parties.

64.3(c)(iii): (i) Qualification of Railway Empanelled Arbitrator (s):

- a. Retired Railway Officers not below SA Grade level, one year after his date of retirement.
- b. Age of arbitrator at the time of appointment shall be below 70 years.
- c. Persons not involved in any current vigilance/CBI cases or against whom disciplinary or prosecution proceedings are not in process.
- d. Persons who had not been imposed a major penalty or two or more minor penalties or against whom administrative action has not been taken three times or more or
- e. Persons who have not been imposed one minor Penalty and against whom two administrative actions have not been taken as a result of vigilance/CBI action while in service on Railways.

(ii) An may be appointed notwithstanding the total number of arbitration cases in which he has been appointed in the past.

(iii) While appointing arbitrator(s) under Sub-Clause 64.(3)(a), 64.(3)(a)(i), 64.(3)(a)(ii) & 64.(3)(b) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as Railway servant(s) expressed views on all or any of the matters under dispute or differences. A certification to this effect as per annexure-XVI shall be taken from Arbitrators also. The proceedings of the Arbitral tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

64.(3)(d)(i): The arbitral award shall state item wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred therefrom.

64.(3)(d)(ii): A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award of a Tribunal and interpretation of a specific point of award to Tribunal within 60 days of receipt of the award.

64.(3)(d)(iii): A party may apply to Tribunal within 60 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

64.(4): Any ruling on award shall be made by a majority of members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

64.(5): Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.

64. (6): The cost of arbitration shall be borne by the respective parties. If all the three arbitrators are selected from the Railway Panel, the fee of the arbitrators shall be determined as per the rates fixed/revised by Railway Board from time to time and the fee shall be borne equally by both the parties, provided parties sign an agreement in the format given at Annexure XV to these conditions after/while referring these disputes to Arbitration. However, if any of the three arbitrators is selected from the Panel of Indian Council of Arbitration (ICA), the fee of the arbitrators shall be determined as per the rates fixed/revised by the Indian Council of Arbitration from time to time and the fee shall be borne equally by both the parties, provided parties sign an agreement in the format given at Annexure XV to these conditions after/while referring these disputes to Arbitration.

64.(7) Subject to the provisions of the aforesaid Arbitration and Conciliation Act 1996 and the rules thereunder and relevant para of the Standard General Conditions of Contract and any statutory modifications thereof shall apply to the appointment of arbitrators and arbitration proceedings under this Clause.

64.(8) In case arbitration award is challenged by a party in the Court of Law, 75% of award amount, pending adjudication by Court of Law, shall be made by party to other party. In case payment is to be made by Railway to Contractor, the terms & conditions as incorporated in the Ministry of Railways letter No. 2016/CE(I)/CT/ARB/3(NITI Aayog)/Pt. dated 08th Mar,2017 as amended from time to time, shall be followed. In

case Contractor has to pay to the Railway, then 75% of the award amount shall be deducted by the Railway from the Contractor's bills, Performance Guarantee/ Security Deposit or any other dues of Contractor with the Government of India.

2.34 ISSUE IDENTITY CARD BY CONTRACTOR TO HIS STAFF

The contractor shall issue identity card at his cost to each and every person employed by him and deployed for execution of the contract work as per the prescribed Form. Failure on the part of the contractor to issue identity cards to their employees will be treated breach of contract conditions and therefore will be dealt as per clause No 62(VII) of GCC.

It is mandatory on the parts of every employee, deployed by the contractor to keep in his possession, the identity card issued by the contractor through out the /74execution of the work. Failure to possess such identity card will be treated as unauthorised presence in the Railway premises. Such persons shall be liable for prosecution as per law.

It is mandatory for the contractors to submit the list of the employees issued with the identity cards and deployed for execution of the particular contract, to the Railway's Engineer at site before commencement of the work and also for any subsequent changes made during the execution of the work.

No claims whatsoever arising out of implementation of special conditions pertaining to issue of identity cards shall be admissible

2.35 DRAFTING OF CONTRCATOR VEHICLE & EQUIPMENT

The contractor's vehicle & equipment can be drafted by the purchaser at the time of accident/ natural calamities involving human lives. Tenderers shall furnish the details of vehicle & equipment available with him. Payment for these vehicle / equipment is made as per excepted norms.

2.36 SAFETY PRECAUTIONS TO BE TAKEN BY CONTRACT LABOUR WORKING

- 1 The contractor shall take full responsibility for health and safety of his labour, within work site. Accordingly the contractor shall make necessary arrangement for personal protective equipments, first aid boxes, safety training, etc for the contract labour in the work being undertaken.
- 2 The contractor shall ensure that all his contract labour is issued with entry permit card(EPC)/identity card which shall be available with them.
- 3 The contractor shall submit the details of contract labour/supervisor viz name, age, address for each serial no of EPC/Identity card too the coordinating supervisor. In case of change of contract labour, changes against the EPC / identity card should be advised on a daily basis.
- 4 The contractor shall ensure presence of minimum one supervisor to be supervise the contract labour working for the contractor and he should be provided with a cell phone for ease of communication. The cell phone no must be inform to coordinating supervisor.
- 5 The contractor shall not employ any person below the age of 18 years. No Woman shall be allowed to work between 6 PM to 7 AM.
- 6 The contractor shall obtained must necessary work permit form the coordinating supervisor before starting the work.

- 7 The personal protective equipments supplied to the contractor labour should confirm to the required specifications.
- 8 The contractor shall ensure proper house keeping at all his work places.
- 9 The contractor shall take proper care in storing inflammable substances to avoid any case of fire.
- 10 The contractor shall ensure that only trained and competent person are employed to work on the electrical works/installation.

3.0 Prices and payment: -**3.1 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 rates and conditions of payment herein mentioned.

3.2 Schedule of prices : -

The unit prices of various items of work shall be firm and minor changes in basic design shall not affect unit prices so long as such charges are agreed to by the Railway. All unit prices shall be in Rupees. The tenderer must quote the rate for supply and erection, testing and commissioning separately in schedule-I.

3.3 Incidental charges: -

The unit prices shall provide for loss wastage incidental charges for transportation, loading, unloading and handling of materials. It shall 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.

3.4 Other price payment: -

No adjustment on account of variation in insurance and freight charges (road or rail) will be permitted.

3.4.1 PRICE VARIATION CLAUSE :**PRICE VARIATION CLAUSE: 1.3.4 B****GCC para 46A. Price Variation Clause (PVC):**

46A.1 Applicability: Price Variation Clause (PVC) shall be applicable only in tender having advertised value above Rs. 2 Crores. Provided further that, in a contract where PVC is applicable, following shall be outside the purview of price adjustments (i.e. shall be excluded from the gross value of the work for the purpose of price variation):

- a) Materials supplied by Railway to the Contractors, either free or at fixed rate;
- b) Any extra item(s) included in subsequent variation falling outside the purview of the Bill(s) of Quantities of tender, under clause 39. (1)(b) of these Standard General Conditions, unless applicability of PVC and 'Base Month' has been specially agreed, while fixing the rates of such extra item(s).

46A.2 Base Month: The Base Month for 'Price Variation Clause' shall be taken as the one month prior to closing of tender, unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following the Base month. The Price Variation shall be based on the average Price Index of the quarter under consideration.

46A.3 Validity:

Rates accepted by Railway Administration shall hold good till completion of work and no additional individual claim shall be admissible except:

- (a) Payment/recovery for increase/decrease in GST on works contract or imposition/removal of any tax/cess on Works Contract as per Clause 37,

- (b) Payment/recovery for overall market situation as per Price Variation Clause given hereunder.

46A.4 Components of various items in a contract on which variation in prices be admissible, shall be steel, cement, ferrous material, non-ferrous material, insulators, zinc and other materials, labour, plant & machinery, fuel, explosives, detonators etc. Adjustment for variation in prices of these items shall be determined in the manner prescribed.

46A.5 No price variation shall be admissible for fixed components.

46A.6 The percentages of various components in various type of works shall be as specified for all item (s)/ Bill(s) of Quantities in tender document and the same shall be fixed as per table & classifications given below:

(I). For Civil Engineering Works

2). For Civil Engineering Works													
S N	Classification		1A, 2 & 3A	4A	5A	6A	7	8A	9A	1B, 3B, 4B, 5B, 6B, 8B	1C, 3C, 4C, 5C, 6C, 8C & 9C	3D, 4D, 5D, 6D, 8D & 9D	3E, 4E, 5E, 6E, 8E & 9E
	Components												
1	Fixed	*	15	15	15	15	15	15	15	15	15	15	15
2	Labour	L _c	20	25	30	20	50	20	20	0	0	10	25
3	Steel	S _c	0	0	0	0	0	0	0	85	0	50	0
4	Cement	C _c	0	0	15	0	0	0	0	0	85	0	0
5	Plant Machinery & Spares	PM _c	30	15	5	20	15	20	30	0	0	10	30
6	Fuel & Lubricants	F _c	25	15	5	15	15	20	15	0	0	10	20
7	Other materials	M _c	10	15	30	30	5	25	20	0	0	5	10
8	Detonators & Explosive	E _c	0	15	0	0	0	0	0	0	0	0	0
	Total		100	100	100	100	100	100	100	100	100	100	100

* It shall not be considered for any price variation.

The classification mentioned in the table above represents following type of item(s) in the work(s) –

1 Earthwork in Formation

1A All Item(s) excluding 1B or/and 1C

1B Item(s) for supply of Steel

1C Item(s) for supply of Cement

2 Ballast Supply Works

3 Tunnelling Works (Without Explosives)

3A All Item(s) excluding 3B or/and 3C or/and 3D or/and 3E

3B Item(s) for supply of Steel

3C Item(s) for supply of Cement or/and Grout

3D Item(s) for Fabrication & Erection of Structures including supply of Steel

3E Item(s) for Fabrication & Erection of Structures excluding supply of Steel.

4 Tunnelling Works (With explosives)

4A All Item(s) excluding 4B or/and 4C or/and 4D or/and 4E

4B Item(s) for supply of Steel

4C Item(s) for supply of Cement or/and Grout

4D Item(s) for Fabrication & Erection of Structures including supply of Steel

4E Item(s) for Fabrication & Erection of Structures excluding supply of Steel.

5 Building Works

5A All Item(s) excluding 5B or/and 5C or/and 5D or/and 5E

5B Item(s) for supply of Steel

5C Item(s) for supply of Cement

5D Item(s) for Fabrication & Erection of Structures including supply of Steel

5E Item(s) for Fabrication & Erection of Structures excluding supply of Steel.

6 Bridges & Protection work

6A All Item(s) excluding 6B or/and 6C or/and 6D or/and 6E

6B Item(s) for supply of Steel

6C Item(s) for supply of Cement

6D Item(s) for Fabrication, Assembly, Erection& Launching of Girders including supply of Steel

6E Item(s) for Fabrication, Assembly, Erection & Launching of Girders excluding supply of Steel

7 Permanent Way linking

8 Platform, Passenger Amenities

8A All Item(s) excluding 8B or/and 8C or/and 8D or/and 8E

8B Item(s) for supply of Steel item/fittings

8C Item(s) for supply of Cement Item

8D Item(s) for Fabrication & Erection of Structures including supply of Steel

8E Item(s) for Fabrication & Erection of Structures excluding supply of Steel

9 Any Other Works not covered in Classification 1 to 8

9A All Item(s) excluding 9B or/and 9C or/and 9D or/and 9E

9B Item(s) for supply of Steel

9C Item(s) for supply of Cement or/and Grout

9D Item(s) for Fabrication & Erection of Structures including supply of Steel

9E Item(s) for Fabrication & Erection of Structures excluding supply of Steel

46A.7 Formulae: The Amount of variation in prices in various components (labour, material etc.) shall be worked out by the following formulae:

- $$\begin{aligned} \text{(i)} \quad L &= \frac{(W \text{ or } W_{SF} \text{ or } W_F \text{ or } W_{SFL} \text{ or } W_{FL}) \times (L_Q - L_B) \times L_C}{L_B \times 100} \\ \text{(ii)} \quad M &= \frac{(W \text{ or } W_{SF} \text{ or } W_F \text{ or } W_{SFL} \text{ or } W_{FL}) \times (M_Q - M_B) \times M_C}{M_B \times 100} \\ \text{(iii)} \quad F &= \frac{(W \text{ or } W_{SF} \text{ or } W_F \text{ or } W_{SFL} \text{ or } W_{FL}) \times (F_Q - F_B) \times F_C}{F_B \times 100} \\ \text{(iv)} \quad E &= \frac{(W) \times (E_Q - E_B) \times E_C}{E_B \times 100} \\ \text{(v)} \quad PM &= \frac{(W \text{ or } W_{SF} \text{ or } W_F \text{ or } W_{SFL} \text{ or } W_{FL}) \times (PM_Q - PM_B) \times PM_C}{PM_B \times 100} \\ \text{(vi)} \quad S &= \frac{(W \text{ or } W_S \text{ or } W_{SF}) \times (S_Q - S_B) \times S_C}{S_B \times 100} \\ \text{(vii)} \quad C &= \frac{(W \text{ or } W_C) \times (C_Q - C_B) \times C_C}{C_B \times 100} \end{aligned}$$

(II) For Railway Electrification Works:

- $$\begin{aligned} \text{(viii)} \quad T &= [0.4136 \times (C_Q - C_B) / C_B] \times 85 \\ \text{(ix)} \quad R &= [0.94 \times (R_T - R_O) / R_O + 0.06 \times (Z_T - Z_O) / Z_O] \times 85 \\ \text{(x)} \quad N &= [(P_T - P_O) / P_O] \times 85 \\ \text{(xi)} \quad I &= [(I_T - I_O) / I_O] \times 85 \\ \text{(xii)} \quad G &= [(M_Q - M_B) / M_B] \times 85 \\ \text{(xiii)} \quad Er &= [(L_Q - L_B) / L_B] \times 85 \end{aligned}$$

Where,

- | | |
|----|--|
| L | Amount of price variation in Labour |
| M | Amount of price variation in Materials |
| F | Amount of price variation in Fuel |
| E | Amount of price variation in Explosives |
| PM | Amount of price variation in Plant, Machinery and Spares |
| S | Amount of price variation in Steel Supply Item |
| C | Amount of price variation in Cement Supply Item |
| T | Percentage variation payable on the gross value of bill of Concreting (Bill(s) of Quantities for concrete items) |
| R | Percentage variation payable on the gross value of bill of Ferrous Items (Bill(s) of Quantities for ferrous items) |
| N | Percentage variation payable on the gross value of bill of Non-Ferrous Items (Bill(s) of Quantities for non-ferrous items) |

