

NORTHEAST FRONTIER RAILWAY

(OPEN LINE)

STANDARD TENDER DOCUMENT

[E-Tender No. DCBL022026NJP]

Name of work: (A) Design, fabrication & construction of PEB (pre-engineered Building) structure for testing lab, Inspection record room, equipment room, including other accessories at NJP/PNO/SCL in connection with Bridge rehabilitation works on N F Railway. (B) Construction of SHED for storage of UC Span Railway Bridge components of 6x155', 1x258' & 1x338' at NJP.

OFFICE OF THE

PRINCIPAL CHIEF ENGINEER/
Deputy Chief Engineer/Bridge-Line/NJP

June, 2026

TENDER DOCUMENT

Tender No. DCBL022026NJP :

Name of Works- (A) Design, fabrication & construction of PEB (pre-engineered Building) structure for testing lab, Inspection record room, equipment room, including other accessories at NJP/PNO/SCL in connection with Bridge rehabilitation works on N F Railway. (B) Construction of SHED for storage of UC Span Railway Bridge components of 6x155', 1x258' & 1x338' at NJP

- | | | | |
|----|--------------------------|---|----------------------------|
| 1. | Approximate cost of work | : | Rs. 12,73,07,060.01 |
| 2. | Bid Security | : | Rs. 25,46,200.00 |
| 3. | Completion Period | : | 08 (Eight) months |

Tender sale closing date	:	20.07.2026 upto 15.00 Hrs
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Tender to be submitted	:	20.07.2026 upto 15.00 Hrs
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Tender opening Date and time	:	20.07.2026 at 15.05 Hrs.
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NOT TRANSFERABLE

Issued by: PRINCIPAL CHIEFENGINEER/DRM/_____
NORTHEAST FRONTIER RAILWAY
MALIGAON, GUWAHATI-781011/

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

Name of work: (A) Design, fabrication & construction of PEB (pre-engineered Building) structure for testing lab, Inspection record room, equipment room, including other accessories at NJP/PNO/SCL in connection with Bridge rehabilitation works on N F Railway. (B) Construction of SHED for storage of UC Span Railway Bridge components of 6x155', 1x258' & 1x338' at NJP.

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Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

NOTICE INVITING TENDER (NIT)

Deputy Chief Engineer/Bridge-Line's E-Tender Notice No. DCBL/03/2026/NJP dated 24.06.2026.

Open E-Tenders from the reputed & experienced Contractors/Firm are invited for the following work which will be opened on **20.07.2026** at 15.05 hrs. No manual offers are accepted and any such manual offers received against these tender shall be ignored.

Tender No. DCBL022026NJP :

Name of Works- (A) Design, fabrication & construction of PEB (pre-engineered Building) structure for testing lab, Inspection record room, equipment room, including other accessories at NJP/PNO/SCL in connection with Bridge rehabilitation works on N F Railway. (B) Construction of SHED for storage of UC Span Railway Bridge components of 6x155', 1x258' & 1x338' at NJP

Approximate Tender Value:- ₹ 12,73,07,060.01

Bid Security:- ₹ 25,46,200.00

Completion period:- 08 (Eight) months

Sanctioned Detailed Estimate Nos. (a) Estimate No. 02/DCBR/2026-27 dated 21.04.2026 (b) Revised Estimate No 40/DCBR/2025-26 dated 02.03.2026 against original estimate no. 23/DCBR/2024-25 dated 19.07.2024

The Tender document (not transferable) can be obtained from www.ireps.gov.in

Railway administration will not be responsible for any delay/difficulties/inaccessibility of the down loading facility for any reason whatsoever. In case of any discrepancy between the tender documents down loaded from Internet and the master copy available in the offices, the later shall prevail and will be binding on the tenderer(s). No claim on this account will be entertained.

Receiving of tender documents:- The Tender document can be received upto **20.07.2026 at 15.00.**

Date & place of opening:- Office of the Deputy Chief Engineer/Bridge-Line, N. F. Railway, New Jalpaiguri-734007, W.B. at **15.05** hours of **20.07.2026** in presence of the Tenderer(s) or their authorized representatives who wish(es) to remain present.

For bandh/closed holiday:- If the date of opening happens to be a Bandh or closed holiday, Tender will be opened on the following working day.

Validity of the offer:-90 days

Bid Security:-The tenderer(s) is required to deposit a stipulated amount as **Bid Security** for the performance of the tender who will keep the offer open for a period three times the tender notice period from the date fixed for opening of tender, it being clearly understood that the tenderer(s) after submitting his tender will not withdraw from his offer or modify the rates, items and conditions thereof, failing which the aforesaid amount shall be liable to be forfeited to the Railway. 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-XXIII** of Tender Document and shall be valid for a period of 90days beyond the bid validity period.

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

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

- 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.
- 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.

The successful contractor shall be required to give Performance Guarantee in the form of an irrevocable Bank Guarantee or any other means as given in Tender Document amounting to 5% of the Contract value.

- (i) The successful Bidder shall have to submit the P.G. within 21 days from the date of issue of Letter Of Acceptance.
- (ii) If the P.G. is not submitted within 21 days, then beyond 21 days a penal interest of 12% p.a. shall be charged.
- (iii) If P.G is not submitted within 60 days from the date of issue of Letter Of Acceptance, the contract shall be terminated duly forfeiting the EMD & other dues.
- (iv) The failed contractor will be debarred from participating in re-tender for that work.

MINIMUM ELIGIBILITY CRITERIA:- Tenderer(s) should satisfy following eligibility criteria-

Tenderer (s) should submit following credentials along with the offer, failing which the tender may be rejected. The Tenderer should go through these Eligibility criteria before dropping.

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

Three similar works each costing not less than the amount equal to **30%** of advertised value of the tender, or
Two similar works each costing not less than the amount equal to **40%** of advertised value of the tender, or
One similar work each costing not less than the amount equal to **60%** of advertised value of the tender.

Definition of similar nature work:- Any type of building or civil engineering works with PEB structure.

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

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

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

V= Advertised value of the tender in crores of Rupees

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

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

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

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

The following documents should be specified for submission along with tenders:-

1. His capacity to undertake and carry out the work satisfactorily with details about the transport equipments, construction tools & plants etc. required for the work, maintained by him.
2. Detailed particulars of works he/they have executed in the last three years should be submitted along with the Tender.
3. List of present workload in hand has to be submitted along with the tender.
4. List of technical personnel proposed to be engaged in this work.
5. Please provide your bank de tails to facilitate payment through ECS.
6. GST Registration certificate and PAN to be submit
7. Tenderer/bidder has to submit his bid capacity duly certified by the chartered Accountant along with the attachments. The tender/technical bid will be evaluated based on bid capacity formula detailed as Annexure-A in the tender Document (Reference-Annexure-VI, Para 10.3 & 17.15.3 of Tender Form (Second Sheet) of Annexure I of ITT) . 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.
8. The tenderers whether sole proprietor, a limited company or a partnership firm he/they should submit authentic proof in terms of partnership deed, proprietorship documents etc. along with the tender (Not required if one or more partners are authorized in Partnership deed to sign on behalf of the firm.). If he/they want to act through agent or individual partners should submit a power of attorney duly stamped and authenticated by Notary Public or by Magistrate in favour of specific person whether he/she/they are partners of the firm or any other person specifically authorizing him/her name to submit the tender, sign the agreement , receive money, witness measurements, sign measurement books, compromise, settle, relinquish any claims, preferred by firm and also sign No Claim Certificate and refer all or any disputes arbitration. The above power of attorney shall be submitted even if such specific person is authorized for above purposes through partnership deed/Memorandum of Understanding/Article of Association or such other document, failing which tender is liable to be rejected.
- 8.1 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.
- 8.2 After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm /Registered Company/ Registered Trust / Registered Society/HUF 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.

SPECIAL NOTES FOR THE TENDERER

- (1) The Tenderer must drop their Tender offer with all requisite documents relating to their credentials.
- (2) The Tenderer should visit the site of work & acquaint themselves with the conditions & expected quantum of work in their own interest before dropping of Tender.
- (3) (i) Tenderers will examine the various provisions of The Central Goods and Service Tax Act, 2017 (CGST)/ Integrated Goods and Service Tax Act, 2017 (IGST)/Union Territory Goods and Services Tax Act, 2017 (UTGST)/Respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt. & as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
- (ii) The successful tenderer who is liable to be registered under CGST/IGST/ UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.
- (iii) Incase 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.