I	Percentage variation payable on the gross value of bill of Insulator (Bill(s) of Quantities for Insulator items)
G	Percentage variation payable on the gross value of bill of General Works (Bill(s) of Quantities for General items)
Er	Percentage variation payable on the gross value of erection (Bill(s) of Quantities for Erection Item)
L _C	% of Labour Component in the item(s)
M _C	% of Material Component in the item(s)
F _C	% of Fuel Component in the item(s)
E _C	% of Explosive Component in the item(s)
PM _C	% of Plant, Machinery and Spares Component in the item(s)
S _C	% of Steel Supply item Component in the item(s)
C _C	% of Cement Supply item Component in the item(s)
W	Gross value of work done by Contractor as per on-account bill(s) excluding the Gross value of work under W _S or/and W _C or/and W _{SF} or/and W _F or/and W _{SFL} or/and W _{FL} and cost of materials supplied by Railway either free or at fixed rate,
W _S	Gross value of work done by Contractor for item(s) of supply of steel.
W _C	Gross value of work done by Contractor for item(s) of supply of cement and /or supply of grout material.
W _{SF}	Gross value of work done by Contractor for item(s) of Fabrication & Erection of Structures including supply of Steel.
W _F	Gross value of work done by Contractor for Fabrication & Erection of Structures excluding supply of Steel.
W _{SFL}	Gross value of work done by Contractor for item(s) of Fabrication, Assembly, Erection / Launching of Girders including supply of Steel.
W _{FL}	Gross value of work done by Contractor for item(s) of Fabrication, Assembly, Erection / Launching of Girders excluding supply of Steel.
L _B	Consumer Price Index for Industrial Workers - All India: Published in R.B.I. Bulletin for the base period
L _Q	Consumer Price Index for Industrial Workers - All India: Published in R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration
M _B	Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the base period
M _Q	Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration
F _B	The average of official prices of Diesel available on the official website of 'Petroleum Planning and Analysis cell' under Ministry of Petroleum and Natural Gas for Delhi, Kolkata, Mumbai & Chennai, for the base period
F _Q	The average of official prices of Diesel available on the official website of 'Petroleum Planning and Analysis cell' under Ministry of Petroleum and Natural Gas for Delhi, Kolkata, Mumbai & Chennai, for the 3 months of the quarter under consideration

E _B	Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J) MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.
E _Q	Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J) MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration.
PM _B	Index Number of Wholesale Prices in India by Groups and Sub Groups (Averages) for 'Manufacture of machinery for mining, quarrying and construction'– published in RBI (Reserve Bank of India) Bulletin, for the base period.
PM _Q	Index Number of Wholesale Prices in India by Groups and Sub Groups (Averages) for 'Manufacture of machinery for mining, quarrying and construction'– published in RBI (Reserve Bank of India) Bulletin, for the average price index of 3 months of the quarter under consideration.
S _B	The average rate provided by the Joint Plant Committee for the relevant category of steel item as mentioned in Clause 46A.9; for the base period.
S _Q	The average rate provided by the Joint Plant Committee for the relevant category of steel item as mentioned in Clause 46A.9; for the 3 months of the quarter under consideration.
C _B	Index No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the base period
C _Q	No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the average price index of the 3 months of the quarter under consideration
R _T	IEEMA price index for Steel Blooms (size 150mmx150mm) for the month which is two months prior to date of inspection of material.
R _O	IEEMA price index for Steel Blooms (size 150mmx150mm)for the month which is one month prior to date of opening of tender.
P _T	IEEMA price index for Copper wire rods for the month which is two months prior to date of inspection of material.
P _O	IEEMA price index for Copper wire rods for the month which is one month prior to date of opening of tender.
Z _T	IEEMA price index for Zinc for the month which is two months prior to date of inspection of material
Z _O	IEEMA price index for Zinc for the month which is one month prior to date of opening of tender

- I_T RBI wholesale price index for the sub-group “Insulators” for the month which is two months prior to date of inspection of material
- I_O RBI wholesale price index for the sub-group “Insulators” for the month which is one month prior to date of opening of tender

(III) SIGNALING & TELECOMMUNICATION WORKS:

- (a) The following expressions and meanings are assigned to the value of the work done for signalling and telecommunication works:

SIGWK = Value of signalling works for a stage payment of the item signalling works;

INVSIG = Value of inventory for signalling works for a stage payment of the item inventory for signalling works;

INTGTESTSIG = Value of integrated testing and commission for signalling works of the Railway Project;

COMWK = Value of telecommunication works for a stage payment of the item telecommunication works;

INVCOM = Value of inventory for telecommunication works for a stage payment of the item inventory for telecommunication works; and

INTGTESTCOM = Value of integrated testing and commission for telecommunication works of the Railway Project.

- (b) Price adjustment for changes in cost of signalling works and telecommunication works shall be paid in accordance with the following formula:

- (i)
$$VSIGWK = 0.85 \text{ SIGWK} \times [\text{PELEX} \times (\text{ELEX}_i - \text{ELEX}_o) / \text{ELEX}_o + \text{POFC} \times (\text{OFC}_i - \text{OFC}_o) / \text{OFC}_o + \text{PLB} \times (\text{LBI} - \text{LBO}) / \text{LBO} + \text{POTH} \times (\text{OTHi} - \text{OTHo}) / \text{OTHo} + \text{S30C} \times (\text{P30C}_i - \text{P30C}_o) / \text{P30C}_o + \text{S24C} \times (\text{P24C}_i - \text{P24C}_o) / \text{P24C}_o + \text{S19C} \times (\text{P19C}_i - \text{P19C}_o) / \text{P19C}_o + \text{S12C} \times (\text{P12C}_i - \text{P12C}_o) / \text{P12C}_o + \text{S9C} \times (\text{P9C}_i - \text{P9C}_o) / \text{P9C}_o + \text{S6C} \times (\text{P6C}_i - \text{P6C}_o) / \text{P6C}_o + \text{S4C} \times (\text{P4C}_i - \text{P4C}_o) / \text{P4C}_o + \text{S2C} \times (\text{P2C}_i - \text{P2C}_o) / \text{P2C}_o + \text{S12C2.5} \times (\text{P12C2.5}_i - \text{P12C2.5}_o) / \text{P12C2.5}_o + \text{S2C2.5} \times (\text{P2C2.5}_i - \text{P2C2.5}_o) / \text{P2C2.5}_o + \text{S2C25} \times (\text{P2C25}_i - \text{P2C25}_o) / \text{P2C25}_o + \text{QC} \times (\text{PQC}_i - \text{PQC}_o) / \text{PQC}_o];$$
- (ii)
$$\text{VINVSIG} = 0.85 \text{ SIGWK} \times [\text{PELEX} \times (\text{ELEX}_i - \text{ELEX}_o) / \text{ELEX}_o + \text{POTH} \times (\text{OTHi} - \text{OTHo}) / \text{OTHo}];$$
- (iii)
$$\text{VINTGTESTSIG} = 0.85 \text{ INTGTESTSIG} \times [\text{PLB} \times (\text{LBI} - \text{LBO}) / \text{LBO} + \text{POTH} \times (\text{OTHi} - \text{OTHo}) / \text{OTHo}];$$
- (iv)
$$\text{VCOMWK} = 0.85 \text{ COMWK} \times [\text{PELEX} \times (\text{ELEX}_i - \text{ELEX}_o) / \text{ELEX}_o + \text{POFC} \times (\text{OFC}_i - \text{OFC}_o) / \text{OFC}_o + \text{PLB} \times (\text{LBI} - \text{LBO}) / \text{LBO} + \text{POTH} \times (\text{OTHi} - \text{OTHo}) / \text{OTHo} + \text{S30C} \times (\text{P30C}_i - \text{P30C}_o) / \text{P30C}_o + \text{S24C} \times (\text{P24C}_i - \text{P24C}_o) / \text{P24C}_o + \text{S19C} \times (\text{P19C}_i - \text{P19C}_o) / \text{P19C}_o + \text{S12C} \times (\text{P12C}_i - \text{P12C}_o) / \text{P12C}_o + \text{S9C} \times (\text{P9C}_i - \text{P9C}_o) / \text{P9C}_o + \text{S6C} \times (\text{P6C}_i - \text{P6C}_o) / \text{P6C}_o + \text{S4C} \times (\text{P4C}_i - \text{P4C}_o) / \text{P4C}_o + \text{S2C} \times (\text{P2C}_i - \text{P2C}_o) / \text{P2C}_o + \text{S12C2.5} \times (\text{P12C2.5}_i - \text{P12C2.5}_o) / \text{P12C2.5}_o + \text{S2C2.5} \times (\text{P2C2.5}_i - \text{P2C2.5}_o) / \text{P2C2.5}_o + \text{S2C25} \times (\text{P2C25}_i - \text{P2C25}_o) / \text{P2C25}_o + \text{QC} \times (\text{PQC}_i - \text{PQC}_o) / \text{PQC}_o];$$

$$PQC_o + PCEQP \times (CEQP_i - CEQP_o) / CEQP_o];$$

- (v) $VINVCOM = 0.85 \text{ SIGWK} \times [PELEX \times (ELEX_i - ELEX_o) / ELEX_o + PCEQP \times (CEQP_i - CEQP_o) / CEQP_o + POTH \times (OTH_i - OTH_o) / OTH_o];$ and
- (vi) $VINTGTESTCOM = 0.85 \text{ INTGTESTCOM} \times [PLB \times (LB_i - LB_o) / LB_o + POTH \times (OTH_i - OTH_o) / OTH_o].$

Where

VSIGWK = Increase or decrease in the cost of signalling works during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

VINVSIG = Increase or decrease in the cost of inventory for signalling during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

VINTGTESTSIG = Increase or decrease in the cost of integrated testing and commissioning of signalling works of the Railway Project during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

VCOMWK = Increase or decrease in the cost of communication works during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

VINVCOM = Increase or decrease in the cost of inventory for telecommunications works during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

VINTGTESTCOM = Increase or decrease in the cost of integrated testing and commissioning of telecommunication works of the Railway Project during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (h);

PCEQP, PELEX, PIC, PLB, POFC, and POTH are the percentages of communication equipment, electronics, PVC insulated cables, labour, optical fibre cables, and other materials respectively;

CEQP_o = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “**WPI**”) for communication equipment for the month of the Base Month;

CEQP_i = The WPI for communication equipment for the average price index of the 3 months of the quarter under consideration;

ELEX_o = The WPI for electronics for the month of the Base Month;

ELEX_i = The WPI for electronics for the average price index of the 3 months of the quarter under consideration;

P30C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 30C x 1.5 sq mm signalling cable

P30C_o = Price per Km of cable as per purchase order/ Contract agreement.

S30C = Percentage of size 30C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P24C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 24C x 1.5 sq mm signalling cable

P24C_o = Price per Km of cable as per purchase order/ Contract agreement.

S24C = Percentage of size 24C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P19C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 19C x 1.5 sq mm signalling cable

P19C_o = Price per Km of cable as per purchase order/ Contract agreement.

S19C = Percentage of size 19C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P12C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 12C x 1.5 sq mm signalling cable

P12C_o = Price per Km of cable as per purchase order/ Contract agreement.

S12C = Percentage of size 12C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P9C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 9C x 1.5 sq mm signalling cable

P9C_o = Price per Km of cable as per purchase order/ Contract agreement.

S9C = Percentage of size 9C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P6C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 6C x 1.5 sq mm signalling cable

P6C_o = Price per Km of cable as per purchase order/ Contract agreement.

S6C = Percentage of size 6C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P4C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 4C x 1.5 sq mm signalling cable

P4C_o = Price per Km of cable as per purchase order/ Contract agreement.

S4C = Percentage of size 4C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P2C_i = Price payable per Km as adjusted in accordance with price variation Clause for size 2C x 1.5 sq mm signalling cable

P2C_o = Price per Km of cable as per purchase order/ Contract agreement.

S2C = Percentage of size 2C x 1.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P12C2.5_i = Price payable per Km as adjusted in accordance with price variation Clause for size 12C x 2.5 sq mm signalling cable

P12C2.5_o = Price per Km of cable as per purchase order/ Contract agreement.

S12C2.5 = Percentage of size 12C x 2.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P2C2.5_i = Price payable per Km as adjusted in accordance with price variation Clause for size 2C x 2.5 sq mm signalling cable

P2C2.5_o = Price per Km of cable as per purchase order/ Contract agreement.

S2C2.5 = Percentage of size 2C x 2.5 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

P2C25_i = Price payable per Km as adjusted in accordance with price variation Clause for size 2C x 25 sq mm signalling cable

P2C25_o = Price per Km of cable as per purchase order/ Contract agreement.

S2C25 = Percentage of size 2C x 25 sq mm signalling cable shall govern the price adjustment of the contract price for signalling and telecommunication works.

PQC_i = Price payable per Km as adjusted in accordance with price variation Clause for size 0.9mm dia, 6 Quad cable.

PQC_o = Price per Km of cable as per purchase order/ Contract agreement.

QC = Percentage of size 0.9mm dia, 6 Quad cable shall govern the price.

LBo = The consumer price index for industrial workers – All India, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called “**CPI**”) for the month of the Base Month;

LBi = The CPI for industrial workers – All India for the average price index of the 3 months of the quarter under consideration;

OFC_o = The WPI for fibre cables for the month of the Base Month;

OFC_i = The WPI for fibre cables for the average price index of the 3 months of the quarter under consideration;

OTH_o = The WPI for all commodities for the month of the Base Month; and

OTH_i = The WPI for all commodities for the average price index of the 3 months of the quarter under consideration.

- (c) The following percentages shall govern the price adjustment of the Contract Price for signalling and telecommunication works:

Works	Signalling	Telecommunication
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Component	Signalling Works	Signalling inventory	Integrated testing and Commissioning	Telecommunication Works	Telecomm inventory	Integrated testing and Commissioning
Electronics (PELEX)	***%	***%	–	***%	***%	–
Communication Equipment (PCEQP)	–	–	–	***%	***%	–
Optical Fibre Cable (POFC)	***%	–	–	***%	–	–
30C x 1.5 sq mm signalling cable(S30C)	***%	–	–	***%	–	–
24C x 1.5 sq mm signalling cable (S24C)	***%	–	–	***%	–	–
19Cx 1.5 sq mm signalling cable (S19C)	***%	–	–	***%	–	–
12C x 1.5 sq mm signalling cable (S12C)	***%	–	–	***%	–	–
9C x 1.5 sq mm signalling cable (S9C)	***%	–	–	***%	–	–
6C x 1.5 sq mm signalling cable (S6C)	***%	–	–	***%	–	–
4C x 1.5 sq mm signalling cable (S4C)	***%	–	–	***%	–	–
2C x 1.5 sq mm signalling cable (S2C)	***%	–	–	***%	–	–
12C x 2.5 sq mm signalling cable (S12C2.5)	***%	–	–	***%	–	–
2C x 2.5 sq mm signalling cable (S2C2.5)	***%	–	–	***%	–	–
2C x 25 sq mm signalling cable (S2C25)	***%	–	–	***%	–	–
0.9 mm dia, 6Quad cable (QC)	***%	–	–	***%	–	–
Labour (PLB)	***%	–	***%	***%	***%	***%
Other materials	***%	***%	***%	***%	***%	***%
Total	100%	100%	100%	100%	100%	100%

(Note- the percentages may be finalized by tendering authority depending on BOQ)

FORMULAE FOR SIGNALING & TELECOM CABLE

The price payable for signalling cables is variable as per Price Variation Formula given below:

For Signalling Copper Cables:

$$P_i = P_o + CuF (Cu - C_{uo}) + CCF_{cu}(CC - C_{Co}) + FeF (Fe - Fe_o)$$

For Telecom Copper Cables For Jelly Filled, 0.9 mm dia, 6 quad cable

$$P_i = P_o + CuF (Cu - C_{uo}) + AlF_{cu}(Al - A_{lo}) + CCF_{cu} (CC - C_{Co}) + FeF (Fe - Fe_o)$$

For Aluminium Power Cables:

$$P_i = P_o + AlF (Al - A_{lo}) + CCF_{Al}(CC - C_{Co}) + FeF (Fe - Fe_o)$$

Where,

P_i = Price payable per KM as adjusted in accordance with Price variation clause.