RIGHT TO THE RAILWAYS:-The Railways reserves the right to either cancel the tender or reject any stage.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

SECTION-II

TENDER FORMS (Second Sheet)

Instructions to tenderers and conditions of tender

1. The following documents form part of tender /contract:-

- (a) Tender forms – First Sheet and Second Sheet
- (b) Special Conditions of Contract (enclosed)
- (c) Bill(s) quantities (enclosed)
- (d) Standard General Conditions of Contract-2022 and Standard Specifications (Works and Materials) as amended/corrected up-to-date, copies of which can be seen in the office of Sr.DEN/C----- or obtained from the office of the Principal Chief Engineer/DRM/W-----Northeast Frontier Railway on payment of prescribed charges.
- (e) Standard Schedule of Rates (SSOR) of Northeast Frontier Railway-2021as amended/ corrected up-to-date, copies of which can be seen in the office of Sr.DEN/C/-----Principal Chief Engineer/DRM/W----, Northeast Frontier Railway or obtained from the office of the Principal Chief Engineer/DRM/W-----, Northeast Frontier Railway on payment of prescribed charges.
- (f) All general and detailed drawings pertaining to this work issued by the Engineer or his representatives (from time to time) with all changes and modifications.
- (g) Other enclosures, of these 'Forms for Technical and Commercial offer' and 'Form for Financial Bid'.

1.1 Order of Precedence of Documents: In a contract agreement, in case of any difference, contradiction, discrepancy, with regard to Conditions of tender/contract, Specifications, Drawings, Bill of quantities etc., forming part of the tender/contract, the following shall be the order of precedence:

- i. Letter of Award
- ii. Bill(s) of Quantities
- iii. Special Conditions of Contract
- iv. Technical Specifications as given in tender documents
- v. Drawings
- vi. Indian Railways Standard General Conditions of Contract 2022 updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
- vii. CPWD Specifications 2019 Vol I & II updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable in the contract.
- viii. Indian Railways Unified Standard Specification (IRUSS- 2021) updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable in the contract.
- ix. IR Specifications/Guidelines updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
- x. Relevant B.I.S. Codes updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

1.2Standard Schedule of Rates (SSOR) shall mean the schedule of Rates adopted by the Railway, which includes-

- i "Unified Standard Schedule of Rates of the Railway (USSOR)" i.e. the Standard Schedule of Rates of the Railway issued under the authority of the Chief Engineer from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents;
- ii "Delhi Schedule Of Rates (DSR)" i.e. the Standard Schedule of Rates published by Director General/ Central Public Works Department, Government of India, New Delhi, as adopted and modified by the Railway under the authority of the Chief Engineer from time to time, updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

- iii "Bill of Quantities" shall mean Schedule of Item(s) included in the tender document along with respective quantities.
2. **Drawings for the work:** - The general drawings for the work can be seen in the office of the Principal Chief Engineer/DRM/W_____, Northeast Frontier Railway at any time during the office hours. Generally the drawings are only for the guidance of tenderer(s).
Detailed working drawings. (if required) based generally on the drawing mentioned above, will be prepared by the contractor and got approved from engineer. Structural drawing, where ever required, will be given by Railways from time to time.
3. The Tenderer(s) shall quote his / their rates as a percentage above or below the Standard Schedule of Rates (SSOR) of North East Frontier Railway as applicable to _____ Division except where he/they are required to quote item rates and must tender for all the items shown in the Bill(s) of Quantities attached. The quantities shown in the attached schedule are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of Bill(s) of Quantities. In case of discrepancy between rate quoted in figures and words, the rate quoted in words shall be taken into account. Rates quoted only in figure shall not be considered and the tender shall be liable to be rejected.
- 3.1 **Tenders containing erasures and / or alterations of tender documents are liable to be rejected.** Any correction made by tenderer(s) in his / their entries must be attested by him / them.
- 3.2 **Tender Form :** Tender Forms shall embody the contents of the contract documents either directly or by reference and shall be as per specimen form, Annexure-I. e-Tender Forms shall be issued free to all Tenderers.
4. **Bid Security:**
- (a) The tenderer(s) is required to deposit a stipulated amount mentioned in NIT as **Bid Security** for the performance of the tender who will keep the offer open for a period three times the tender notice period from the date fixed for opening of tender, it being clearly understood that the tenderer(s) after submitting his tender will not withdraw from his offer or modify the rates, items and conditions thereof, failing which the aforesaid amount shall be liable to be forfeited to the Railway. *(Railway Board's L/No. 2018/Trans. Cell /S&T/ NIT Period. Dt.26.07.2018)*
- (i) Date of inviting tender shall be the date of publishing tender notice on IREPS website if tender is published on website on the date of publication in newspaper in case tender is not published on website.
- (ii) The minimum tender period shall be reckoned from the date the tender is published on the e-tendering website.
- (iii) Sufficient notice should be given for the submission of tenders, which in the case of large works should not be less than 21 days. The above prescribed tender notice period may be reduced from 21 days in the exceptional circumstances in consultation with the Principal Financial Adviser. However, for tenders valued upto and including Rs. 2 crore invited through e-tendering, the tender notice period can be reduced upto 14 days in consultation with associate finance. For works in remote locations or of specialized nature or amount higher than Rs. 50 crore, adequate tender notice period (not less than 21 days) should be given for preparation to the potential bidders in order to ensure competitive and well informed bidding.
(Railway Board's L/No.2018/Trans. Cell /S&T/ NIT Period. Dt.26.07.2018)
- (iv) (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

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

Note:

- (1) 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.
(ACS11 dtd 13.03.2026, L/No: 2022/CE-I/CT/GCC-2022/Policy/Pt.I (E-3320424) dated 13.03.2026)
- (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 resale 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) Manual form of **Bid Security** deposit in the form of cash, FDR, DD, Banker's Cheques, Government securities (Stock Certificates, Bearer Bonds, Promissory Notes etc.) etc. will not be accepted for tenders invited on IREPS(e-tender portal). In case of e-tendering, payment of **Bid Security** should be **accepted in favour of FA & CAO, N. F. Railway** through net banking or payment gateway only. *(Railway Board's L/No.2015/CE-I/CT/5/1 dated 31.08.2016)*
- (d) A tender not accompanied with requisite **Bid Security**, in the requisite manner as aforesaid, will be summarily rejected.
- (e) 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.
- (f) 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-XXII** and shall be valid for a period of 90 days beyond the bid validity period.
- (g) **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.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

4.1 Bid Security:

- (a) Subject to exemptions provided under para 4(iv)) 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 90 days) 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 North East Frontier 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.

5.0 Rights of the Railway to deal with tender:

- 5.1 The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender and no tenderers(s) shall demand neither 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.
- 5.2 The Railway reserves the right to verify all statements, information and documents submitted by the tenderer in his tender offer, and the tenderer 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 tenderer of its obligation or liabilities hereunder nor will it affect any rights of the Railway hereunder. *(Railway Board's L/No. 2017/Trans/01/Policy dated 08.02.2018)*
- 5.3 In case any wrong information submitted by tenderer, the contract shall be terminated, **Bid Security**, Performance Guarantee(PG) and Security Deposit(SD) of contract forfeited and agency barred for doing business of entire Indian Railways for 2(two) years. *(Railway Board's L/No. 2017/Trans/01/Policy dated 08.02.2018)*
- 5.4 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

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For Principal Chief Engineer
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deem such tender as cancelled / contract as terminated under clause 61 of the Standard General Conditions of Contract.

6.0 System of tendering:-

6.1 Single Packet tender: In case of Single packet tender, all the documents i.e. Technical & Commercial offer and Financial Bid shall be uploaded/ submitted in accordance with clause 9 of this Section. The number of tenderer/s whose documents are to be got verified, will be decided by the Tender Committee.

6.2 Double Packet tender : With a view to assess the tenders technically without being influenced by the financial bids, 'Two Packets System of tendering' shall be adopted wherein tender documents provide for the same. (Clause 7A of Part I of GCC/2022)

In case of Two Packet Tenders, financial bids of those tenderer(s) who have been found eligible in Technical Bids will be opened and relevant documents of eligible tenderers will be got verified . The number of tenderers whose documents are to be got verified, will be decided by the Tender Committee.