P_o = Price per KM of cable as per Purchase order.

CuF = Variation factor for Copper

C_{uo} = Price of copper Rod in Rs. Per MT

CCF_{Cu} = Variation factor for PVC Compound for Copper Signalling & Telecom cable

C_{Co} = Price of PVC Compound in Rs. Per MT

AlF = Variation factor for Aluminium

A_{lo} = Price of EC grade LME Aluminium rods (Properzi rods) in Rs. Per MT.

CCF_{Al} = Variation factor for PVC Compound for Aluminium power cable

FeF = Variation factor for Steel

Fe_o = Price of Steel for Armour (Flat strip 4 mm. x 0.8mm/ Round 1.4mm dia) in Rs. Per MT

(Prices per MT for C_{uo} , C_{Co} , Fe_o , A_{lo} as applicable on the 1st working day of the month, one month prior to the deadline for submission of bids. The above prices and indices are as published by IEEMA vide circular reference no. IEEMA (PVC) /CABLE --/--/-- one month prior to the deadline for submission of bids.)

Cu = Price of Copper Rod in Rs. Per MT.

C_c = Price of PVC Compound in Rs. Per MT.

Fe = Price of Steel for Armouring (Flat strip 4mm x 0.8 mm/ Round 1.4mm dia) in Rs. Per MT.

Al = Price of EC grade LME Aluminium rods (Properzi rods) in Rs. Per MT.

(Prices per MT for Cu, CC, Fe, Al as prevailing on 1st working day of the calendar month covering the date One month prior to the date of inspection call letter will be applicable for the calculation of updated price. The above prices and indices are as published by IEEMA vide circular reference no. IEEMA (PVC) /CABLE --/--/-- one month prior to the date of inspection.)

The value of variation factors for copper, steel and PVC Compound are different for different sizes of signalling cables. Accordingly, the PVC formula for some of the types of signalling cable is as given under:-

Underground Railway Signalling Cable unscreened and armoured copper conductor

- (i) Size 30 C x 1.5 sq.mm.

$$P30C_i = P30C_o + 0.391(Cu - C_{uo}) + 0.557(CC - CC_o) + 0.425(Fe - Fe_o)$$

For armouring, price of steel flat strip of size 4mmx0.8mm is to be taken into consideration.

- (ii) Size 24C x 1.5 sq.mm

$$P24C_i = P24C_o + 0.313(Cu - C_{uo}) + 0.481(CC - CC_o) + 0.398(Fe - Fe_o)$$

For armouring, value of steel flat strip of size 4mmx0.8mm is to be taken into consideration.

- (iii) Size 19C x 1.5 sq.mm

$$P19C_i = P19C_o + 0.248(Cu - C_{uo}) + 0.395(CC - CC_o) + 0.343(Fe - Fe_o)$$

For armouring, value of steel flat strip of size 4mmx0.8mm is to be taken into consideration.

- (iv) Size 12C x 1.5 sq.mm

$$P12C_i = P12C_o + 0.157(Cu - C_{uo}) + 0.277(CC - CC_o) + 0.289(Fe - Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (v) Size 9C x 1.5 sq.mm

$$P9C_i = P9C_o + 0.117(Cu - C_{uo}) + 0.241(CC - CC_o) + 0.383(Fe - Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (vi) Size 6Cx 1.5 sq.mm

$$P6C_i = P6C_o + 0.078(Cu - C_{uo}) + 0.199(CC - CC_o) + 0.329(Fe - Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (vii) Size 4Cx1.5 sq.mm

$$P4C_i = P4C_o + 0.052(Cu - C_{uo}) + 0.152(CC - CC_o) + 0.277(Fe - Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (viii) Size 2C x 4 sq.mm(multistrand)

$$P2C_i = P2C_o + 0.073(Cu-Cu_o) + 0.156(CC-CC_o) + 0.3(Fe-Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (ix) Size 12C x 2.5 sq.mm

$$P12C2.5_i = P12C2.5_o + 0.282 (Cu-Cu_o) + 0.371 (CC-CC_o) + 0.342 (Fe-Fe_o)$$

For armouring, value of steel flat strip of size 4mmx0.8mm is to be taken into consideration.

- (x) Size 2C x 2.5 sq.mm

$$P2C2.5_i = P2C2.5_o + 0.047 (Cu-Cu_o) + 0.139 (CC-CC_o) + 0.277 (Fe-Fe_o)$$

For armouring, value of steel wire size 1.4mm dia is to be taken into consideration.

- (xi) Size 2C x 25 sq.mm PVC insulated, armoured, Aluminium power cable

$$P2C25_i = P2C25_o + 0.146 (Al-Al_o) + 0.303 (CC-CC_o) + 0.306 (Fe-Fe_o)$$

For armouring, value of steel flat strip of size 4mmx0.8mm is to be taken into consideration.

- (xii) For Jelly filled, 0.9mm dia, 6 quad cable

$$PQC_i = PQC_o + 0.135 (Al-Al_o) + 0.139 (Cu-Cu_o) + 0.515 (CC-CC_o) + 0.693 (Fe-Fe_o)$$

For PVC Compound Grade CW-22, is to be taken into consideration.

46A.8 The demands for escalation of cost shall be allowed on the basis of provisional indices as mentioned above in Clause 46A.7. Any adjustment needed to be done based on the finally published indices shall be made as and when they become available.

46A.9: (1) Relevant categories of steel for the purpose of operating Price Variation formula as mentioned in this Clause shall be as under:

SL	Classification	Rates to be used for calculating S _Q or S _B
1.	Reinforcement bars and other rounds	Average of per tonne rates of 10mm dia TMT & 25mm dia TMT; confirming IS1786; Fe 500
2.	All types and sizes of angles, channels and joists	Average of per tonne rates of 'Angle 75x75x6mm, Mild Steel Plate 10mm thickness and Channel 150x75mm; confirming IS2062, E250 Gr "A"
3.	All types and sizes of plates	Average of per tonne rates of 'MS Plates 10mm thickness and 25mm thickness; confirming IS2062, E250 Gr "A"
4.	Any other section of steel not covered in the above categories	Average of price for the 3 categories covered under SL 1, 2 & 3 in this table.

(2). Relevant city for referring "JPC (Joint Plant Committee)" rates of steel items (S_Q /S_B) in different Zonal Railways shall be as under :

SL	City	Railway
1.	Delhi	Northern , North Central, North Eastern, North Western
2.	Kolkata	Eastern, East Central, East Coast, Northeast Frontier, South

		Eastern, Southeast Central
3.	Mumbai	Central, Western, West Central
4.	Chennai	Southern, South Central&South Western

46A.10 Price Variation during Extended Period of Contract

The price adjustment as worked out above, i.e. either increase or decrease shall be applicable upto the stipulated date of completion of work including the extended period of completion where such extension has been granted under Clause 17A of the Standard General Conditions of Contract. However, where extension of time has been granted due to Contractor's failure under Clause 17B of the Standard General Conditions of Contract, price adjustment shall be done as follows:

- a. In case the indices increase above the indices applicable to the last month of original completion period or the extended period under Clause 17A, the price adjustment for the period of extension granted under Clause 17B shall be limited to the amount payable as per the Indices applicable to the last month of the original completion period or the extended period under Clause 17A of the Standard General Conditions of Contract; as the case may be.

In case the indices fall below the indices applicable to the last month of original/ extended period of completion under Clause 17A, as the case may be; then the lower indices shall be adopted for the price adjustment for the period of extension under Clause 17B of the Standard General Conditions of Contract.

3.5 Deleted

3.6 Deleted

3.7 Final payment: -

Payment for Item Nos. 1 to 7 and Item No. 9 shall be released up to **100% of their prices as per Schedule 'I'** only after the MRI system demonstrates compliance with the prescribed trial performance requirements and successfully achieved the final accuracy requirements, as certified by the Railway Administration stipulated in RDSO Technical Specification No. TI/SPC/OHE/MRI/0143 dated 29.10.2025 except for implantation measurement accuracy; which should be **± 30 mm**. Suitable provisions shall be made by the contractor to attain full RDSO-specified accuracy preferably within six months from the date of award of tender, in line with Railway Board instructions vide letter No. 2008/Elect(G)/161/1Punct/Vol-I-Part(2), E-3421937 dated 07.02.2026.

For Item No. 8 for annual maintenance contract 100% payment shall be made on Six-monthly basis. The bill shall be submitted along with service report duly certified by SSE, ADEE & DEE.

The AMC should commence after expiry of warranty period of 24 Months from date on which system attains successfully the final accuracy requirements, as certified by the Railway Administration stipulated in RDSO Technical Specification No. TI/SPC/OHE/MRI/0143 dated 29.10.2025.

3.8 WARRANTY: - Warranty period shall be of **24 months** from the date of commissioning. All materials, spare parts, consumables and labor requirement shall be arranged by the successful supplier at his own cost during the course of warranty for repair of any defect and deficiencies.

3.9 Taxes:-

The quoted rates shall be inclusive of all taxes, duties, freight and other incidental charges including GST.

3.10 Penalty clause for Annual Maintenance of Entire System Installation:

- i) In the event of a breakdown or malfunction of any component of the system, the firm shall ensure that a qualified service engineer is deputed within 12 hours of receiving intimation via phone, email, fax, or letter. Failure to respond within the stipulated time will result in a penalty of Rs. 1500/- per day, with any part of a day counted as a full day.
- ii) In addition to above penalties, in case of any deficiency in service or execution of work, if required, Sr. DEE TD BB may deduct penalty of suitable amount.
- iii) The decision of Sr. DEE TD BB regarding the assessment of penalty to be imposed on the contractor shall be final and binding on the contractor.

3.11 Special conditions for letter of credit as mode of payment

- (i) For all the tenders having advertised cost of Rs10 lakh or above, the contractor shall have the option to take payment from Railways through a letter of credit (LC) arrangement.
- (ii) This option of taking payment through LC arrangement has to be exercised in IREPS (Indian Railway Electronic Procurement System -the e-application on which tenders are called by Railways) by the tenderer at the time of bidding itself, and the tenderer shall affirm having read over and agreed to the terms and conditions of the LC option.
- (iii) The option so exercised, shall be an integral part of the bidder's offer.
- (iv) The above option of taking payment through LC arrangement, once exercised by tenderer at the time of bidding, shall be final and no change shall be permitted, thereafter, during execution of contract.
- (v) In case tenderer opts for payment through LC, following shall be the procedure to deal release of payment through LC:
 - (a) The LC shall be a sight LC.
 - (b) The contractor shall select his Advising/Negotiating bank for LC. The incidental cost towards issue of LC and its operation thereof shall be borne by the contractor.
 - (c) SBI, New Delhi, Main Branch will be the nodal branch for issue of LCs based on online requests received from Railway Accounts Units for tenders opened in financial year 2018-19. SBI branches where the respective Railway Accounts Office has its Account (local SBI branch) will be the issuance/reimbursing branch for LC issued under this arrangement. The Bank shall remain same for this tender till completion of contract. The incidental cost @0.15% per

annum of LC value, towards issue of LC and operation thereof shall be borne by the contractor and shall be recovered from his bills.

- (d) The LC shall be opened initially for duration of 180 to 365 days in consultation with contractor. The LC shall be extended time to time as per the progress of the contract, on the request of the contractor. The value of LC to be opened initially as well as extended thereafter shall be finalised by the engineer in consultation with the contractor on the basis of expected progress of work.
- (e) The LC terms and conditions shall inter-alia indemnify and save harmless the Railway from and against all losses, claims and demands of every nature and description brought or recovered against the Railways by reason of any act or omission of the contractor, his ,agents or employees, in relation to the Letter of Credit (LC). All sums payable/borne by Railways on this account shall be considered as reasonable compensation and paid by contractor.
- (f) The LC terms and conditions shall inter-alia provide that Railways will issue a Document of Authorisation (format enclosed as Annexure 2) after passing the bill for completed work, to enable contractor to claim the authorized amount from their bank.
- (g) The acceptable, agreed upon document for payments to be released under the LC shall be the Document of Authorisation.
- (h) The Document of Authorisation shall be issued by Railway Accounts Office against each bill passed by Railways.
- (i) On issuance of Document of Authorisation, a copy of Document of Authorisation shall be posted on IREPS for download by the contractor. A digitally signed copy of Document of Authorisation shall also be sent by Railway Accounts Office to Railway's bank(Local SBI Branch).
- (j) The contractor shall take print out of the Document of Authorisation available on IREPS and present his claim to his bank (advising Bank) for necessary payments as per LC terms and conditions. The claim shall comprise of copy of Document of Authorisation, Bill of Exchange and Bill.
- (k) The payment against LC shall be subject to verification from Railway's Bank (Local SBI Branch).
- (l) The contractor's bank (advising bank) shall submit the documents to the Railway's Bank (Local SBI Branch).
- (m) The railway's bank (issuing bank) shall, after verifying the claim so received w.r.t. the digitally signed Document of Authorisation received from Railway Accounts Office, release the payment to contractor's bank (advising bank) for crediting the same to contractor's account.
- (n) Any number of bills can be dealt within one LC, provided the sum total of payments to contractor is within the amount for which LC has been opened.
- (o) The LC shall be closed after the release of final payment including PVC amount, if any, to the contractor.

- (p) The release of performance guarantee or security deposit shall be dealt directly by railway with the contractor i.e., not through LC.
- 3. For opening of LC, executive department shall make a request letter to concerned Accounts Department on a format, placed as Annexure - 1.
- 4. Necessary changes in IREPS and IPAS e-applications have already been carried out, for having option for payment to contractors through LC.

EXPLANATORY NOTES OF SCHEDULE ITEMS

4.0 Scope of work

The work involved is Supply, installation, testing and commissioning of Measuring and Recording Instrumentation (MRI) on 1 No. of Tower wagon in Mumbai division.

Item No.1 Supply, installation, commissioning and testing of AI based Measuring & Recording instrumentation (MRI) on Tower wagon for measurement on 25KV line OHE.

1.Height measurement

2.Stagger measurement

3.Mast Identification System

4.Implantation distance from the centre of the track.

5.Crossover, turnout, horizontal gap between IR and OR

6.Gradient Descent/Ascent between two OHE mast

7. Relative Gradient Descent/Ascent

8. separate report for gradient descent greater than 2/3 mm per meter (Exception at point where cam put at time of report generation)

9.Customised report

The price shall cover for Supply, installation, commissioning and testing of AI based Measuring & Recording instrumentation (MRI) on Tower wagon for measurement on 25KV OHE line.

Initially, the supplied system shall be capable of carrying out measurement and recording operations as per the technical requirements specified in Annexure 'A'. The contractor shall ensure achievement of the accuracy requirements prescribed in RDSO Technical Specification No.TI/SPC/OHE/MRI/0143 (10-2025) except for implantation measurement accuracy; which should be $\pm 30 \text{ mm}$ through necessary development, calibration, and validation efforts within a period of six months from the date of award of tender, in line with Railway Board instructions vide letter No. 2008/Elect(G)/161/1Punct/Vol-I-Part(2), E-3421937 dated 07.02.2026.