6.3 Pre Bid Conference: Intenders having advertised value more than Rs 50 Crore or as mentioned in the tender document, Railway shall conduct Pre Bid Conference(s) with the prospective bidders. (Para 7B of Part I of GCC/2022)

6.4 Make in India Policy: Provisions of Make in India Policy 2017 issued by Govt. of India, as amended from time to time, shall be followed for consideration of tenders. (Para 7C of Part I of GCC/2022)

6.5 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. (Para 7E of Part I of GCC/2022)

7. If the tenderer(s) expires/expire after the submission of his / their tender or after the acceptance of his/their tender, the Railway shall deem such tender cancelled unless the firm retains its character.

8. Tenderer should submit the tender with due diligence after going through the tender documents.

9. **All e-tenders have to be submitted on-line under digital signature only.** However, the documents to be attached as per Section-VII are required to have signature of authorized signatory with Company/Firm Seal on it before scanning.

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

CONTRACT DOCUMENTS

11. **Execution of Contract Documents:-** The successful tenderer(s) shall be required to execute an agreement with the President of India acting through the _____,

Northeast Frontier Railway for carrying out the work according to General conditions of Contract, Special conditions of Contract annexed to the tender and Indian Railways Unified Standard Specifications 2021/CPWD Specifications 2019 Vol I & II, Standard Schedule of Rates (SSOR)-2021 of NFR as amended/corrected up-to-date.

The Tenderer whose tender is accepted shall be required to appear in person at the office of General Manager/General Manager (Construction), Chief Administrative Officer (Construction), Divisional Railway Manager or concerned Engineer, as the case may be, or if tenderer is a firm or corporation, a duly authorized

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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.

12. **Form of Contract Document:** 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 to be given to the contractor (there would be no need of signing two copies if agreement is signed digitally). (a) For Zone contracts, awarded on the basis of the percentage above or below the applicable chapter(s) of Standard Schedule of Rates (SSOR) for the whole or part of financial year, the contract agreement required to be executed by the tenderer whose tender is accepted shall be as per specimen form, Annexure-II of GCC 2022. During the currency of the Zone Contract, work orders as per specimen form Annexure-III of GCC 2022, for works not exceeding Rs. 5,00,000/- each, shall be issued by the Divisional Railway Manager/Executive Engineer under the agreement for Zone Contract.
- (b) For contracts for specific works, the contract document required to be executed by the tenderer whose tender is accepted shall be an agreement as per specimen form Annexure- XIX.
13. **Partnership deeds, Power of Attorney etc:** - (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 explanatory notes in clause 22 of STD/June/22.
- (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 explanatory notes in clause 22 of STD/June/22.
- (c) Partnership Firm:** (i) The tenderer shall submit documents as mentioned in clause 23.10 of the Tender Form (Second Sheet) of STD/June/22.
- (d) Joint Venture (JV):** All documents as mentioned in clause 24 of STD/June/22 of the Tender Form (Second Sheet).
- (e) Company registered under Companies Act-2013:** The tenderer shall submit (i) the copies of **MOA (Memorandum of Association) / AOA (Articles of Association)** of the company; and (ii) 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. (iii) A copy of Certificate of Incorporation. (iv) All other documents in terms of explanatory notes in clause 22 of STD/June/22.
- (f) LLP (Limited Liability Partnership) Firm:** If the tender is submitted on behalf of a LLP registered under LLP Act-2008, the tenderer shall submit alongwith the tender- (i) a copy of LLP Agreement, (ii) a copy of Certificate of

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- Incorporation; and (iii) a copy of Power of Attorney/Authorisation 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 explanatory notes in clause 22 of STD/June/22.
- (g) **Registered Society & Registered Trust:** The tenderer shall submit (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. (v) All other documents in terms of explanatory notes in clause 22 of STD/June/22.
- (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 / Partnership firm etc. 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.
- (vii) For participating in tendering process :-** Power of Attorney, duly stamped and authenticated by a Notary Public from all partners of the firm in favour of one or more partners(s) or any other persons(s) as listed in Section-VII.
- (viii) On award of work to successful tenderer :-** One or more partners of the firm or any other persons(s) shall be designated as the authorized person(s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a "Power of Attorney", specifically authorizing him/them to sign the agreement, receive payment, witness measurements, sign measurement books, make correspondences, compromise, settle, relinquish any claim(s) preferred by the firm, sign "No Claim Certificate", refer all or any dispute to arbitration and to take similar such action in respect of the said tender/contract. Such "Power of Attorney" should be notarized/registered and submitted as listed in Para 1.2.2(b) of Section-VII.
- (ix) 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.

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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.

14. 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.

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Note for 14(c):-If information as required as per 14.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.

15. **Omissions & Discrepancies:** - Should a tenderer find discrepancies in or omissions from the drawings or tender documents or should he be in doubt as to their meaning or should need a clarification about any item, he should at once notify the authority inviting tenders either through a registered letter or through e-mail. The tender inviting authority will post necessary amendments/clarifications, if required, on the website up to 15 days prior to Date of Opening of the Tender(Original/Revised). Such amendments/clarifications shall be deemed to be the part of tender documents. 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 tenderer shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.
16. **Corrigendum:** No Corrigendum is permitted during "offer submission period" and cases requiring Corrigendum during offer submission period shall be retendered. Intending bidder should check for any Corrigendum before bid submission.
17. **Care in Submission of Tenders:-** (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 GCC-2022 for the completion of works to the entire satisfaction of the Engineer.
- (ii) Tenderer(s) will examine the various provisions of the Central Goods & Services Tax Act–2017(CGST)/Integrated Goods & Services Tax Act–2017 (IGST)/Union Territory Goods & Services Tax Act– 2017 (UTGST)/respective state's State Goods & Services Tax Act– 2017(SGST) also, as notified by Central/State Govt. and as amended from time to time and applicable taxes before bidding. Tenderer(s) will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
- (iii) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act Sale submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to Railway immediately after the award 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.
- (iv) In case the successful Tenderer is not liable to be registered CGST / IGST / UTGST / SGST Act, the Railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.

(Authority: Railway Board's L/No. 2017/CE-I/CT/4/GST dt. 23.06.2017)

- (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.

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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 non-compliance 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.

(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.

(Para 6 of Part I of GCC/2022)

17.1 As per Railway Board letter No. 2022/CE-I/CT/GCC Correspondence dated 14.05.2024 "On IREPS Module, a facility has already been created for online submission of Annexure-III. Therefore, the provision of downloading of Annexure-III & uploading of physically signed Annexure-III by the tenderer had been discontinued.

However, in addition to Annexure-III, in case of other than Company/Proprietary firm, Annexure -III(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(s) 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.

18. Right of Railway to deal with Tenders: - The Railway reserves the right of not to invite tenders for any of Railway work or works or to invite open or limited tenders and when tenders are called to accept a tender in whole or in part or reject any tender or all tenders without assigning reasons for any such action. In case if tender is accepted in part by Railway administration, Letter of Acceptance shall be issued as counter offer to the Tenderer, which shall be subject to acceptance by the Tenderer.

19.0 Negotiation with Tenderer(s)-

Should the Railway decide to negotiate with a view to bring down the rates, the tenderer called for negotiations should furnish the following form of declaration before commencement of negotiations:

I/we, _____ do declare that in the event of failure of the contemplated negotiations relating to Tender No. _____ dated _____ opened on _____ my original tender shall remain open for acceptance on its original terms and conditions up to the date specified in the tender or the date extended by mutual agreement from time to time.

20. For all provisions of the contract including PVC, **date of negotiation will be considered as date of opening.**

21. Tender documents are not transferable.

22. MINIMUM ELIGIBILITY CRITERIA:-

22.1 Technical Eligibility Criteria:

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

Three similar works each costing not less than the amount equal to **30%** of advertised value of the tender,
or

Two similar works each costing not less than the amount equal to **40%** of advertised value of the tender, or

One similar work each costing not less than the amount equal to **60%** of advertised value of the tender.

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- (b) (i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works, Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.), tenderer must have successfully completed or substantially completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

Three similar works each costing not less than the amount equal to **30%** of advertised value of each component of tender, or

Two similar works each costing not less than the amount equal to **40%** of advertised value of each component of tender, or

One similar work each costing not less than the amount equal to **60%** of advertised value of each component of tender.

Note: Separate completed works of minimum required values shall also be considered for fulfillment of technical eligibility criteria for different components.

- (a) (ii) In such cases, what constitutes a component in a composite work shall be clearly pre-defined with estimated tender cost of it, as part of the tender documents without any ambiguity.

Note for Item 22.1:

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

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

- (b)(iii) To evaluate the technical eligibility of tenderer, only components of work as stipulated in tender documents for evaluation of technical eligibility, shall be considered. The scope of work covered in other remaining components shall be either executed by tenderer himself if he has work experience as mentioned in clause 7 of the Standard General Conditions of Contractor through subcontractor fulfilling the requirements as per clause 7 of the Standard General Conditions of Contract or jointly i.e., partly himself and remaining through subcontractor, with prior approval of Chief Engineer in writing.

However, if required in tender documents by way of Special Conditions, a formal agreement duly notarised, legally enforceable in the court of law, shall be executed by the main contractor with the subcontractor for the component(s) of work proposed to be executed by the subcontractor(s), and shall be submitted along with the offer for considering subletting of that scope of work towards fulfilment of technical eligibility. Such subcontractor must fulfill technical eligibility criteria as follows:

The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract, costing not less than 35% value of work to be subletted, in last 5 years, ending last day of month previous to the one in which tender is invited through a works contract.

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

In case after award of contract or during execution of work it becomes necessary for contractor to change subcontractor, the same shall be done with subcontractor(s) fulfilling the requirements as per clause 7 of the Standard General Conditions of Contract, with prior approval of Chief Engineer in writing.

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

V= Advertised value of the tender in crores of Rupees

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

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

The tenderers shall submit requisite information as per **Annexure-XIVA, of STD/June/22** along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

22.3. Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as Annexure-"A'.

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

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

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

[Explanation for clause 22 including clause 22.1 to 22.5 - Eligibility Criteria:

- 1. Substantially Completed Work means an ongoing work in which payment equal to or more than 90% of the present contract value (excluding the payment made for adjustment of Price variation (PVC), if any) has been made to the contractor in that ongoing contract and no proceedings of termination of contract on Contractor's default has been initiated. The credential certificate in this regard should have been issued not prior to 60 days of date of invitation of present tender.*
- 2. In case a work is started prior to 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials.*
- 3. If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials*
- 4. In case of completed work, the value of final bill (gross amount) including the PVC amount (if paid) shall be considered as the completion cost of work. In case final bill is pending, only the total gross amount already paid including the PVC amount (if paid) shall be considered as the completion cost of work.*
In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.
- 5. If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to the subcontractor by a Govt. Organization or public listed company as defined in Note*

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for Item 22.1 Para 22 of Standard Tender Document, the same shall be considered for the purpose of fulfillment of credentials.

- 6. In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost including the PVC amount (if paid) of that completed work or substantially completed work, shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.*
- 7. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 * value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.*
- 8. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm (e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.*
- 9. In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.*
- 10. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners.*
- 11. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.*
- 12. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.*
- 13. In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB.*
- 14. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.*
- 15. In case company A is merged with company B, then company B would get the credentials of company A also.]*

22.6 Format for Certificate to be Submitted/Uploaded by Tenderer along with Tender Documents:

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The tenderers shall submit a copy of certificate stating that all their statements/documents submitted along with tender are true and factual. Standard format of the certificate to be submitted by the tenderers is enclosed as **Annexure-III**. In addition to Annexure-III, in case of other than Company/Proprietary firm, Annexure -III(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(s) by the bidder shall result in summary 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.

22.6. NOTE: --

- (a) Para 22.2 is self explanatory. Certificate issued by Chartered Accountants based on the audited balance sheets will also be accepted. (as per **Annexure-IX**)
- (b) For para 22.1 , the criteria for completed works shall be as under :-
 - (i) Entire work has to be completed in all respects as per contract agreement. Part completed work shall not be considered. Date of completion of the contract should fall in the period as specified in 22.1 above.
 - (ii) Completion certificate should be as per proforma given in **Annexure-V**, as applicable or in the format containing all information required as per the **Annexure-IV**.
 - (iii) Completion certificate from following organizations shall only be considered:-

The work(s) should have been directly awarded to the tenderer by Govt. Organization/ Semi Govt. Organization/ Public Sector Undertaking / Autonomous bodies/ Municipal Bodies.

Note:-The credentials of a wholly owned subsidiary of a parent company will also be considered in respect of works mentioned above if tender is submitted by the parent company.
 - (iv) Details of works physically completed is to be submitted in the proforma as per **'Annexure-IV'** as per para (iii) above.
 - (v) The value of completed work shall be reckoned from the total payment received by the tenderer from the organization completion certificates submitted in terms of note (ii) above.
 - (vi) The amount given at Sr. No. 9 in proforma vide **'Annexure-V'** for the completion certificate will be the value of completed work, if nomenclature of work as given in completion certificate matches with similar nature work mentioned in 22.1.
 - (vii) The amount mentioned at Sr. No. 10 in **'Annexure-V'** for the completion certificate shall be the value of completed work if the nomenclature of completed work includes additional components of work which are not matching with similar nature of works mentioned in 22.1.
 - (viii) Certificate from private individuals for whom such works are executed shall not be considered for eligibility of tenderer for 22.1 and 22.2.

Note:- Any false certificate submitted by tenderer shall lead to forfeiture of Bid Security and further action as mentioned in certificate at **'Annexure-III'** will be taken.

23.0 Instruction for submitting the tenders as Partnership Firms in works tender:

- 23.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
- 23.2 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 prior to date of tender opening as per the Indian Partnership Act prior to submission of tender.
- 23.3 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.

Signature of Tenderer(s)

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23.4 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.

- 23.5 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.
- 23.6 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.
- 23.7 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.
- 23.8 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.
- 23.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities:

The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the Railway for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Railway during the course of execution of the contract or due to non-execution of the contract or part thereof.

(b) Duration of the partnership deed and partnership firm agreement:

The partnership deed/partnership firm agreement shall normally not be modified/altered/ terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of Railway, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract.

(c) Governing laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

Signature of Tenderer(s)

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- (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.
- 23.10 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:
- (a) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
 - (b) 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.
 - (c) 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 / any State Govt. 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. Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determination under Clause 62 of the General Conditions of Contract.
 - (d) All other documents in terms of explanatory notes in clause 22 of STD/June/22

23.11 Evaluation of eligibility of a partnership firm:

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in clause 22 of STD/June/22:

(Signature)

(Designation)

Signature of Tenderer(s)

_____Railway

Date _____

Date _____

24.0 JOINT VENTURE (JV) IN WORKS TENDERS (Clause 17 of GCC/2022) : APPLICABLE FOR THIS TENDER

Instructions for submitting the tender as JV firm in works tender :Applicable for this Tender.

24.1 JV firms will be permitted participation in tender costing rupees more than Rs. 10 Cr.

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

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

24.3 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%.

24.4 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.

24.5 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.

Signature of Tenderer(s)

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24.6 Bid Security shall be submitted by JV or authorized person of JV either as :

- (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.

24.7 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.

24.8 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.

24.9 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.

24.10 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.

24.11 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.

24.12 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:

24.12.1 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.

24.12.2 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.

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

24.13 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.

24.14 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.

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

24.15.1 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.

24.15.2 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.

24.15.3 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

24.15.4 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.

24.15.5 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.

24.15.6 All other documents in terms of explanatory notes in clause 22 of STD/June/22.

24.15.7 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.

24.16 Credentials & Qualifying Criteria: Technical, financial eligibility and Bid capacity of the JV shall be adjudged based on satisfactory fulfillment of the following criteria:

24.16.1 Technical Eligibility Criteria ('a' or 'b' mentioned hereunder):

(a) For Works without composite components

The technical eligibility for the work as per para 22.1, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV'.

Each other (non-lead) member(s) of JV, who is/ are not satisfying the technical eligibility for the work as per para 22.1, shall have technical capacity of minimum 10% of the cost of work i.e., each non-lead member of JV member must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of advertised value of the tender.

(b) For works with composite components

The technical eligibility for major component of work as per para 22.1, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV' and technical eligibility for other component(s) of work as per para 22.1 of GCC/22, shall be satisfied by either the 'JV in its own name & style' or 'any member of the JV'.

Each other (non-lead)member(s) of JV, who is/ are not satisfying the technical eligibility for any component of the work as per para 22.1 above, shall have technical capacity of minimum 10% of the cost of any component of work mentioned in technical eligibility criteria. i.e., each other (non-lead) member of must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of cost of any component of work mentioned in technical eligibility criteria.

Note for Para 24.16.1:

a) The Major component of the work for this purpose shall be the component of work having highest value. In cases where value of two or more component of work is same, any one work can be classified as Major component of work.

b) Value of a completed work done by 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 technical eligibility criteria in the tender under consideration.

24.16.2 Financial Eligibility Criteria

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 22.2 above. The "financial capacity" of the lead member of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 22.2 above. The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "financial capacity" to satisfy this requirement.