After period of six months from date award of tender

1. The system should be able to measure parameters with desired accuracy levels for speed up to 110kmph. However, speed limit may be reduced up to 10 kmph for measuring OHE parameters at Overlap/Turnout/Crossovers.
2. The range of measurement of height is tabulated below:

S.N.	Type of OHE	Range	Initial Accuracy	Accuracy after 6 months	Sampling Distance
1.	Normal/Conventional	4500 mm to 6000 mm	$\pm 20 \text{ mm}$	$\pm 10 \text{ mm}$	200 mm Maximum
2.	High rise	up to 7800 mm	$\pm 20 \text{ mm}$	$\pm 15 \text{ mm}$	

3. The accuracy of stagger measurement should be minimum ± 10 mm.

S.N.	Type	Initial Accuracy	Accuracy after 6 months
1.	Stagger Measurement	± 20 mm	± 10 mm

4. The accuracy for implantation measurement using the MRI system should be ± 30 mm.

S.N.	Type	Initial Accuracy	Accuracy after 6 months
1.	Implantation Measurement	± 30 mm	± 30 mm

Annexure A

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Chapter-I

GENERAL CONDITIONS

1.1 SCOPE:

- 1.1.1. This specification covers the Design, manufacture, supply, testing & retrofitment/commissioning of OHE Parameter Measuring & Recording instrumentation on existing self-propelled 8-Wheeler Diesel Electric Tower Car and self-propelled 8-Wheeler Diesel Hydraulic Tower Car operating on broad gauge (1676mm) electrified (25 KV A.C.) routes of Indian Railways. The work involved is to design, development develop, manufacture, supply, testing of instrumentation and retro-fitment/commissioning of these instruments on 8-Wheeler Diesel Electric and Diesel Hydraulic Tower Cars as per given specifications.

1.2 CLIMATIC CONDITIONS:

- 1.2.1. The instrumentation shall be in continuous operation under the following atmospheric and climatic conditions: _

1.	Atmospheric temperature	Metallic surface temperature under Sun: 75 ⁰ C maximum and in shade: 55 ⁰ C max. Minimum temperature: -10 ⁰ C (Also snow fall in certain areas during winter season)
2.	Humidity	100% saturation during rainy season.
3.	Reference site conditions	i) Ambient Temp. :-20 ⁰ C to 50 ⁰ C ii) Humidity: 100% iii) Altitude: 2000m above mean sea level.
4.	Rain fall	(i) Ranging from 1750 mm to 6250 mm. (ii) Number of rainy days/annum 120
5.	Atmosphere during hot weather	Extremely dusty and desert terrain in certain areas. The dust concentration in air may reach as high as of 1.6 mg/m ³ . In many iron ore and coalmine areas, the dust concentration is very high affecting the filter and air ventilation system.
6.	Coastal Area	Instrumentation shall be designed to work in coastal areas in humid and salt laden atmosphere with maximum pH value of 8.5, sulphate of 7 mg per liter, max. concentration of chlorine 6 mg per liter and maximum conductivity of 130 micro Siemens/cm.
7.	Vibration	The equipment, sub-system and their mounting arrangement shall be designed to satisfactorily withstand the vibration and shocks encountered in service as specified in clause 1.2.2. Further High level of vibration and shocks in order of 50 g. Accelerations over 500 m/s ² have been recorded at axle box levels for long periods during run. Vibrations during wheel slips are of even hi her magnitude.
8.	Wind Speed	High wind speed 55m/sec in certain areas, with wind pressure reaching 216 kgf/m ²
9.	Operation time	Day & Night

10.	Operation Duty	All measuring devices installed shall be suitable for continuous working on live or non-live OHE under all atmospheric conditions throughout the year.
11.	Nominal system Voltage of Overhead contact wire.	25kV AC. single phase, 50 Hz

1.2.2. The equipment and their arrangement shall withstand satisfactorily, the vibration and shocks normally encountered in service which are mentioned in Clause 1.2.1 and as below:

- (a) Maximum Vertical Acceleration 3.0g
 - (b) Maximum Longitudinal Acceleration 5.0g
 - (c) Maximum Transverse/lateral Acceleration 3.0g
- Where g=Acceleration due to gravity

The equipment and their arrangement shall withstand satisfactorily, the vibration and shocks test as per as per IEC: 61373 (latest version).

1.2.3. GOVERNING SPECIFICATIONS:

	Specification No.	Description
1.	IEC 60571-2012	Railway Applications: Electronic equipment used on Rollin Stocks.
2.	IEC 61373-2010	Railway Applications: Rollin Stock Equipment.
3.	IEC 61000	EMI/EMC compatibility
4.	IEC 61000-4-5 (2017)	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques Surge immunity test.
5.	IEC 61000-4-2 (2008-12)	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques Electrostatic Discharge immunity test.
6.	IEC 61000-4-4 (2012-04)	Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques — Electrical fast transient/burst immunity test.
	IEC 61000-4-3 (2020-09)	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency electromagnetic field immunity test.
8.	IEC 60529 (2013-08)	Degree of protection provided by enclosures (IP code)
9.	IEC 60068 2013-10	Environmental testing
10.	IEC 61000-4-6 (202306)	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques — immunity to conducted disturbance induced by Radio frequency fields.
11.	IEC 61000-4-8 (2009)	Electromagnetic compatibility (EMC) part 4-8: Testing and measurement techniques Power frequency magnetic field immunity test.

12.	IEC 60077-1 (2017)	Railway Applications: Electric equipment for Rolling Stock. Part-I: General service conditions and general rules.
13.	ISO/IEC 17011:2017	Conformity assessment - Requirements for accreditation bodies accrediting conformity assessment bodies.
14.	ISO/IEC 17025:2017	General requirements for the competence of testing and calibration laboratories.
15.	IS: 696-1972	Code of practice for general engineering drawings.
16.	BS EN 50121-2:2017	Railway applications- Electromagnetic compatibility Emission of the whole railway system to the outside world

Note: Latest version of the above specifications/standards shall be applicable and should be available with the manufacturer/supplier.

1.3 Deleted.

1.4 **DESIGN DEVELOPMENT:**

1.4.1 The supplier may use any of the proven technology (LIDAR/LASER with AI etc.) or combination of technologies/ any other state of art technology already successfully demonstrated through field trials and certified by the minimum rank of HOD level or Successfully supplied and commissioned in any the Metro or Railway Nationally/internationally to achieve the measured parameters to the desired accuracy & reliability.

1.4.2 The design shall be based on S.I. Units.

1.4.3 From the information given in this specification, the contractor shall prepare a full set of engineering drawings for fitment/ retro-fitment of instruments for monitoring vital OHE parameters.

1.4.4 Material specifications, manufacturing tolerances and other details, such as jigs & fixtures which are necessary for retro-fitment of instruments shall be indicated in the drawings.

For jigs & fixtures and fittings required for retro-fitment should be of rust/corrosion free material preferably stainless steel.

1.4.5 Supplier shall inspect the existing self-propelled 8-Wheeler Diesel Electric & Diesel Hydraulic Tower Cars available on Indian Railways for space availability, locations for fixing instruments/equipment and to develop the suitable instrumentation for fitment/ retro-fitment and also control cubicles for recording and monitoring.

1.5 **APPROVAL OF DRAWINGS:**

1.5.1 "Approval" to the drawing means the in-principle approval to the general adaptability of the design features. The contractor shall be wholly and completely responsible for all these variables. Railways shall not be responsible for the correctness of dimensions on the drawings, materials used, strength or performance of the components. The contractor, when submitting proposals or designs for approval, shall draw attention to any deviation or departure from the specification involved in his proposals or drawings.

- 1.5.2 Drawing for approval shall be submitted in standard size (s) as per IS: 696 along with main calculation details in triplicate.

1.6 **PRINTS:**

Three sets of hard copies of approved drawings and also soft copies (CAD as well as PDF format) in DVD/ Pen drive or any other suitable media shall be provided to Purchaser with each system supplied for reference and record.

- 1.6.1 Diagram sheets showing the overall dimensions of the instrumentation, weights and the relation of overall dimensions to the space in the Tower Car.

1.7 **CONTRACTOR'S RESPONSIBILITY:**

- 1.7.1 The contractor shall be entirely responsible for the execution of the contract strictly in accordance with the terms of this specification and the conditions of contract, notwithstanding any approval which railways or the Inspecting officer may have given:

- (a) Of the detailed drawing prepared by the contractor.
- (b) Of the sub-contractors for materials.
- (c) Of other parts of the work involved by the contractor.
- (d) Of the tests on instrumentation either by the contractor or by Railways or the Inspecting Officer.

1.8 **WARRANTY:**

Warranty period shall be of **24 months** from the date of commissioning. All materials, spare parts, consumables and labor requirement shall be arranged by the successful supplier at his own cost during the course of warranty for repair of any defect and deficiencies.

1.9 **DRAWINGS AND STANDARD SPECIFICATION:**

- 1.9.1 The Contractor shall prepare all the drawings for installation of instrumentation on Diesel Electric/Diesel Hydraulic Tower Car for approval.
- 1.9.2 Indian Railways Standard (IRS) Specifications and Schedules of Maximum Moving Dimensions may be obtained on payment from the Manager, Government of India Publications, Civil Lines, Delhi 110 006 (INDIA).
- 1.9.3 Indian Standard Specifications (ISS) are available from Bureau of Indian Standards, 9-Bahadur Shah Zafar Marg, Delhi 110 002.

1.10 **SERVICE ENGINEERS:**

- 1.10.1 The Contractor shall arrange for the supervision of commissioning of the instrumentation immediately after their receipt at ultimate destination. He is also required to carry out joint check of the receipt of components regarding short shipment or transit damages.
- 1.10.2 The performance of instrumentation shall be demonstrated by the contractor after its successful commissioning at the consignee's works.
- 1.10.3 The contractor shall provide and ensure servicing facilities in India throughout the warranty period. After the warranty period is over, he shall, on call, give service support for troubleshooting and for obtaining spare parts.

1.11 **TRAINING:**

- 1.11.1 The Contractor shall arrange to provide training in operation & maintenance of the instrumentation at their manufacturing works/training centre for two men for five

working days for each set of instrumentation supplied for each Tower Car. The training material shall be supplied by the contractor.

1.12 SERVICE MANUALS AND SPARE PARTS CATALOGUE:

1.12.1 Detailed Maintenance & Service Manuals including the manual for trouble shooting & operational requirement, spare parts catalogues for the operator and maintenance staff with each set of instrumentation supplied with each Diesel Electric or Diesel Hydraulic Tower Car shall be prepared and three copies supplied free of cost.

1.12.2 In addition, three copies each of the Maintenance/Service and troubleshooting manual shall be supplied to Railways.

1.13 Deleted

1.14 SPARE PARTS:

1.14.1 Unit exchange of spare parts shall be indicated. However, final decision to buy these will rest with the purchaser.

1.14.2 The supplier shall be responsible to ensure subsequent availability of the spare parts for the normal life of the respective instrument.

1.15 QUALITY ASSURANCE PLAN:

1.15.1 The contractor shall formulate Quality Assurance Plan (QAP) detailing the methodology proposed to be followed for manufacturing, fitment/retro-fitment, testing & commissioning of instrumentation on Tower Car.

1.16 ANNUAL MAINTENANCE CONTRACT (AMC):

1.16.1 The supplier shall quote for CAMC (Comprehensive Annual Maintenance Contract) of all Equipment/Components of Measuring & Recording System. All items in the BOQ as per suppliers need to be covered in the CAMC.

1.16.2 The Annual Maintenance shall be for 5 years after warranty period is over. All materials, spare parts, consumables and labor requirement shall be arranged by the successful supplier at his own cost during the course of warranty & CAMC.

1.16.3 The AMC shall be comprehensive for all Equipment of Measuring & Recording System covering scheduled as well as break down maintenance. The supplier shall keep adequate spares in stock accordingly. AMC shall be inclusive of replacement of parts, if required, either due to breakdown or due to regular wear and tear.

1.16.4 Supplier shall submit various maintenance schedules such as Daily, Monthly, and Yearly schedules if any of all Equipment at design approval stage.

1.16.5 During the warranty period, scheduled maintenance of Measuring Equipment/Components shall be done by the successful contractor for which no extra cost shall be paid by the Railways.

1.16.6 After expiry of the Warranty period, the successful contractor shall have to maintain all the instrument/Components of the Measuring System during the AMC period of 5 years.

1.16.7 The CAMC agreement shall be entered separately with each Zonal Railway as per the accepted rate of the Contract.

1.17 **INFRINGEMENT OF PATENT RIGHTS:**

- 1.17.1 Indian Railway shall not be responsible for infringement of patent rights arising due to similarity in design, manufacturing process, components used in design, development and manufacturing of complete system and any other factor, which may cause any such dispute. The responsibility to settle any issue lies with the manufacturer.
- 1.17.2 In this regard, the manufacturer has to submit an affidavit (on non-judicial stamp paper of appropriate value as applicable in the respective state and duly notarized & witnessed) as per format attached as Annexure-2.

CHAPTER - II

MEASURING & RECORDING SYSTEM

- 2.1 The instrumentation shall be able to measure and record the required parameters in the up to speed of **30 kmph** when running in self-propelled mode/coupled to a train.
- 2.2 The system requirement shall facilitate simultaneous recording, storing and processing of data in near real time. In this setup, video recording of the OHE shall be carried out with independent camera having storage device and shall process data in near real time with on board computer/Laptop kept in the Tower Car to process the necessary information of the OHE geometry parameter as mentioned in the clause 2.7.1 (a) to (e). System should be capable to transmit processed report / Exceptional Alert of OHE geometry from the on-board computer/Laptop to the nominated Railway Official sitting at the Remote Control Centre through internet. The type and details in Report shall be finalized at the designs approval stage. The data/report generated by the system should be made available in the format as approved by Railway.
- 2.3 The supplier shall give offer with complete technical details including processing software for analysis of OHE Geometry and report generation. The software shall be capable to support opening of files in MS Excel or similar spreadsheet software. The supplier shall handover the latest software version to the purchaser and shall be responsible for up-dation of software whenever needed to meet the requirement of this specification/tender document.
- 2.4 The measurements shall be made under live and non-live condition of the OHE, during day and night.
- 2.5 The pantograph of Tower Car may be fitted with instrumentation such as transducers, accelerometer, load cells and strain gauges etc. as required but such fitment shall not materially affect the static/dynamic performance of the Tower Car pantograph. The sensors are to be installed on the roof of tower car or on pantograph of tower car. The transducers shall be properly protected against mechanical, environmental and electrical interferences. The cameras shall have high resolution (min 8MP) high frequency suitable for capturing of images/video recording up to speed of **30 kmph** with maximum sampling distance of 200mm. The cameras and other equipment shall be protected for ingress of dust and water with **IP -67** Protection.

For parameters like contact wire height, stagger, setting distance (implantation), the supplier may use any of the proven technology (LIDAR/LASER with AI etc.) or combination of technologies/ any other state of art technology already successfully demonstrated through field trials and certified by the minimum rank of HOD level or Successfully supplied and commissioned in any the Metro or Railway Nationally/internationally to achieve the measured parameters to the desired accuracy & reliability, shall be acceptable conforming to environmental standards. The system shall be designed according to electromagnetic compatibility, Shocks vibrations and shall have no moving parts, completely sealed and rugged

construction.