Note: Contractual payment received by 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 compliance of the above mentioned financial eligibility criteria in the tender under consideration.

24.17.2 Financial Eligibility Criteria:

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 22.2 above. The "financial capacity" of the lead partner of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 22.2 above.

The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "financial capacity" to satisfy this requirement.

Note: Contractual payment received by 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 compliance of the above mentioned financial eligibility criteria in the tender under consideration.

24.16.3 Bid Capacity:

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned at para 22.3. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement.

25.0 Mandatory updation of Labour data on Railway's Shramikkalyan portal by Contractor to payment of wages:

In order to ensure prompt and proper uploading of details related to LOAs, engages workmen, wage & other payment details, Railways/Pus etc. shall introduced a special condition in their tender documents of the tenders to be called henceforth. The special condition is as under.

- (A) Contractor is to abide by the provisions of various labour laws in terms of **Clause 54 55, 55-A and 55-B of Indian Railways Standard General Condition of Contract**. In order to ensure the same, an application has developed and hosted on website **www.shramikkalyan.indianrailways.gov.in**. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration / updation of portal shall be done as under:
- Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance Engineer shall approve the contractor's registration on the portal within 7 (seven) days of receipt of such request.
 - Contractor once approved by any Engineer, can create password with ID (PAN No.) for subsequent use of portal for all LoAs issued in his favour.
 - The contractor once registered on the portal, shall provide details of his Letter of Acceptance (LoA) / Contract Agreements on shramikkalyan portal 15 days of issue of any LoA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
 - After approval of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on Shramikkalyan portal on monthly basis.

- e) It shall be mandatory upon the contractor to ensure correct and prompts uploading of all salient details of engaged contractual labour& payments made thereof after each wage period.
- (b) While processing payment of any "On Account bill" or "final Bill" or release of "Advance" or Performance Guarantee / Security Deposit', Contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the contract details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikklayan portal at 'www.shramikklayan. indianrailways.gov.in till _____Month_____year".

(Authority: Railway Board's letter No. 2018/CE-I/CT/4 Dated 01.10.18)

26.0 Provision over & above the clauses of GCC-2022:

26.1 Vitiation: Vitiation at para 4(4) 10 of Section III against clause 42(2) of GCC shall be as follows:

The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. In case of vitiation of the tender (both for increase as well as decrease of value of contract agreement), sanction of the competent authority should be obtained.

As a result of variations, a contract shall be considered "Vitiating" only when the following percentage variation in contract value between tenderers is noticed to have been exceeded.

SN	Value of Contract	Percentage Difference between present Contractor and new L-1 as a result of variation. (Percentage shall be calculated with base as the revised contract quantities multiplied by the rates of the present contractor).
1	Small value contracts (Tender Value less than Rs. 50 Lakh)	10
2	Other than Small value contracts (Tender Value equal to or more than Rs. 50 Lakh).	5

The above shall be regulated as under:

The case shall be decided by the tender accepting authority (Competent for the revised quantity) and shall not be created as a case of single tender

(Authority: Railway Board's L/No. 2017/Trans/01/Policy. Dt. 08.02.2018).

27.0 LETTER OF CREDIT AS MODE OF PAYMENT.

- (i) For all the tenders having advertised cost of Rs 10 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.

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- (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 SB1 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
- (e) thereafter shall be finalized 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 XXI) 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 A authorization, 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 Authorization 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 L.C., 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.

Note: For opening of LC, Executive Department shall make a request to concerned Accounts Department on a format as per **Annexure-XX** of Sec: VII

(Authority: Railway Board's L/No. 2018/CE-I/CT/9 Dt: 04.06.2018)

28.0 Settlement of Disputes – Indian Railway Arbitration and Conciliation Rules

28.1 Conciliation of Disputes: (Para 63 of GCC/2022, Part II)

- (i) This clause is applicable in the tender having advertised value less than or equal to Rs 50Crore.
- (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

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determination of the contract, shall be referred by the Contractor to the "ChiefEngineer" or "Divisional Railway Manager" through "Notice of Dispute" provided that nosuch notice shall be served later than 30 days after the date of issue of Completion Certificateby the Engineer. Chief Engineer or Divisional Railway Manager shall, within 30 days afterreceipt of theContractor's "Notice of Dispute", notify the name of conciliator(s) totheContractor.

- (iii) The Conciliator(s) shall assist the parties to reach an amicable settlement in an independentandimpartial mannerwithinthe termsofcontract.
- (iv) If the parties reach agreement on a settlement of the dispute, they shall draw up and sign awrittensettlementagreementdulysignedbyEngineerIn-charge,Contractorandconciliator(s). When the parties sign the settlement agreement, it shall be final and binding ontheparties.
- (v) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicialproceedingsin respectofa dispute that is thesubjectmatter ofthe conciliation proceedings.
- (vi) The conciliation proceedings shall be terminated as per Section 76 of 'The Arbitration andConciliation Act,1996.

28.2 MattersFinallyDeterminedbytheRailway:Alldisputesanddifferencesofanykindwhatsoever arising out of or in connection with the contract, whether during the progress of the workor after its completion and whether before or after the determination of the contract, shall be referredby the Contractor to the GM and the GM shall, within 120 daysafter receipt of the Contractor'srepresentation, make and notify decisions on all matters referred to by the Contractor in writingprovided 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 63.2.11of the StandardGeneralConditionsofContractorinanyClause(statedasexceptedmatter)oftheSpecialConditionsoftheContract,shallbedeemedas 'excepted matters'(mattersnotarbitrable) and decisions of the Railway authority, thereon shall be final and binding on the Contractor; providedfurther that 'excepted matters' shall stand specifically excluded from the purview of the DisputeAdjudicationBoard(DAB) andArbitration.

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

28.3.1 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.

28.3.2 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.

28.3.3 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.

28.3.4 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.

28.3.5 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."

28.3.6 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.

28.3.7 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.

28.3.8 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.

28.3.9 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.

28.3.10 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.

28.3.11 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.

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

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

28.3.14 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.

29.(1):Demand for Arbitration: (Para 64(1) of Part II of GCC/2022)

29.(1)(i): 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 28.2 above, 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.

29.(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.

29.(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 Standard General condition of contract.

29.(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.

29.(1)(iii)(b): The claimant shall submit this claim stating the facts supporting the claims along with 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.

29.(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.

29.(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.

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

29.(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.

29.(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.

29.(3): Appointment of Arbitrator:

29.(3)(a) : Appointment of Arbitrator where applicability of section 12 (5) of Arbitration and Conciliation Act has been waived off:

29.(3)(a)(i): In cases where the total value of all claims in question added together does not exceed ₹1,00,00,000/- (Rupees One Crore), the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be a Gazetted Officer of Railway not below Junior Administrative Grade, nominated by the General Manager. The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by General Manager.

29.(3)(a)(ii): In cases not covered by the Clause 29(3)(a)(i), the Arbitral Tribunal shall consist of a panel of three Gazetted Railway Officers not below Junior Administrative Grade or 2 Railway Gazetted Officers not below Junior Administrative Grade and a retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the Railway will send a panel of at least four (4) names of Gazetted Railway Officers of one or more departments of the Railway which may also include the name(s) of retired Railway Officer(s) empanelled to work as Railway Arbitrator to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the General Manager.

Contractor will be asked to suggest to 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 shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of

Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them is from the Accounts Department. An officer of Selection Grade of the Accounts Department shall be considered of equal status to the officers in Senior Administrative Grade of other departments of the Railway for the purpose of appointment of arbitrator.

29.3.(a).iii: The serving railway officer working in arbitral tribunal in the ongoing arbitration cases as per clause 29.(3)(a)(i) and clause 29.(3)(a)(ii) above, can continue as arbitrator in the tribunal even after his retirement.

29.(3)(b): Appointment of Arbitrator where applicability of Section 12 (5) of Arbitration and Conciliation Act has not been waived off:

(i) In cases where the total value of all claims in question added together does not exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrator. For this purpose, the Railway will send a panel of at least four (4) names of retired Railway Officer(s) empanelled to work as Railway Arbitrator duly indicating their retirement dates to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the General Manager.

Contractor will be asked to suggest to General Manager at least 2 names out of the panel for appointment as arbitrator within 30 days from the date of dispatch of the request by Railway. The General Manager shall appoint at least one out of them as the arbitrator within 30 days from the receipt of the names of Contractor's nominees.