The communication between exterior/roof mounted and interior instruments on board Hardware computer/laptop shall be made by an Ethernet Network and physical connection is made by optical fiber or any other suitable method for seamless connectivity with redundant path. All cables on the roof of tower car which are connected to ground level shall be put in a metallic grounded protection pipe.

The system shall be precise and needs less frequent calibrations.

The supplier shall submit a detailed scheme of the proposed system with technical details including dimensional requirement of the system.

- 2.5.1 The system shall have protection against open circuit and short circuit of the sensor as well as of cable used.
- 2.5.2 All material used in equipment shall have fire retardant property.
- 2.5.3 Real-time monitoring of measured parameters will enable timely interventions and preventive maintenance, thereby reduce failures and increase the OHE availability.
- 2.5.4 Exception Alerts should be tiered (warning/critical) with configurable thresholds to help Railway staff prioritize interventions.

2.6 FITMENT/ RETRO-FITMENT OF MEASURING SYSTEM:

- 2.6.1 All processed information shall be made available in the Laptop/Desktop at the suitable location in the Dome Area or Staff Cabin of Tower Car. The connections from instrumentation on the roof of the car to the place inside the Tower Car shall be rigid enough to avoid any failure due to poor connectivity during movement of Tower Car due to vibrations. Necessary minor modification work for keeping Laptop/Desktop, UPS, Printer and power supply arrangement for Laptop/ Desktop, Printer shall be in the scope of supply. The detailed Layout for installation of measuring and recording equipment (Laptop/Desktop, UPS, Printer etc.) in existing Tower Car to be submitted during design approval stage. The system should be designed to make it suitable for working in Indian subcontinent environment.
- 2.6.2 The electric supply shall be made available from 10 KVA DG set, 440V, 3-phase supply provided with Tower car. The supplier shall draw single phase supply from DG Set for supply to UPS. The UPS shall have a backup of at least one hour in the event of failure of DG Set and UPS shall be in the scope of supply of MRI instrument supplier. The capacity of the battery with UPS shall be furnished while submitting the design for approval of Railway.

2.7 PARAMETERS TO BE MEASURED:

- 2.7.1 The system should be able to measure parameters with desired accuracy levels for speed up to **30 kmph**. However, speed limit may be reduced up to **10 kmph** for measuring OHE parameters **at Overlap/Turnout/Crossovers**.

Principles/methods used for the measurements as indicated in each of the following clauses are indicative and the successful supplier should employ state-of-art proven technology existing/ working worldwide in railways System capable of high accuracy and precision in measurement and recording.

All corrections/ compensations due to bogie, body and pantograph oscillations shall be built into the measurement system for giving better accuracy/precision in measurement and recording.

The parameters which are required to be measured and monitored by MRI system are detailed as under:

a) HEIGHT OF CONTACT WIRE:

- (i) The height of the Contact Wire is vertical distance of its underside from the rail level and it varies from 4500 mm to 7800mm from rail level based on the type of OHE i.e. normal or high rise OHE.
- (ii) The height measurement should be corrected for car-body movement and required compensations shall be provided. Height of contact wire may be measured using any contact/ non-contact measurement methodology.
- (iii) The MRI system shall be able to measure heights of Contact wire at support and also of two contact wire of main line OHE and additional lines pertaining to Turnout/Crossover/Overlap with range 4500 to 6000 mm with an accuracy level of **± 20 mm** for normal OHE and up to 7800 mm with an accuracy level of ± 20 mm for high rise. The details of checking of Turnout/Crossover/Overlap (at Obligatory Structure) is mentioned in clause no. 2.7.1 (e)

The range of measurement of height is tabulated below for better appreciation:

S.N.	Type of OHE	Range	Accuracy	Sampling Distance
1.	Normal/Conventional	4500 mm to 6000 mm	± 20 mm	200 mm Maximum
2.	High rise	up to 7800 mm	± 20 mm	

b) STAGGER OF CONTACT WIRE:

Stagger is defined as the distance of the contact wire from the center-line of the pantograph, measured transverse to the track. (Suitable cant compensation shall be made for transverse oscillations of the locomotive/OHE car which affect the centerline of the pantograph from the vertical). The system employed should enable measurement of stagger of Contact wire at support and also of two or more contact wires simultaneously (at overlaps, turnouts and crossover) up to a limit of ± 500 mm. Suitable audio visual alerts shall also be provided, if stagger goes beyond permissible limit. The stagger of contact wire may be measured using any contact/non-contact measurement method. The accuracy of stagger measurement should be minimum **± 20 mm**. Sampling distance for Stagger measurement shall be maximum of 200 mm (Dynamic sampling mode may be adopted i.e. auto adjusted based on train speed). The details of checking of Overlap/Crossover/Turnout (at Obligatory Structure) is mentioned in clause no. 2.7.1 (e).

c) MEASUREMENT OF SETTING DISTANCE (IMPLANTATION):

Setting Distance is distance measured from center line of track to the inner face of traction mast. This varies in the range of 2100 mm to 6000mm. System should be able to measure the setting distance in accuracy level of **± 30 mm**. System should be able to have data storage of at least 10 lakh masts and transfer it for printing of reports.

d) GRADIENT (SLOPE) AND RELATIVE GRADIENT OF THE CONTACT WIRE:

The gradient of the contact wire is the rate of change of height expressed in mm/m of distance. For relative gradient this may be calculated based on variation in height of contact wire and distance travelled. Any other suitable design suggested by the supplier can also be considered, subject to meeting the requirements. The accuracy of gradient (slope) and relative gradient of the contact wire measurement should be minimum ± 1.0 mm per 50 meter.

Gradient/relative gradient can be calculated by software from measured height of contact wire and location.

e) Checking of Crossover and turn-outs or overlaps (At Obligatory Structures):

Points and crossing are one of the important locations which needs special attention in respect of erection and maintenance, because of maladjustment of the OHE at obligatory structure may lead to pantograph entanglement causing disruption of traffic. Hence, when negotiating a cross-over/turnout, i.e. when moving from mainline to turnout or from turnout to mainline the system should be able to measure and record the following items:

S.No	Parameter	Standard Values	Desired Accuracy
1	Relative height Difference of contact wire above rail level at support (obligatory structure) i.e. difference of mainline and overlap/turnout contact wire. (a) Height of mainline contact wire. (b) Height of overlap/turnout contact wire.	4500mm to 7800 mm At obligatory structure, the contact wire of main line OHE should be 50mm below the contact wire of turnout OHE.	Accuracy ± 20mm
2.	Stagger of contact wire at support (obligatory structure) (a) Main line contact wire stagger (b) Turn out contact wire stagger	200mm max at Main line 300mm max at turnout	Accuracy \pm 20mm
3.	Horizontal separation of two contact wires at support (obligatory structure).	Horizontal separation of two contact wires at support is not less than 50mm.	Accuracy ± 10 mm
4	Take Off / Take On of Pantograph	Standard Values of Take on/Take Off is	Accuracy ± 10 mm
	Take off (when tower Car moving from mainline to turnout) and Take on (when tower Car moving from turnout to mainline) point of pantograph.	650mm to 720mm from the centre line of pantograph.	

Note: Suitable alert should be generated by system in case of deviation found from standard values/threshold values defined by Zonal railways during measurement. The threshold values for alerts should be user configurable

[SMI No. TI/MI/0028 Rev.2 or latest, - Special maintenance instruction (SMI) for overhead equipment on turnouts/crossover, may be referred for details]

2.7.2 **MAST IDENTIFICATION SYSTEM:**

- (i) The GPS receiver shall identify the location of OHE masts co-relating with measured data. Global positioning system shall be utilized for the mast identification along the track. The GPS/optical mapped data is in text file and shall be required to be correlated with the software of the measuring instrument system so that the location of the measured data is automatically displayed/printed along with the event recorded. Accordingly, chart recorder/ report output shall indicate the exact location of recorded event, giving the mast number.
- (ii) Alternatively, an optical identification system can also be employed to detect the Catenary Wire support /Mast/Structure along the track continuously. The Optical, Mast Identification system shall be active where GPS is not visible such as through tunnels and other critical locations or supplier may submit an alternative solution for Catenary Wire support / Mast/Structure identification at tunnel location/where GPS is not available.
- (iii) GPS data shall be transferable to PC/Laptop using suitable software and accessories. The GPS data shall be provided by the Railways. Antenna of sufficient cable length shall also be provided.
- (iv) The accuracy required for GPS System Employed for, mast location identification shall be minimum ± 4 meter.

2.7.3 **CORRECTIONS (COMPENSATIONS FOR ACCURATE MEASUREMENTS:**

All necessary corrections and compensations arising from bogie, body, and pantograph due to dynamic oscillations shall be incorporated within the measuring and recording instrumentation system to ensure high accuracy and precision of recorded parameters.

The system shall provide:

- **Dynamic Compensation due to vibrations:** High-sensitivity vibration sensors shall be provided at critical locations on the bogie, car body, and pantograph to continuously measure dynamic oscillations. These signals shall be utilized for compensation of measurement errors.
Use Real-time algorithms to correct errors due to lateral, vertical, movements of the bogie, car body, and pantograph, thereby minimizing the influence of vibration, track irregularities and for speed variations.
- **Time Synchronization:** All measurement channels and subsystems shall be synchronized through a common time base. Accurate time stamping of data shall be ensured by using common clock reference to maintain alignment of recorded signals.
- **Integrated Software Support:** The associated software shall acquire, process, and compensate the data automatically. It shall facilitate correlation of multi-sensor data streams for validation of measurement integrity.

The complete arrangement shall be designed to meet the desired accuracy levels specified at varying speed and varying environmental conditions.

2.8 RECORDING AND PRESENTATION OF TEST RESULTS:

- 2.8.1 All processed results shall be presented with reference to the specific mast location on the track and kilometrage. It should be possible to initialize the reference kilometers by the operator at any stage. All distance measurements after initializing the kilometer shall be with reference to kilometer so entered till the next initializing by operator. For each mast, wherever height, stagger and setting distance (implantation) are reported, the system shall embed the corresponding image frame with graphic overlays (measurement markers, mast ID, kilometrage) and store the image reference within the mast-wise record into the system.
- 2.8.2 The exact format for presentation of reports over computer monitor and plotter/printer shall be mutually decided after award of the tender. Such presentation may take the form of continuous display correlated with the mast location and recorded parameters and kilometric progressive over a suitable scale and also the form of reports generated on the basis of exceedance of certain threshold values. The processing software shall take care of the requirement of IR gauge and OHE for the purpose.
- 2.8.3 The system shall have user-friendly Graphical User Interface (GUI) that offers clear and comprehensive representation of all recorded measurement data which shall be mutually decided after award of the tender. All measured parameters shall be displayed on a single screen preferably in tabular views and graphical image/chart wherever applicable. The GUI shall automatically highlight any measurement that exceeds or falls below the threshold value by means of distinct color coding. User shall be able to apply flexible filtering and sorting of the displayed data by date, time, location, and parameter type or severity level if defined, with advanced search options to quickly locate specific events or exceptions. The interface shall also support secure export of either complete or filtered data sets in standard formats such as CSV, Excel or PDF, while maintaining time-stamped records to ensure data integrity and traceability.

2.9 RECORDING FACILITY:

- 2.9.1 All parameters shall be recorded and archived on a suitable multi-channel recorder as per system requirement & configuration. The storage media shall be solid state drive (SSD) of capacity not less than 5TB. The storage space shall be adequate for storing information for a cumulative run of minimum 3000 kms on FIFO basis.
- 2.9.2 All measured and recorded data shall be converted from analog to digital form, classified, analysed and stored on an On-Board computer based data acquisition and analyzer system. It shall be possible to generate suitable reports involving simple logic from the database.
- 2.9.3 It shall be possible to print out all or any of the parameters in juxtaposition as a function of distance or mast location without any classification, if desired. Normally the data shall be required to be printed after classification and analysis as specified.
- 2.9.4 Suitable recorder is to be provided for recording all parameters in juxtaposition for offline processing. The resolution of the parameters recorded shall be commensurate with the variation of the recorded value.

2.10 EMI REQUIREMENTS:

2.10.1 The instrumentation shall work under 25 kV, 50 Hz, OHE System environment. Electronic signals generated inside the measuring equipment, inverters shall work without any adverse performance.

2.10.2 The tracks over which the offered system will work may be equipped with DC track circuits, 83-1/3 Hz track circuits as well as track circuits at higher frequencies. Harmonics generated by the measuring equipment should not affect signaling gears like audio frequency track circuits and axle counters which work in the range 0-5 kHz with a limit of 400 mA. On the communication network, control circuits, tele-printer circuits, as well as VHF/UHF and microwave circuits are employed. The Psophometric voltage induced on the communication circuit running by the side of track should not exceed 1 mV.

2.10.3 The electric and electronic equipment used in the measuring & recording instrumentation System shall comply with emission and immunity aspects of EMC to CENELEC standard EN-50121-3-2. The internal EMC shall cover a combination of earthing, shielding and isolation of interference sources so that conducted and radiated noises are properly segregated or suppressed and no other equipment is affected due to operation of measuring equipment. The following interference current in the output current waveform shall not be exceeded at any point in the operating envelope of the Car:

Psophometric Current	<=5 A
100 Hz	- 400 mA
1700 ± 50 Hz	- 300 mA
2000 ± 50 Hz	- 300 mA
2300 ± 50 Hz	- 300 mA
2600 ± 50 Hz	- 300 mA
5100 ± 50 Hz	- 100 mA

2.10.4 Emission from Tower Car to outside world shall be limited to level specified under CENELEC standard 50121-2 and EN 50121-3-1 namely "Railway application Electromagnetic Compatibility Part 3-1: Rolling Stock-Train and complete vehicle.

2.11 **INSPECTION & TESTING OF MEASURING & RECORDING INSTRUMENTS:**

2.11.1 Prototype test: Prototype test shall be conducted at the works of the Supplier as per requirement of the equipment of the approved design. Tests to be conducted are tabulated below:

Table-I

SN	TESTS	CLAUSE NO.	TYPE TEST	ROUTINE TEST/ACCEPTANCE TEST
I	Visual Inspection	2.11.2.1	✓	✓
II.	Performance test	2.11.2.2	✓	✓
III.	Voltage variation test	2.11.2.2(a)	✓	--
IV.	Supply Interruption Test	2.11.2.2(b)		
V.	Cold Start Test	2.11.2.3	✓	--
VI.	Temperature rise test (Dry heat)	2.11.2.4	✓	--
VII.	Temperature rise	2.11.2.5	✓	--

	(damp heat cycle)			
VIII.	Supply over voltage test	2.11.2.6	✓	--
IX.	Test for Electromagnetic Compatibility	2.11.2.7	✓	--
X.	Surges test	2.11.2.8	✓	--
XI.	Electrostatic discharge test ESD	2.11.2.9	✓	--
XII.	Electrical Fast Transient/Burst Immunity Test	2.11.2.10	✓	--
XIII.	Radio Frequency, Electromagnetic Field Immunity Test	2.11.2.11	✓	--
XIV.	Power frequency Test	2.11.2.12	✓	
XV.	Insulation test	2.11.2.13	✓	✓
XVI.	Voltage withstand (Dielectric) test	2.11.2.14	✓	✓
XVII.	Salt mist test	2.11.2.15	✓	--
XVIII.	Vibration and shock test	2.11.2.16	✓	--
XIX.	Ingress Protection Test	2.11.2.17	✓	--

2.11.1.1 Tests mentioned at (I), (II), (III), (IV) and (XVI) in Table-I are to be conducted at works of manufacturer. Remaining tests, shall be conducted in reputed government laboratory or NABL- accredited laboratory or any other suitable laboratory accredited by accrediting agencies as per criterion given below:

- (i) Should be full member and signatory to Mutual Recognition Agreement (MRA) of ILAC (International Laboratory Accreditation Cooperation) & APLAC (Asia Pacific Laboratory Accreditation Cooperation).
- (ii) Should have established an accreditation system in accordance with ISO/IEC (International Electro Technical Commission) 17011: 2004 or latest version as applicable.
- (iii) Carry out assessment and accreditation of LABS in accordance with ISO/IEC17025.
- (iv) Should be Government Controlled.

2.11.1.2 Type Test protocol for complete integrated system shall be submitted by supplier for approval of Railway/RDSO before offering for inspection as per relevant standards. On new developed item, Type testing shall be carried out by RDSO.

2.11.1.3 After successful prototype testing, the system shall be subjected to extensive field trials under 25 AC Traction lines of Indian Railway for minimum 1000 Running Track Kilometer as per Clause 2.11.3 of this specification.

2.11.1.4 If there is any change in design or source of supply of any components/subcomponents/assembly, units made to the changed design or from new source, shall be treated as new item and require conducting re-type tests.

2.11.1.5 Tests will be carried out on the prototype unit as per relevant IEC specifications or mutually agreed test program. Vendor will bear the expenses of the tests.

2.11.2 DETAILS OF TESTS:

2.11.2.1 VISUAL INSPECTION:

Visual inspection shall be carried out to ensure that the equipment under test is of acceptable workmanship and in conformity with manufacturers design specification based on this specification and accepted by Railways. The following parameters shall be checked during inspection:

- (a) The equipment is free from defects
- (b) Equipment is as per approved drawing
- (c) Bill of materials.
- (d) Make, rating of equipment, subassemblies as per approved design document.
- (e) All the important dimensions will be measured
- (f) Cable marking and identification
- (g) Equipment mounting arrangement

2.11.2.2 **PERFORMANCE TEST:**

Test shall be carried out at the ambient temperature.

The performance test shall be carried out on individual subsystem as well as on complete integrated MRI system with all accessories after assembly to assess the performance and functionality of the System as per functional requirement of this specification in lab environment in simulated conditions. The software functionality shall also be assessed during integrated testing. For this purpose, suitable arrangement shall be made by supplier in their manufacturing works to validate the system before going in to the field.

Performance test procedure/protocols shall be submitted by the vendor for approval.

These tests are carried out to check and ensure that the performance of the equipment is in order.

This type test shall include the following:

(a) VOLTAGE VARIATION TEST:

This test shall be carried out as per clause 12.2.3 (a) of IEC 60571-2012 and Clause 5.3.3.2 of IEC 60077. Upper and lower limit of voltage variations for test shall be, Nominal voltage +10% and -15% respectively.

(b) SUPPLY INTERRUPTION TEST:

This test shall be carried out as per Clause 5.1.1.3 and Clause 12.2.3 (b) of IEC 60571-2012.

No degradation of the performance of the system & malfunctioning should be allowed during or after the test.

2.11.2.3 **COLD START TEST:**

This test shall be carried out as per clause 12.2.4 of IEC 60571-2012.

Temperature values shall be taken from table-I of IEC 60571-2012 for TX class ambient temperature.

Test acceptance requirements will be as per Clause 12.2 of IEC 60571-2012

2.11.2.4 **TEMPERATURE RISE TEST (DRY HEAT):**

This test shall be carried out as per clause 12.2.5 of IEC 60571-2012. The temperature of the equipment will be raised to 85°C at the rate of 1°C at 1.5 minute and to be kept at that temperature for 6 hours. In this test equipment shall be in energized condition and working of the system will be checked.

Insulation test, Dielectric test at 85% voltage of the previous test and performance test will be carried out after the recovery period of 3 hrs. This test can be performed without battery with similar rating of power supply as per battery parameters connected to device.

Test acceptance requirements will be as per Clause 12.2.5 of IEC 60571-2012.

2.11.2.5 TEMPERATURE RISE (DAMP HEAT):

This test shall be carried out as per clause 12.2.6 of IEC 60571-2012. Damp heat test shall be done keeping the equipment in de-energized condition. It is to be ensured that the RH of the oven should be between 80 to 100% during the above test. The temperature of the equipment is to be raised from ambient to 55°C in 2 hours and kept at that temperature for 6 hours. The temperature of the equipment 55°C should be brought down to ambient (recovery period) in 3 hours.

Temperatures	+ 55 °C and + 25 °C
Number of cycles	2 (respiration effect)
Time	2 × 24 hrs

The cycle is to be repeated two times and carry out insulation test, Dielectric test at 85% voltage of the previous test and performance test.

Test acceptance requirements will be as per Clause 12.2.6 of IEC 60571-2012.

2.11.2.6 SUPPLY OVER VOLTAGE:

The test shall be conducted as per Clause 12.2.7 of IEC-60571-2012.

Test acceptance requirements will be as per Clause 12.2.7 of IEC 60571-2012.

2.11.2.7 TEST FOR ELECTROMAGNETIC COMPATIBILITY:

The complete system shall be designed such that there will not be any Electromagnetic Interference and the test shall be conducted for EMI/EMC with relevant clauses of IEC 61000 as under clause 2.11.2.9, 2.11.2.10, 2.11.2.11 & 2.11.2.12:

2.11.2.8 SURGE TEST:

The test shall be carried out as per IEC: 61000-4-5. Installation Class: 4.
Test level: 4 KV

Test acceptance requirements will be as per para 9 (a) of IEC 61000-4-5.

2.11.2.9 ELECTROSTATIC DISCHARGE IMMUNITY TEST:

The test shall be carried out as per IEC: 61000-4-2. Level-3.

- a) Level :3 (As per IEC 61000-4-2)
- b) Test voltage for contact discharge :+/- 6kV
- c) Test voltage for air discharge :+/- 8kV
- d) Polarity : Positive & Negative
- e) No. of discharge :10 at each point

Test acceptance requirements will be as per para 9 (a) of IEC 61000-4-2.

2.11.2.10 **ELECTRICAL FAST TRANSIENT [BURST IMMUNITY TEST:**

The test shall be carried out as per IEC: 61000-4-4

	Power lines	Communication and signal lines
Pulse repetition rate	5 KHz	5 KHz
Voltage peak	4 KV	2 KV

The complete system in simulated condition shall be put for the test specified in IEC.

During test the equipment shall be watched for malfunctioning or Communication between both units shall be observed for proper functioning of equipment.

Evaluation of test result will be done as per Para 9(a) of IEC 61000-4-4.

2.11.2.11 **RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST:**

- a. Radiated emission immunity as per IEC:61000-4-3

Frequency Range: 80 MHz to 1000 MHz

Amplitude: 10V

Amplitude modulation: 80% at 1 KHz sinusoidal

- b. Conducted disturbance immunity as per IEC: 61000-4-6.

Frequency Range: 0.15 MHz to 80 MHz

Amplitude: 10V

Amplitude modulation: 80% at 1 KHz sinusoidal

Test Acceptance requirements will be as per Para 9(a) of IEC 61000-4-6.

2.11.2.12 **POWER FREQUENCY TEST:-**

This test shall be conducted as per IEC 61000 - 4 - 8. The complete system in simulated installed condition shall be put for the test. The recommended test severity level is level 5. The Power Frequency Magnetic Field of defined severity shall be applied on system in all X, Y& Z planes.

Frequency: 50 Hz

Amplitude: 100 A/m continuous Level 5 for 60 seconds in each planes.

During test the equipment shall be watched for malfunctioning or any erratic behaviour.

Test Acceptance requirements will be as per Para 9 (a) of IEC 61000-4-8.

2.11.2.13 INSULATION TEST:

This test shall be carried out as per clause 12.2.10 of IEC-60571.

The insulation resistance of the system between earth and current carrying parts shorted together shall be more than 20 Mega ohms at an ambient temperature of 55°C measured with 500V Insulation Tester (megger). The test will be carried out between all the Digital and analog Inputs and Outputs shorted together and the enclosure.

Test Acceptance requirements will be as per Para 12.2.10.2 of IEC 60571.

2.11.2.14 Voltage Withstand Test (DIELECTRIC TEST):

The test shall be carried out as per clause 12.2.10.3 of IEC-60571.

After the insulation measurement test the Di-electric test shall be carried out. The test voltage shall be applied between all the digital & analog inputs and outputs shorted together and the enclosure earth for 1 minute. The test voltage shall be according to nominal battery voltage given in 12.2.10.3 of IEC 60571.

Test Acceptance requirement: Neither disruptive discharge nor flash over shall occur

2.11.2.15 SALT MIST TEST:

The test is to be carried out on complete MRI as per clause 12.2.11 of IEC-60571. Duration of the test shall be for 96-hours.

Test acceptance requirements will be as per para 12.2.11 of IEC 60571.

2.11.2.16 VIBRATION AND SHOCK TEST:

The test shall be carried out as per IEC 61373: 2010 or latest. Following tests shall be performed:

- a) Functional Random test as per Clause no. 8.0, Table 1, category 1, Class B of IEC 61373:2010 or latest.
- b) Simulated long life test as per Clause no. 9.0, Table 2, category 1, Class B of IEC 61373:2010 or latest.
- c) Shock testing as per Clause no. 10.0, Table 3, category 1 Class B of IEC 61373:2010 or latest

Test Acceptance requirements will be as per para 13 of IEC 61373-2010.

2.11.2.17 INGRESS PROTECTION TEST:

This test shall be carried out as per provision in IEC 60529.

For Indoor equipment: IP54.

For equipment mounted on roof/outdoor: IP67

2.11.3 **FIELD VALIDATION:**

After successful prototype testing, the system shall be subjected to extensive field trials under 25 kV AC Traction lines of Indian Railway for minimum 1000 Running Track Kilometer.

2.11.4 **ROUTINE/ACCEPTANCE TESTS:**

After completion of type test clearance and approval of purchaser, the subsequent systems shall be subjected to Routine/Acceptance tests as mentioned in Table-I.

2.11.5 Successful supplier shall arrange all facilities to conduct performance tests of the measuring instruments as per the required features of the instrument.

2.11.6 Supplier shall give complete details of tests schedule for conducting tests to assess the capability of all measuring equipment. The test shall preferably be conducted in 25 KV Traction or similar environment to establish compliance of the measuring capability of OHE parameters.

2.11.7 **CALIBRATION OF MEASURING EQUIPMENT:**

The measuring and recording equipment (MRI) shall be calibrated by the supplier at the time of commissioning in presence of the Railway Engineers. The calibration of measuring devices shall also be carried out periodically during the Annual maintenance.

Details to be submitted for Measuring and Recording Instrumentation (MRI) along with the tender offer:

The following data shall be supplied with the tender offer:

1. Details of the measuring and recording instrument (MRI), covering all technical and functional requirements, given in the Specification, shall be brought out by the Supplier, while quoting. List of Measuring Instruments shall be furnished along with the offer by the Supplier for scrutiny.
2. List of Measuring Instruments and type, for measurement of parameters mentioned in Chapter-II (Clause 2.7) shall be furnished along with the offer by the Supplier. Brief detail regarding measurement philosophy for each parameter also to be submitted.
3. The supplier shall submit a detailed scheme of the proposed system with technical details including dimensional requirement.
4. The firm/vendor shall give offer with complete technical details including data processing software for analysis of OHE Geometry and report generation. The software shall be capable of exporting data to MS office for analysis.
5. Electromagnetic Emission from Tower Car to the outside world shall be limited to level specified under CENELEC standard 50121-2. The supplier shall submit its the compliance during the offer and shall be validated during prototype test.

Annexure-II

(To be submitted on non-judicial stamp paper of appropriate value as applicable in the respective state and duly notarized & witnessed)

UNDERTAKING FOR INFRINGEMENT OF IPR FOR ALL THE ITEMS/ PRODUCTS DEVELOPED BY THE VENDORS WHICH ARE IN THE PROCESS OF APPROVAL

I, son of aged about . Years resident of do hereby solemnly affirm as under -

1. That the deponent is the Authorised signatory of **(Name of the Sole Proprietorship Concern/ Partnership Firm/ Registered Company/ Joint Venture)**.
2. That the deponent declares on behalf of **(Name of the Sole Proprietorship Concern/ Partnership Firm/Registered Company/Joint Venture) that:**
 - a) The development/ product/process is original and there is no infringement of Patent Rights. Indian Railways shall not be responsible for infringement of patent rights arising due to similarity in design, manufacturing process, use of similar components in the design & development of this item and any other factor not mentioned herein which may cause such a dispute. The entire responsibility to settle any such disputes/matters lies with the manufacture/supplier.
 - b) Details/design/documents given are not infringing any IPR and we are responsible in absolute and full measure instead of railways for any such violations. Data, specifications and other IP as generated out of interaction with railways shall not be unilaterally used without the consent of RDSO and right of Railways / RDSO on such IP is acceptable to firm.
 - c) No confidential information has been provided to RDSO and as such no claim shall be made against RDSO for infringement or leakage of any information.

DEPONENT

VERIFICATION

I declare that the contents of Para 1 to 2 above are true as per my knowledge and nothing has been hidden.

DEPONENT

5.0 **Note:**

Inspection:

All the materials covered under this tender will be inspected by M/s RITES or by purchasers representative.

6.0 Traffic Blocks & Power Block

(a) The Purchaser will make arrangements to obtain traffic and power blocks (hereinafter referred to as blocks) necessary for the running and operation of work trains and light ladder trolleys and track lorries for works to be carried out along or adjacent to the track. The Contractor shall, however, carry out maximum amount of work possible without block.

(b) Blocks will normally be granted any time during day or night to suit convenience of traffic operations. The Contractor shall equip himself to carry out all construction during night block/inside tunnel efficiently by deploying suitable lighting arrangement.

(c) Blocks will normally be granted for work trains or for carrying out other work in one block section except, when the work overlaps two adjacent block sections, when blocks will be granted over both the blocks sections. The contractor shall organise the various works so as to use fully the blocks granted to him. He shall ensure that none of the equipment obstructs at any time at any track for which he has not been granted a block. The blocks granted ordinarily be on one track/multi track at one time over a distance covered by one or two consecutive block sections. For effective utilization of power/traffic block the contractor shall provide group mobile communication facility/walkie-talkie from one party to other covering all the gangs working at a time and a portable communication from site to control room and to controlling officer of the purchaser without extra cost to the purchaser.

(e) The contractor shall in consultation with the Purchaser submit a weekly block programme for works or for work trains 7 days in advance of the week for which the programme has been submitted. At the end of each week a comparison shall be made between the block periods asked for by the Contractor and that availed of by the Contractor, fractions of an hour in the total being ignored.

(f) Blocks will be subject to normal operating conditions and rules of the Railway. All formalities of exchanging private numbers etc. with the traffic control/ Traction power controller will be carried out by the Purchaser's staff and for this purpose the Purchaser will depute a representative for each erection gang, who will be responsible for imposing traffic & power blocks and also removing the same after men, material and equipment have been cleared by the Contractor from running tracks and the same declared safe for traffic by the Purchaser's representative in case of works involving safety of running tracks.