(ii) In cases where the total value of all claims in question added together exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Panel of three (3) retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the Railway will send a panel of at least four (4) names of retired Railway Officer(s) empanelled to work as Railway Arbitrator duly indicating their retirement date to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the General Manager. Contractor will be asked to suggest to 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 shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrator either from the panel or from outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed. General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them has served in the Accounts Department.

29.(3)(c)(i): If one or more of the arbitrators appointed as above refuse 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 fail to act without undue delay, the 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).

29.(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.

29.3(c)(iii): (i) Qualification of Arbitrator(s):

- (a) Serving Gazetted Railway Officers of not below JA Grade level.
- (b) Retired Railway Officers not below SA Grade level, one year after his date of retirement.
- (c) Age of arbitrator at the time of appointment shall be below 70 years.
- (ii) An arbitrator 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 29.3(a)(i), 29.3(a)(ii), 29.3(b)(i) & 29.3(b)(ii) above, due care shall be taken that he/she 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/her 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-XV shall be taken from Arbitrator(s) 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/her duties expressed views on all or any of the matters under dispute.

29.3(d)(i): The arbitral award shall state itemwise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred there from.

29.3(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.

29.3(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.

29.4): In case of the Tribunal, comprising of three members, 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.

29.5): 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.

29.6): The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed 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 Standard General condition of contract after/ while referring these disputes to Arbitration. Further, the fee payable to the arbitrator(s) would be governed by the instructions issued on the subject by Railway Board from time to time irrespective of the fact whether the arbitrator(s) is/are appointed by the Railway Administration or by the court of law unless specifically directed by Hon'ble court otherwise on the matter.

29.7) 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.

29.8) 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 (NITIAayog)/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.

ANNEXURE – 'A'

Reference -Para 10.3 & 17.15.3 of Tender Form (Second Sheet) of Annexure I of GCC/22

TENDERER'S CREDENTIALS (BID CAPACITY) (APPLICABLE FOR THIS TENDER)

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 bid value of the present tender. The available bid capacity shall be calculated as under:

(ACS11 dtd 13.03.2026, L/No: 2022/CE-I/CT/GCC-2022/Policy/Pt.I (E-3320424) dated 13.03.2026)

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 the 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.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

SECTION -III
IMPORTANT CLAUSES OF GENERAL CONDITIONS OF CONTRACT'2022

Some important clauses of GCC are reproduced below in this section for general guidance of the tenderer. However, GCC 2022 with up to date corrections shall continue to govern the contract. (In case of any difference in description of clause reproduced herewith & GCC 2022, description of GCC 2022 shall prevail.)

1(1) Security Deposit (Clause No. 16 (1) of GCC): - 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.

1.(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) Issue of Maintenance Certificate on expiry of the maintenance period as per clause 50.(1), in case applicable.

1.(2) (ii) Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of GCC, 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 GCC, the Security Deposit shall not be forfeited.

1.(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 1.(4)(b) of this clause will be payable with interest accrued thereon.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

1.(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.

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(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.

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

(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.

The Contract being determined or rescinded under clause 62 of GCC.

(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 Performance Guarantee (%)
Below 0 - 5% (inclusive)	Nil
Below 5%	5%

(ACS11 dtd 13.03.2026, L/No: 2022/CE-I/CT/GCC-2022/Policy/Pt.I (E-3320424) dated 13.03.2026)

Note:-Model Form of Bank Guarantee Bond for PG - As per **Annexure-XVIII**.

2. FORCE MAJEURE CLAUSE (CLAUSE No. 17 of GCC/July'2022)

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 events 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 (1) Extension of time in contracts (Clause No. 17–A of GCC): Subject to any requirement in the contract as to completion of any portions 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

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

considered necessary as soon as the cause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the works.

- (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 GCC/2022 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 neighboring 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. The Engineer on receipt of such request from the contractor shall consider the same and shall grant 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.
- (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 therefore 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 2(1)(i) or/and 2(1)((ii) or/ and 2(1)(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.

2.(2) Extension of Time with Liquidated Damages (LD) for delay due to Contractor(Clause No. 17–B of GCC):

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 2 and 2(1), 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 of GCC) 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, 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 GCC, 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 2(2), further request(s) for extension of time under clause 2(1) can also be considered under exceptional circumstances. Such extension(s) of time under clause 2(1) shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 2(2) shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 2(2),

2(3) 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.

3. 3. Provision of Efficient and Competent Staff at Work Sites by the Contractor (Clause 26 of GCC)

- 3.1 The Contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound & proper manner and shall employ only such supervisors, workmen & labourers in or about the execution of any of these works as are careful and skilled in the various trades.
- 3.2 The contractor shall at once remove from the works any agents, permitted sub-contractor, supervisor, workman or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him.
- 3.3 In the event of the Engineer being of the opinion that the Contractor is not employing on the works a sufficient number of staff and workmen as is necessary for proper completion of the works within the time prescribed, the Contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour as specified by the Engineer within seven days of being so required and failure on the part of the Contractor to comply with such instructions will entitle the Railway to rescind the contract under Clause 62 of these conditions.

3A. Deployment of Qualified Engineers at Work Sites by the Contractor:

- 3A.1** The Contractor shall also employ qualified Graduate Engineer(s) or equivalent, or qualified Diploma Engineer(s), as prescribed in the tender documents.

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3A.2 In case the Contractor fails to employ the Engineer, as aforesaid in Para 3A.1, he shall be liable to pay liquidated damages at the rates, as prescribed in the tender documents.

3A.3 Number of qualified Engineers required to be deployed by the Contractor for various activities contained in this works contract shall be as under:-

- (a) (i) One Qualified Graduate Engineer when cost of work to be executed is Rs. 2 crores and above but less than Rs. 10 crores.
- (ii) Subsequently one qualified Graduate Engineer for every 10 crores of cost of work.
- (b) One Qualified Diploma Holder Engineer when cost of work to be executed is more than Rs. 25 lakh, but less than Rs. 2 crores.

3A.4 Further in case the contractor fails to employ the Qualified Engineer, as aforesaid in Para 3A.1 above, he, in terms of provisions of Clause 3A.2 to the Conditions of Contract, shall be liable to pay an amount of Rs. 40,000/- per Graduate Engineer, and Rs. 25,000/- per Diploma Engineer for each month or part thereof for the default period for the provisions, as contained in Para 3A.3 above respectively.

3A.5 Provision for deployment of Qualified Engineers (Graduate Engineer or Diploma Engineer) shall be for the values as prescribed above. However, for the works contract tenders, if it is considered appropriate by the tender inviting authority, not to have the services of qualified engineer, the same shall be so mentioned in the tender documents by the concerned Executive with the approval of Officer not below the level of SAG Officer, for reasons to be recorded in writing.

VARIATIONS IN EXTENT OF CONTRACT

4. 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.

4.(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.

4.(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).

4.(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 items/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 GCC.

5. Price Variation Clause [Clause 46A of (GCC)] - Price Variation Clause (PVC): (Applicable for this work)

(i) 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).

(ii) 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.

(iii) 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.
- (iv) 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.
- (v) No price variation shall be admissible for fixed components.
- (vi) 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

S N	Classification		1A, 2 & 3A	4A	5A	6A	7	8A	9A	1B, 3B, 4B, 5B, 6B 8B & 9B	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	35 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)

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- 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

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

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

For Railway Electrification Works:

- (viii) $T = [0.4136 \times (C_Q - C_B) / C_B] \times 85$
- (ix) $R = [0.94 \times (R_T - R_O) / R_O + 0.06 \times (Z_T - Z_O) / Z_O] \times 85$
- (x) $N = [(P_T - P_O) / P_O] \times 85$
- (xi) $I = [(I_T - I_O) / I_O] \times 85$
- (x) $G = [(M_Q - M_B) / M_B] \times 85$
- (xi) $Er = [(L_Q - L_B) / L_B] \times 85$

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

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- 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

I₀ RBI wholesale price index for the sub-group “Insulators” for the month which is one month prior to date of opening of tender