The protection required for block working i.e. flagmen, flags etc. shall be provided by the contractor. Competency for the above shall, however, be given by the Railway authorities.

(g) Blocks required for carrying out works necessitated by the thefts, pilferage, accidents or such other incidents, shall be granted by the Purchaser over and above the normal requirements of block.

6.1 The transportation of man and material for this work will be responsibility of contractor. He shall also arrange required vehicle for movement of Railway Officers/Site Engineers for inspection.

6.2 All required tools and tackles, ladders, trolleys will have to be arranged by Contractor at his cost.

6.3 The required tools, tackles, ropes, insulated ladders required for work will have to be arranged by contractor and transported and shifted by him at his own cost.

6.4 Safety of the staff: Safety of the contractor's men engaged in the work will solemnly be the responsibility of the contractor and therefore careful supervision is required during the work to guard and warn his men against moving trains and live OHE lines.

6.5 Submission of progress report:
The contractor will have submit day to day progress to DEE/TD/CLA, on the prescribed progress formats. The required progress formats based on the proformas will have to be arranged by the contractor.

Schedule 'I'

Tender schedule of price for Tender No. BB-LD-583-P-Rev-26-02-CONT for Supply, installation, testing and commissioning of Measuring and Recording Instrumentation (MRI) on 1 No. of Tower wagon in Mumbai division.

SN	Brief Description of Work	Unit	Qty	Unit Rate (Rs.)	Total (Rs.)
1	Supply, installation, commissioning and testing of AI based Measuring & Recording instrumentation (MRI) on Tower wagon for measurement on 25KV line OHE at a speed of 30 kmph. 1.Height measurement(± 20 mm) 2.Stagger measurement(± 20 mm) 3.Mast Identification System 4.Implantation distance from the centre of the track. (± 30 mm) 5.Crossover, turnout, horizontal gap between IR and OR 6.Gradient Descent/Ascent between two OHE mast 7. Relative Gradient Descent/Ascent 8. separate report for gradient descent greater than 2/3 mm per meter (Exception at point where cam put at time of report generation) 9.Customised report	Nos.	1	37,69,999.97	37,69,999.97
TOTAL inclusive of GST					37,69,999.97

Sr No.	Item	Rate (₹)
1	AI-based OHE Software (License + Analytics)	9,42,500.00
2	Industrial Fixed Processing Unit (Rugged)	5,59,524.65
3	Dual Antenna GPS (10 Hz, Industrial)	29,876.72
4	4 High-Resolution Industrial Cameras (Pantograph, Diameter)	6,52,778.76
5	Laser Diode Emitter x2	7,46,032.88
6	Mounting Fixtures, Enclosures & Accessories	1,86,508.21
7	Installation, Commissioning & Training (1 Lot)	2,79,762.33
8	AMC Support (5 Year after warranty period is over)	1,86,508.21
9	Stabilization Sensor Suite (IMU + Vibration + Damping)x6	1,86,508.21
TOTAL inclusive of GST		37,69,999.97

Note:

- The quoted rates shall be inclusive of all taxes, duties, freight and other incidental charges including GST.
- Tenderer is advised to visit the site of work to understand scope of work before quoting the tender.
- All supply items should confirm to relevant specification mentioned in the explanatory note on schedule of work.
- Tenderer are advised to read the Part IV I.e. explanatory notes of schedule item of this tender booklet before quoting the rates.
- In case of any discrepancy between description of price schedule items and explanatory notes of each item, the details specified in explanatory note shall be applicable.

PROCEDURE ORDER ON SAFETY RELATED ISSUES AT ELECTRICAL WORK SITES.

In case of projects like Electrification of main line, siding, yards, remodeling of yards and other electrical works. Joint inspections as required to be conducted at various levels before handing over/taking over need not be kept pending till completion of last activity in the project. Joint inspection can be conducted on completion of individual activities of all Electrical works.

In case joint inspection is not done commensurate with the progress of various assets, the same might take weeks if not months when commenced after completion of last activity of the project, this will unnecessarily delay the CRS inspection and commissioning of projects.

Safety measures must be strictly observed by contractors which are to be ensured by Railway administration through positive act of confirmation within the broad frame work of the guidelines enumerated below.

To achieve the above objectives, the following instructions are issued:

- (i) Power supply arrangement, sectioning diagrams, locations plan, cable route plan equipment layout plan SED be approved by open line HQ before execution of the work. Approval of drawing, design. Specifications of material having deviation from RDSO/CORE drawing/design/specification be approved from open line HQ.
- (ii) Joint discussion of Construction/Conversion activities with drawing, LOP, SED, sectioning diagram one day in advance by Conversion/Construction and Open line supervisors and recording the methodology to execute the work in a register which will have Joint signatures of all the Sr. Supervisors. No execution of the work without following the above procedure.
- (iii) Filling up of check sheets at work site and Joint signature by Construction & Open line TRD supervisors duly recording the defects and deficiencies in check sheets attending such defects and deficiencies and balance work on the same day or at the first available block. Further work will only progress on completion of these defects.
- (iv) Monitoring of movement of EMU and Mail/Express trains minimum 2 Nos. each after completion of work and repeating the details to the TPC which in turn will maintain a register for verification.
- (v) Modification of overlap, cross over/turnouts, section insulator by tower wagon duly supervised by Open line SSE/SE and certified as per check sheet for operation of traffic.
- (vi) Scrutiny and certification of competency certificate issued by contractors for his employees on safety and technical skill by Railway so that failure due to inadequate technical knowledge and non-observance of safety norms is avoided.
- (vii) Contractor shall ensure that no staff is working on line/tracksides without proper permission by Railway. Work shall be commenced only after obtaining necessary traffic and power block required and in the presence of authorized Railway's representative.
- (viii) Only eligible and competent staff shall be employed by contractors and they must wear identity card while working on line no person without identity card should be allowed.

- (ix) Contractor's site in charge must keep 2 red flags & 1 green flag during day time multi coloured lamp/torch light (having red & green colour) during night time and a whistle. Contractor must make adequate light arrangement at work site.
- (x) Site in charge of the contractor must ensure proper discharging of line and grounding /earthing of required lines on both side of the work place, while using metallic ladders in multiple line section staff must be careful as the OHE of the adjoining line is alive so that accidental touching should not lead to fatal accidents.
- (xi) While unloading/stacking/loading, released or new material along the tracks, the contractor must ensure that the material is not infringing the schedule of dimensions and keep them safely away. Also care shall be taken to keep the material in such a way that due to vibration or slight movement, it should not come near the track and infringe the movement of the train and stacked as per the specified height & distance from Railway track.
- (xii) Where the road vehicles and /or machinery are required to work in the close vicinity of Railway line, the work shall be carried out that there is no infringement to the Railway's schedule of dimension even for a short period. For this purpose, the area where road vehicles and/or machinery are required to ply shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning /reversal of road vehicle/machinery without infringing the running tracks. Barricading shall be provided wherever justified in feasible as per site conditions.
- (xiii) Strict adherence to the relevant provisions of the 'General Conditions' of Contract and the 'Special Conditions' of Contract pertaining to safety of both men and material not only of the Contractor but also of the Railways.
- (xiv) All staff must wear required safety gadgets such as helmets, phosphorescent jackets, identify badges, safety belts & shoes as required.
- (xv) Power traffic block must be restored in time after completion of work and after ensuring safety.
- (xvi) Contractor must keep First Aid Box at work place for emergency.
- (xvii) In no case manual shifting/transportation of structures, bulky material and fittings be done without proper power and traffic block and in the presence of authorized Railway representative.
- (xviii) Material at site shall be got transported on same day by Contractor. If material is stored at site in advance a watchman must be kept. Also unused/released material, if any, should be moved away from site on the same day. No material is kept at site and un-attended/unclaimed.
- (xix) Proper arrangement of mobile communication with TPC should be provided by Contractor as per the contract.
- (xx) During emergency, block must be cleared in minimum possible time. Adequate communication, preferably over walkie-talkie, should be available within the gang at work site.
- (xxi) Necessary safety equipment and tools to be used by Contractor's staff must be checked & tested periodically as per norms. Record to be maintained for this purpose.

- (xxii) Contractor shall give necessary training to their Supervisors and staff and ensure that they know about the safety norms to be followed for working in Railway premises and in the vicinity of Railway track in electrified territories.
- (xxiii) Proper care shall be taken in storing inflammable substances to avoid any fire.
- (xxiv) Supplementary site specific instructions, whenever considered necessary shall be issued by the Supervisor in charge as applicable.
- (xxv) Above instructions shall be included as special conditions, in all Electrical contracts, involving works near running tracks.

Request letter from Executive branch to Accounts Office for opening of LC

Office of Sr DEE/TD/CSMT
Central Railway

No. _____

Dated _____

The PFA/ Sr.DFM/ Dy. FA
HQ/Division/Workshop/ CostSub: Opening of LC
Ref: Supply Order/ Contract Agreement No .

It is requested to open a sight LC against the above referred Order/ Agreement in favour of _____ . The details of beneficiary are as under:

- (i) Name of Contractor/Supplier
- (ii) Vendor Code
- (iii) Address
- (iv) Tender No.
- (v) Contract Agreement No.
- (vi) Description of Goods/ Service
- (vii) Value of Contract
- (viii) Stages of payment
- (ix) Expected payment within 6 months (LC Amount)
- (x) Beneficiary bank details:
 - a) Bank name
 - b) Address
 - c) Account No.
 - d) IFSC code

It is certified that the supplier/ contractor has exercised the option of taking payment due against the tender, through LC arrangement in IREPS portal at the time of bidding itself and the option has been flagged in the IREPS. This has the approval of _

(xi) Validity/period for which LC is to be opened.

(Signature)

Name: _____

Designation: _____

(Official Seal)

Dated: _____

DOCUMENT OF AUTHORIZATION

Reference: (i) Works Contract/Supply Contract NoDated.....
(ii) Inland Letter of Credit No..... Dated.....

This document is issued against contract No. _____(FROM IREPS) _____
dated _____ for supply/ work of ---
(DESCRIPTION OF GOODS/WORK FROM IREPS) _____

The beneficiary of the aforementioned Letter of Credit M/s(NAME AND VENDOR CODE;) ... (Vendor Code as per IREPS.....) is entitled to receive payment aggregating INR ..
.....\$\$ (FROM ABSTRACT OF BILL PASSED) out of a total LC amount of INR
..... (FROM MASTER TABLE OF LC OPENED)..... against the first/second* commercial
Invoice No. (FROM IPAS).....dated.....FROM IPAS.....for INR(FROM IPAS)-----
- raised against the above contract from State Bank of India-----(branch-FROM LC MASTER
TABLE)--- _ on the strength of this Certificate.

The details of payments already made to the beneficiary under this Letter of Credit are as follows:

S.No	Invoice No	Invoice date	Invoice amount(IN R)	LCDA No	LCDA date	Amount paid (INR)
Total Paid						

THIS PAYMENT: -..... \$\$\$
LC BALANCE AFTER THIS PAYMENT:.....

(Signature of authorised Railway authority)
Name
Designation
Official Seal

CENTRAL RAILWAY

Tender No -----

Name of work-----

To

The President of India

Acting through the Sr. Divisional Electrical Engineer,(Traction Divisional)Central Railway,

I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this tender open for acceptance for a period of **60 days** from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security". I/We offer to do the work for **Central Railway**, at the rates quoted in the attached schedule and hereby bind myself/ourselves to complete the work in all respects within **6 (Six) months** from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.

3. A Bid Security of ₹/- has already been deposited online/submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:

- (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
- (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and
- (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.

4. (a) I/We am/are a Startup firm registered by Department of Industrial Policy and Promotion (DIPP) and my registration number is valid upto (Copy enclosed) and hence exempted from submission of Bid Security.

(ii) We are a Labour Cooperative Society and our Registration No. is withand hence required to deposit only 50% of Bid Security.

7. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Tenderer(s)

Date _____
Address of the Tenderer(s)

(TO BE SUBMITTED WITH SECTION-I)
TENDERER'S CREDENTIALS

1. Give details of your previous experience on installation of similar equipment and the details of present work load and in the proforma given below:-
 - a. Type of work :
 - b. Purchaser :
 - c. Section/ Group :
 - d. TKM/No of TSS :
 - e. Cost of work :
 - f. Date of award of contract :
 - g. Stipulated date of completion of contract :
 - h. Actual date of completion of contract for works already executed. :
 - i. Whether completion reports/performance reports attached Attach other relevant documents for the works executed. :
 - j. Present status of work under execution and performance repots, if any. :
2. Give the financial turnover for the past five years of your firm with audited balance sheet, names of your Bankers. Solvency Certificate with Banker's assessment of the solvency and documentary evidence in support of financial standing together with limits of overdraft and Bank Guarantee.
3. Details of Engineering organisation, Technical Capabilities, Design and Drawing Capabilities.
4. Details of Technical Collaboration with any consultant for assistance, in any.
5. Details of construction, machinery, Tools and plants, Vehicles etc.
6. Solvency Certificate indicating the amount of Solvency. BG limit and cash credit limit from a Nationalised/ Scheduled Bank.
7. Latest Income Tax clearance certificate.
8. Audited Balance sheet and Income-Statement of the last five years.
9. Constitution of firm alongwith certified copies of legal documents in support thereof and power of attorney.
10. In past how many contracts the tenderer has handled simultaneously and details of the same.
11. Copy of electrical contractor's license

COMPLETE TECHNICAL DATA AND PARTICULARS OF THE EQUIPMENTS OFFERED AS SPECIFIED IN THE TENDER PAPERS TOGETHER WITH DESCRIPTIVE LITERATURE, LEAFLETS ETC.

SNo	Name of Equipments	System voltage	Manufacturer's name
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
--			
--			
--			
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Note: (i) The details of equipment/item having unit cost more than Rs.10,000.00 shall only be detailed in above proforma.

(ii) Necessary literature/ leaflets shall also be enclosed.

□□□□□

TENDERER'S SCHEME OF WORK AND TIME SCHEDULE

I. OVERHEAD EQUIPMENT

- Issue of preliminary layouts and site allocations:
- Submission of layout plans for walk-outs and approvals:
- Approval of layout plans:
- Preparation and submission of Drawings for approval:
- Approval of Drawings:
- Ordering of steel work on the Purchaser:
- Bulk order for materials.
- Detailed ordering of materials.
- Foundation installation:
- Delivery of steel work.
- Steel work erection.
- Delivery of materials
- Insulation replacement
- Guarantee period.

MONTHS

NAME OF MANUFACTURER/S, PLACES OF MANUFACTURE & INSPECTION OF SUPPLIES**(CORE/RDSO/C.Rly. APPROVED SOURCES)**

Item No.	Description of item	Name & address of Manufacturer/s	Place of Manufacture	Place of Inspection
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Declaration by the Tenderer

We hereby confirm that all the equipments, components and materials which will be supplied by us would conform to technical and other particulars as detailed in Part-II chapter-IV and would comply with the RDSO's/CORE/C.Rly specifications listed in Annexure-I with their latest version as specified in Part-IV of tender paper. We further confirm that the equipments, components and materials except those listed below would be procured from the approved sources/suppliers approved by RDSO's/CORE/C.Rly as the case may be.

NAME OF MANUFACTURER/S, PLACES OF MANUFACTURE & INSPECTION OF SUPPLIES (OTHER THAN CORE/RDSO APPROVED SOURCES)

Following particulars should be furnished as under :-

1. Item No.
2. Description of item
3. Name and address of manufacturer
4. Place of manufacturer
5. Place of inspection
6. Whether permitted to use ISI Standard mark (Wherever applicable)
7. Approx. turnover of this item in last 3 years (Enclose list of orders executed)

Declaration by the Tenderer :

We hereby confirm that -

- (i) the design approval/prototype approval of the above items will be obtained from CORE/RDSO/C.Rly. All cost on this account will be borne by us.
- (ii) In case of delay in prototype approval, we shall arrange the procurement of above listed items from the CORE/RDSO/C.Rly approved sources.
- (iii) We also clearly understand that delay on account of prototype approval shall not be claimed by us as reasonable ground for extension of completion period.

Signature of Tenderer

□□□□□

RAILWAY**CONTRACT AGREEMENT OF WORKS**

CONTRACT AGREEMENT NO. _____ DATED _____

ARTICLES OF AGREEMENT made this _____ day of _____ 20____ between President of India acting through the Railway Administration hereafter called the "Railway" of the one part and _____ herein after called the "Contractor" of other part.

WHEREAS the Contractor has agreed with the Railway for performance of the works _____ set forth in the Bill(s) of Quantities hereto annexed upon the Standard General Conditions of Contract, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents and the Specifications of _____ updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents and the applicable Standard Schedule of Rates (SSOR) of _____ updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents and the Special Conditions and Special Specifications, if any and in conformity with the drawings here-into annexed AND WHEREAS the performance of the said works is an act in which the public are interested.

NOW THIS INDENTURE WITNESSETH that in consideration to the payments to be made by the Railways, the Contractors will duly perform the said works in the said Bill(s) of Quantities set forth and shall execute the same with great promptness, care and accuracy in a workman like manner to the satisfaction of the Railway and will complete the same in accordance with the said specifications and said drawings and said conditions of contract on or before the _____ day of _____ 20__ and will maintain the said works for a period of _____ Calendar months from the certified date of their completion and will observe, fulfill and keep all the conditions therein mentioned (which shall be deemed and taken to be part of this contract, as if the same have been fully set forth herein), AND the Railway, both hereby agree that if the Contractor shall duly perform the said works in the manner aforesaid and observe and keep the said terms and conditions, the Railway will pay or cause to be paid to the Contractor for the said works on the final completion thereof the amount due in respect thereof at the rates specified in the Bill(s) of Quantities hereto annexed.

Contractor _____ (Signature) Railway: Designation _____

Address _____ (For President of India)

Date _____

Date _____

Signature of **Witnesses** (to Signature of Contractor) with address:**Witnesses:**

(On Stamp Paper of Requisite Value)

GUARANTEE BOND FOR SECURITY DEPOSIT

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

- DELETED -

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..... Railway.....(hereinafter referred to as "The Purchaser") all materials for which 'On Account' payments have been made to us against the Contract for 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 authorised 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.

* Strike out whichever is not applicable

EXTENSION OF PERIOD OF COMPLETION OF WORK ON CONTRACTOR'S ACCOUNT

To.

(Registered with Ack. Due)

.....

.....

- Sub:** (i)(Name of work)
 (ii) Acceptance Letter No. date.....
 (iii) Understanding/Agreement No.....

Ref: (Quote specific application of the Contractor for extension to the date If received).

Dear Sir,

The stipulated date for completion of the work mentioned above is..... : From the progress made so far and the present rate of progress it is unlikely that the work will be completed by the above date (or however, the work was not completed on this date).

Expecting that you may be able to complete the work if some time is given the (insert there the contracting party on behalf of the President of India) although not bound to do so hereby extends the time for completion from.....to.....

Please note that an amount of Rs.....per day subject to a maximum of 10% of the contract value as recovery for delay in completion of the work after the expiry of (give here the stipulated date for completion without any penalty fixed earlier) will be recovered from you as mentioned in Para 1.2.44 of the Conditions of Contract for the extended period notwithstanding the grant of this extension. You may proceed with the work accordingly.

The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.

Please intimate within a week of the receipt of this letter your acceptance of the extension on the conditions stated above.

Please note that in the event of your declining to accept the extension on the above said conditions or in the event of your failure after accepting or acting upto this extension to complete the work by(here mention the extended date), further action will be taken in terms of paras 1.2.29 and 1.2.30 of the conditions of contract.

Yours faithfully,

for and on behalf of the
President of India.

**EXTENSION OF PERIOD OF COMPLETION OF WORK ON PURCHASER'S ACCOUNT
(Registered with Ack. Due)**

No.....

Dated.....

To,

.....

.....

Dear Sirs,

Sub : (i).....(Name of work)
(ii) Acceptance Letter No.....
(iii) Understanding/Agreement No.....

Ref:(Quote specific application of the Contractor for extension to the date if received.)

The stipulated date for completion of the work under the above contract was..... In consideration of the Contractor's Letter No..... of..... The General Manager or his successor on behalf of the President of India, is pleased to grant extension of the time for completion of works in accordance with Note 1 and/ or Notes 2 under Para 1.2.45 of the Contract, as mentioned below :-

It may be noted that unless repugnant to the context all the terms and conditions of the Contract will remain unaltered during the extended period from..... to..... also, and further, no increased/additional rates and claims or recoveries which have not been already envisaged in terms of the conditions of the Contract will be leviable either by you or by the Purchaser in respect of this extended period.

Yours faithfully,

For & on behalf of the President of India.

(On Stamp Paper of Requisite Value)**GUARANTEE BOND AGAINST "ON ACCOUNT" PAYMENTS OR ISSUE OF MATERIAL
(TO BE USED BY APPROVED SCHEDULE BANKS/NATIONALISED BANKS)**

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 thereunder 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 19
for.....
(indicate the name of Bank)

(a) See para 1.3.9. Part-I, Chapter-III

(b) 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 under para 1.3.9 and 1.3.8 referred above.

□□□□□

FORM-20

-----DELETED-----

(On Stamp Paper of Requisite Value)

GUARANTEE BOND AGAINST PROVISIONAL ACCEPTANCE PAYMENTS

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

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 200....
for.....
(indicate the name of Bank)

(a) See para 1.3.14 of Part-I, Chapter III

(b) The guarantee shall be valid for a period of two months after the completion of work under para 1.3.14 and 1.3.13 referred above.

Annexure-V**FORMAT FOR CERTIFICATE TO BE SUBMITTED / UPLOADED BY
TENDERER ALONGWITH THE TENDER DOCUMENTS**

I.....(Name and designation)** appointed as the attorney/authorized signatory of the tenderer, M/s_____ (hereinafter called the tenderer) for the purpose of the Tender documents for the work of as per the tender No._____ of _____ (Railway)**, do hereby solemnly affirm and state on behalf of the tenderer.

1. I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we certify that I/we the tenderer(s) 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.
8. I/we understand that if the contents of the certificate submitted by us are found to be forged/false 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. Further, I/we (insert name of the tenderer)**_____ and all my/our constituents understand that my/our offer shall be summarily rejected.
9. I/we also understand that if the contents of the certificate submitted by us are found to be false/forged at any time after the award of the 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.
10. 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 TENDERER**

Place:

Dated:

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer.**

New Annexure V (A) , Part I of GCC shall be read as under.

Annexure –V(A)

Reference -Para 6. I of ITT

(This certificate is to be given by attorney/authorized signatory/each member of Partnership firm/Joint Venture/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:

TENDERER'S CREDENTIALS (BID CAPACITY)

.....**RAILWAY**

For tenders having advertised value more than Rs 10 crore wherein eligibility criteria includes bid capacity also, the tenderer will be qualified only if its available bid capacity is equal to or more than the total value Of the present tender.

The available bid capacity shall be calculated as under:

$$\text{Available Bid Capacity} = [A \times N \times 2] - 0.33 \times N \times B$$

Where,

A = Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender), taking into account the completed as well as works in progress.

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

B= Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender.

Note:

(a) The Tenderer(s) shall furnish the details of-

- (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) for calculating A, and
- (ii) Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished.

The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant.

(b) In case if a bidder is JV, the tenderer(s) must furnish the details of

- (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) by each member of JV for calculating A, and
- (ii) Existing commitments and balance amount of ongoing works with each member of JV either in individual capacity or as a member of other JV as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to each member of JV either in individual capacity or as a member of other JV but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished.

The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant.

(c) Value of a completed work/work in progress/work awarded but yet not started for a Member in an earlier JV shall be reckoned only to the extent of the concerned

member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned bid capacity in the tender under consideration.

- (d) The arithmetic sum of individual "bid capacity" of all the members shall be taken as JV's "bid capacity" .
- (e) In case, the tenderer/s failed to submit the above statement along with offer, their/his offer shall be considered as incomplete and will be rejected **summarily**.
- (f) The available bid capacity of tenderer shall be assessed based on the details submitted by the tenderer. In case, the available bid capacity is lesser than estimated cost of work put to tender, his offer shall not be considered even if he has been found eligible in other eligibility criteria/tender requirement.

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: Sr.DFM/BB Central 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.

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

NAME OF BIDDER/JV PARTNER:

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

5. 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.
6. 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.
7. 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-A1
for ANNEXURE-VI

LIST OF AWARDED WORKS UNDER EXECUTION AND/OR WORK AWARDED BUT
NOT YET STARTED TILL DATE OF OPENING OF TENDER.

(Mandatory for tenders more than Rs. 20 Cr value wherein eligibility criteria includes
Bid Capacity also, to evaluate Bid Capacity of tenderer)

Sr. No	Name and place of work	Organization for whom work is being carried out	Date of award of contract, contract agreement No. & date	Original cost of work/ Revised cost (Up to latest corrigendum)	Date of completion (Original/Extended)	Payment Received Till date of opening of present tender	Balance amount of the work to be executed	Balance period of the work to be executed	'B' value of work to be done in 'N' years(See note 'e' below)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
								Total	

Date

Signature of Chartered Accountant

Signature of Tenderer/s with seal

NOTE:-

- This statement should be submitted duly verified by Chartered Accountant.
- In case of no works in hand, a 'NIL' statement should be furnished duly verified by chartered Accountant.
- In case of JV firm, the details of works with each member of JV is required to submitted duly verified by Chartered Accountant.
- In case, the tenderer/s failed to submit the above statement along with offer, their/ his offer shall be considered as incomplete and will be rejected summarily.
- N for column 10- Number of years prescribed for completion of work for which bids has been invited.
- 'B' is the value of existing commitments and balance amount of ongoing works with the tenderer to be completed in next 'N' years.
- For N equal or more than column (9), Value of 'B' will be same as column (8)
- For contracts not having any defined part financial/ physical completion stages/ milestones, and $N < \text{column (9)}$ then the value of 'B' will be as per formula $B = (8) * N / (9)$
- In case part financial/physical completion stages/ milestone is defined in the contract's value of 'B' shall be calculated accordingly.
- No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs.

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, OR	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. 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.
	(ii) Should a tenderer 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) 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	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.

	the railway	
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:

Signature

Place:

(Name of contractor/firm)

Insurance Surety Bond for Performance Security

Name of the issuer of surety bond:

President of India,
Acting through.....,
.....
Railway.

Date:.....
.....

Surety Bond No: _____ Amount of Bond: _____ Issue Date:.....
_____ Expiry Date:.....

WHEREAS, In consideration of the President of India acting through.....(Designation address contract signing authority),.....Railway,....., (hereinafter called "The Railway") having accepted the bid of M/S XXXXXXXX hereinafter called the contractor, for the work of XXX' under invitation for bids No XXXX Dated XXXXX, Vide Letter of Acceptance No.....

AND

WHEREAS, the contractor is required to furnish Performance Security for the sum of ₹.XXXX (Rupees XXXX Only), in the form of Surety Bond, being a condition precedent to the signing of the contract agreement.

WHEREAS, we,....., (Name of insurance company) hereinafter called the Surety, acting through [Designation(s) of the authorised person of the Surety], have, at the request of the M/S. contractor, agreed to give Bond for performance security/ additional performance security as hereinafter contained:

1. KNOW ALL MEN by these present that I/We, the undersigned [Insert name(s) of authorized representatives of the Surety], being fully authorized to sign and incur obligations for and on behalf of the Surety, confirm that the Surety, hereby, unconditionally and irrevocably Bond to pay the Railway the full amount in the sum of (Rupees XXXXX Only) as above stated.
2. The Surety 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 Surety shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/pending before any Court, tribunal, arbitration or any authority or any threatened litigation by the Bidder or Bank.
3. On payment of any amount less than aforementioned full amount, as per demand of the Railway, the Bond shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Railway.
4. The Surety shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the contractor and without the Railway being required to show grounds or give reasons for its demand or the amount demanded.
5. The Surety Bond shall be unconditional and irrevocable.

6. The Bond hereinbefore shall not be affected by any change in the constitution of the Surety or in the constitution of the Contractor.
7. The Surety agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the Railway and the Contractor, will in any way release us from the liability under this Bond; and the Surety, hereby, waives any requirement for notice of any such change, addition or modification to the Surety.
8. This Bond is valid and effective from the date of its issue, which is [insert date of issue]. The Bond and our obligations under it will expire on XXXX (Expiry Date). All demands for payment under the Bond must be received by us on or before that date.
9. The Surety agrees that the Railways right to demand payment of aforementioned full amount in one instance or demand payments in parts totalling up to the aforementioned full amount in several instances will be valid until either the aforementioned full amount is paid to the Railway or the Bond is released by Railway before the Expiry date.
10. The Surety agrees that its obligation to pay any amount demanded by the Railway before the expiry of this Bond will continue until the amount demanded has been paid in full.
11. The expressions Surety and Railway hereinbefore used shall include their respective successors, administrators and assigns.
12. The Surety hereby undertakes not to revoke the Bond during its currency, except with the previous consent in writing of the Railway. This Bond is subject to the Uniform Rules for Demand Bonds, ICC Publication No. 758.
13. We, the Surety Insurer, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, tribunal, arbitrator or any other authority.
14. The Bond shall be in addition to and without prejudice to any other security Bond (s) of the contractor in favour of the Railway available with the Railway. The Surety, under this Bond, shall be deemed as Principal Debtor of the Railway.

Notwithstanding anything to the contrary contained in these presents,

- a. Our liability under this Surety Bond shall not exceed **XXXX (Rupees XXXXXX only)**.
- b. This surety Bond shall be valid up to XXXX (being the date of expiry);
- c. Unless the bank is served a written claim or demand on or before XXXX[date of expiry] all right under this bond shall be forfeited and the surety shall be relieved and discharged from all liabilities under this Bond irrespective of wheather or not the original Suety bond is returned to the Surety.

Dated _____ the day of 2024

15. The Insurance Surety Bond shall be verified by sending mail to [customer.care@sbigeneral.in].

Place.....

Bank's Seal and authorized signature(s)

[Name in Block letter].....

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

[P/Attorney] No.

Witness

- 1.
- 2.

[Note: All italicized texts are for guidance on how to prepare this Insurance Surety Bond and shall be deleted from the final document]

END OF TENDER BOOKLET