(II) 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:

$$(i) \quad VSIGWK = 0.85 \text{ SIGWK} \times [PELEX \times (ELEX_i - ELEX_o) / ELEX_o + POFC \times (OFC_i - OFC_o) / OFC_o + PLB \times (LBI - LBo) / LBo + POTH \times (OTH_i - OTH_o) / OTH_o + S30C \times (P30C_i - P30C_o) / P30C_o + S24C \times (P24C_i - P24C_o) / P24C_o + S19C \times (P19C_i - P19C_o) / P19C_o + S12C \times (P12C_i - P12C_o) / P12C_o + S9C \times (P9C_i - P9C_o) / P9C_o + S6C \times (P6C_i - P6C_o) / P6C_o + S4C \times (P4C_i - P4C_o) / P4C_o + S2C \times (P2C_i - P2C_o) / P2C_o + S12C2.5 \times (P12C2.5_i - P12C2.5_o) / P12C2.5_o + S2C2.5 \times (P2C2.5_i - P2C2.5_o) / P2C2.5_o + S2C25 \times (P2C25_i - P2C25_o) / P2C25_o + QC \times (PQC_i - PQC_o) / PQC_o];$$

$$(ii) \quad VINVSIG = 0.85 \text{ SIGWK} \times [PELEX \times (ELEX_i - ELEX_o) / ELEX_o + POTH \times (OTH_i - OTH_o) / OTH_o];$$

$$(iii) \quad VINTGTESTSIG = 0.85 \text{ INTGTESTSIG} \times [PLB \times (LBI - LBo) / LBo + POTH \times (OTH_i - OTH_o) / OTH_o];$$

$$(iv) \quad VCOMWK = 0.85 \text{ COMWK} \times [PELEX \times (ELEX_i - ELEX_o) / ELEX_o + POFC \times (OFC_i - OFC_o) / OFC_o + PLB \times (LBI - LBo) / LBo + POTH \times (OTH_i - OTH_o) / OTH_o + S30C \times (P30C_i - P30C_o) / P30C_o + S24C \times (P24C_i - P24C_o) / P24C_o + S19C \times (P19C_i - P19C_o) / P19C_o + S12C \times (P12C_i - P12C_o) / P12C_o + S9C \times (P9C_i - P9C_o) / P9C_o + S6C \times (P6C_i - P6C_o) / P6C_o + S4C \times (P4C_i - P4C_o) / P4C_o + S2C \times (P2C_i - P2C_o) / P2C_o + S12C2.5 \times (P12C2.5_i - P12C2.5_o) / P12C2.5_o + S2C2.5 \times (P2C2.5_i - P2C2.5_o) / P2C2.5_o + S2C25 \times (P2C25_i - P2C25_o) / P2C25_o + QC \times (PQC_i - PQC_o) / PQC_o + PCEQP \times (CEQP_i - CEQP_o) / CEQP_o];$$

$$(v) \quad VINVCOM = 0.85 \text{ SIGWK} \times [PELEX \times (ELEX_i - ELEX_o) / ELEX_o + PCEQP \times (CEQP_i - CEQP_o) / CEQP_o + POTH \times (OTH_i - OTH_o) / OTH_o]; \text{ and}$$

$$(vi) \quad VINTGTESTCOM = 0.85 \text{ INTGTESTCOM} \times [PLB \times (LBI - LBo) / LBo + POTH \times (OTH_i - OTH_o) / OTH_o].$$

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;

CEQPo = 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;

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

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

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

P30Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 30C x 1.5 sq mm signalling cable

P30Co = 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.

P24Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 24C x 1.5 sq mm signalling cable

P24Co = 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.

P19Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 19C x 1.5 sq mm signalling cable

P19Co = 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.

P12Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 12C x 1.5 sq mm signalling cable

P12Co = 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.

P9Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 9C x 1.5 sq mm signalling cable

P9Co = 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.

P6Ci = Price payable per Km as adjusted in accordance with price variation Clause for size 6C x 1.5 sq mm signalling cable

P6Co = 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;

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

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

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

$OTHi$ = 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:

<div>Works</div> <div>Component</div>	Signalling			Telecommunication		
	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)

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For Principal Chief Engineer
N.F Railway, Maligaon

FORMULAE FOR SIGNALING & TELECOM CABLE

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

For Signalling Copper Cables:

$$P_i = P_o + CuF (Cu - Cuo) + CCFcu(CC - CCo) + FeF (Fe - Feo)$$

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

$$P_i = P_o + CuF (Cu - Cuo) + AlFcu(Al - Alo) + CCFcu (CC - Cco) + FeF (Fe - Feo)$$

For Aluminium Power Cables:

$$P_i = P_o + AlF (Al - Alo) + CCFAI(CC - CCo) + FeF (Fe - Feo)$$

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

Cuo = Price of copper Rod in Rs. Per MT

$CCFCu$ = Variation factor for PVC Compound for Copper Signalling & Telecom cable

CCo = Price of PVC Compound in Rs. Per MT

AlF = Variation factor for Aluminium

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

$CCFAI$ = Variation factor for PVC Compound for Aluminium power cable

FeF = Variation factor for Steel

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

(Prices per MT for Cuo , CCo , Feo , Alo 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.

$$P_{30C_i} = P_{30C_o} + 0.391(Cu - Cuo) + 0.557(CC - CCo) + 0.425(Fe - Feo)$$

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

$$P_{24C_i} = P_{24C_o} + 0.313(Cu - Cuo) + 0.481 (CC - CCo) + 0.398(Fe - Feo)$$

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

$$P_{19C_i} = P_{19C_o} + 0.248(Cu - Cuo) + 0.395(CC - CCo) + 0.343(Fe - Feo)$$

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For Principal Chief Engineer
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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

$$P12C_i = P12Co + 0.157(Cu - Cu_o) + 0.277(CC - CCu) + 0.289(Fe - Fe_o)$$

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

(v) Size 9C x 1.5 sq.mm

$$P9C_i = P9Co + 0.117(Cu - Cu_o) + 0.241(CC - CCu) + 0.383(Fe - Fe_o)$$

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

(vi) Size 6Cx 1.5 sq.mm

$$P6C_i = P6Co + 0.078(Cu - Cu_o) + 0.199(CC - CCu) + 0.329(Fe - Fe_o)$$

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

(vii) Size 4Cx1.5 sq.mm

$$P4C_i = P4Co + 0.052(Cu - Cu_o) + 0.152(CC - CCo) + 0.277(Fe - Fe_o)$$

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

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

$$P2C_i = P2Co + 0.073(Cu - Cu_o) + 0.156(CC - CCo) + 0.3(Fe - Fe_o)$$

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

(ix) Size 12C x 2.5 sq.mm

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

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

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

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

$$P2C25_i = P2C25o + 0.146(Al - Alo) + 0.303(CC - CCo) + 0.306(Fe - Fe_o)$$

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

$$PQC_i = PQCo + 0.135(Al - Alo) + 0.139(Cu - Cu_o) + 0.515(CC - CCo) + 0.693(Fe - Fe_o)$$

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

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

(ix)(i) 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.

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(ix)(ii). Relevant city for referring “JPC (Joint Plant Committee)” rates of steel items (SQ /SB) 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

(x) 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 17-A of the Standard General Conditions of Contract. However, where extension of time has been granted due to Contractor’s failure under Clause 17-B of the Standard General Conditions of Contract, price adjustment shall be done as follows:

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

NOTE:-

For calculation of price variation, cut-off date quarter for running bills/ final bills will be as under:-

- In case of running bill, the date of measurement recorded in MB, shall be considered. If measurement date is more than one, then 1st date of measurement recorded in MB will be considered.
- In case of final bill, the date of completion or 1st date of measurement recorded in MB, whichever is earlier, will be considered.

6.0 Provision of “The Building and other Construction Workers (Regulation of Employment and Conditions of Services) Act,1996” and “The Building and Other Construction Workers Welfare Cess Act,1996” (Clause-55-C of GCC): The tenderers, for carrying out any construction work, shall get themselves registered with the Registering Officer under Section-7 of the Building and Other Construction Workers act,1996 and rules made thereto by the concerned state Govt. and submit certificate of Registration, issued from the Registering Officer of the concerned State Govt. (Labour Dept.). The Cess shall be deducted from contractor’s bills as per provisions of the Act.

6.1 Provisions of Payments of Wages Act: The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made thereunder in respect of all employees employed by him either directly or through petty Contractors or sub-contractors in the works. If in compliance with the terms of the contract, the Contractor directly or through petty Contractors or sub-contractor shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer, such labour shall nevertheless be

deemed to comprise persons employed by the Contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the Contractor to repay such money to the Railways deduct the same from any moneys due to the Contractor in terms of the contract. The Railway shall be entitled to recover the same from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India all moneys paid or payable by the Railway by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this Clause shall be final and binding upon the Contractor. (Para 55 of Part II of GCC/2022)

6.2.A. Provisions of Contract Labour (Regulation and Abolition) Act, 1970: (Para 55-A of Part II of GCC/2022)

6.2-A.(1) The Contractor shall comply with the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules.

6.2-A.(2) The Contractor shall obtain a valid license under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill the requirement shall attract the penal provision of the Act.

6.2-A.(3) The Contractor shall pay to the labour employed by him directly or through sub-contractor the wages as per provision of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour, indirectly engaged on the works including any engaged by sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

6.2-A.(4) In respect of all labour directly or indirectly employed in the work for performance of the Contractor's part of the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and Rules wherever applicable.

6.2- A.(5) In every case in which, by virtue of the provisions of the aforesaid Act or the rules, the Railway is obliged to pay any amount of wages to a workman employed by the Contractor or his sub-contractor in execution of the work or to incur any expenditure on account of the contingent, liability of the Railway due to the Contractor's failure to fulfill his statutory obligations under the aforesaid Act or the rules, the Railway will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the Railway under the Section 20, Sub-Section (2) and Section 2, Sub-Section (4) of the aforesaid Act, the Railway shall be at liberty to recover such amount or part thereof from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. The Railway shall not be bound to contest any claim made against it under Sub-Section (1) of Section 20 and Sub-Section (4) of Section 21 of the aforesaid Act except on the written request of the Contractor and upon his giving to the Railway full security for all costs for which the Railway might become liable in contesting such claim. The decision of the Chief Engineer regarding the amount actually recoverable from the Contractor as stated above shall be final and binding on the Contractor.

6.2- B. Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952: The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions

Act, 1952", wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules. (Para 55-B of Part II of GCC/2022)

6.2-C (i) Contractor is to abide by the provisions of various labour laws in terms of above clause 54, 55, 55-A and 55-B of the Standard General Conditions of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The registration/ updation in Portal shall be done as under:

- (a) Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration in the portal within 7 days of receipt of such request.
- (b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all Letter of Acceptances (LoAs) issued in his favour.
- (c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LoAs) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LoA for approval of concerned Engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
- (d) After approval of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.
- (e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.

(ii) While processing payment of any 'On Account Bill' or 'Final Bill' or release of 'Advances' or 'Performance Guarantee / Security Deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at 'www.shramikkalyan.indianrailways.gov.in' till ____Month, ____Year."

(Para 55-C of Part II of GCC/2022).

7.0 Determination of Contract:

7.(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. (Para 61(1) of Part II of GCC/2022)

7.(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. (Para 61(2) of Part II of GCC/2022)

7.(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. (Para 61(3) of Part II of GCC/2022)

8(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 GCC, 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 GCC 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 of GCC/22 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 GCC, or
- (xii) Fail to take steps to employ competent or additional staff and labour as required under Clause 26 of GCC, 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 GCC, 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 GCC/22, 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, GCC/22) 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, GCC/22 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 of GCC/22 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 of GCC/22), only in cases where progress of work is more than or equal to 80% of the original scope of work.

8(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 8(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

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For Principal Chief Engineer
N.F Railway, Maligaon

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 General Condition of Contract/2022.

(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. (Para 62(2) of Part II of GCC/2022)

9.0 Final Supplementary Agreement: [Clause 48(3) of GCC/2022]

After the work is completed or otherwise concluded by the parties with mutual consent and taken over by the Railway as per terms and conditions of the contract agreement, and there is unequivocal no claim on either side under the Contract other than as mentioned in item 4 of **Annexure -B**, the parties shall execute the final supplementary agreement annexed (**as per Annexure XIV of GCC/2022 as follows**):

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N.F Railway, Maligaon

ANNEXURE – 'B'
(Para 48(3) of GCC/2022)

FINAL SUPPLEMENTARY AGREEMENT

- Articles of agreement made this day _____ in the year _____ between the President of India, acting through the _____ Railway Administration having his office at _____ herein after called the Railway of the one part and _____ of the second part.
- Whereas the party hereto of the second part executed an agreement with the party hereto of the first part being agreement Number _____ dated _____ for the performance _____ herein after called the 'Principal Agreement'.
- And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on _____ date last extended' and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part.
- And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to Rs. _____ including the final bill bearing voucher No. _____ dated _____ of value _____ duly adjusted as per price variation clause, if applicable (the receipt of which is hereby acknowledged by the party hereto of the second part in full and final settlement of all his /its claims under the principal agreement.

And whereas the party hereto of the second part have received further sum of Rs. _____ through the final bill bearing voucher No. _____ dated _____ duly adjusted as per price variation clause (PVC), if applicable (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part in full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement including /excluding the security deposit, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement. It is further agreed by and between the parties that the party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said Principal Agreement.

(Applicable in case Final Supplementary Agreement is signed after release of Final Payment) **OR**

And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to Rs. _____ through various On Account Bills (the receipt of which is hereby acknowledged by the party hereto of the second part).

And whereas the party hereto of the second part have received sum of Rs. _____ through various On Account Bills (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part and party hereto of the second part have accepted final measurements recorded on Page No..... to Page No.... of Measurement Book No.....and corresponding Final Bill duly adjusted as per price variation clause (PVC), if applicable, for full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid through various On Account Bills and sums to be paid through Final Bill duly adjusted as per price variation clause (PVC), if applicable, based on accepted final measurements including the security deposit by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement.

(Applicable in case Final Supplementary Agreement is signed before release of Final Payment)

Signature of Tenderer(s)

For Principal Chief Engineer
N.F Railway, Maligaon

5. It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and/or shall be deemed to be non-existent for all purposes.

Signature of the Contractor/s

for and on behalf of the President of India

Witnesses _____

ADDRESS: _____

MEASUREMENTS, CERTIFICATES AND PAYMENTS

10. Quantities in Bill(s) of Quantities Annexed to Contract: The quantities set out in the accepted Bill(s) of Quantities with items of works quantified are the estimated quantities of the works and they shall not be taken as the actual and correct quantities of the work to be executed by the Contractor in fulfillment of his obligations under the contract. (Para 44 of Part II of GCC/2022)

11(i). Measurement of Works by Railway: The Contractor shall be paid for the works at the rates in the accepted Bill(s) of Quantities and for extra works at rates determined under Clause 39 of these Conditions on the measurements taken by the Engineer or the Engineer's representative in accordance with the rules prescribed for the purpose by the Railway. The quantities for items the unit of which in the accepted Bill(s) of Quantities is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted Bill(s) of Quantities is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time and at such intervals as in the opinion of the Engineer shall be proper having regard to the progress of works. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the Contractor who shall be present at the site and shall sign the results of the measurements (which shall also be signed by the Engineer or the Engineer's representative) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measurements. Failing the Contractor's attendance, the work may be measured up in his absence and such measurements shall, notwithstanding such absence, be binding upon the Contractor whether or not he shall have signed the measurement books provided always that any objection made by him to measurement shall be duly investigated and considered in the manner set out below: (Clause 45(i) of Part II of GCC/2022)

(a) It shall be open to the Contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the Engineer or the Engineer's representative in the presence of the Contractor or in his absence after due notice has been given to him in consequence of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and Classification of the measurements.

(b) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

11 (ii). Measurement of Works by Contractor's Authorized Representative (in case the contract provides for the same): (Clause 45(ii) of Part II of GCC/2022)

(a) The Contractor shall be paid for the works at the rates in the accepted Bill(s) of Quantities and for extra works at rates determined under Clause 39 of GCC/2022 on the measurements taken by the Contractor's authorized Engineer in accordance with the rules prescribed for the purpose by the Railway. The quantities for items the unit of which in the accepted Bill(s) of Quantities is 100 or 1000 shall be calculated to the nearest whole number, any

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fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted Bill(s) of Quantities is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the Engineer.

The date and time of test checks shall be communicated to the Contractor who shall be present at the site and shall witness the test checks, failing the Contractor's attendance the test checks may be conducted in his absence and such test checks shall not withstanding such absence be binding upon Contractor provided always that any objection made by Contractor to test check shall be duly investigated and considered in the manner set out below:

- (i) It shall be open to the Contractor to take specific objection to test checks of any recorded measurement within 7 days of date of such test checks. Any re-test check done by the concerned Railway's authority in the presence of the Contractor or in his absence after due notice given to him in consequent of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurements.
- (ii) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

(b) Incorrect measurement, actions to be taken: If in case during test check or otherwise, it is detected by the Engineer that agency has claimed any exaggerated measurement or has claimed any false measurement for the works which have not been executed; amounting to variation of 5% or more of claimed gross bill amount, action shall be taken as following:

- (i) On first occasion of noticing exaggerated/ false measurement, Engineer shall recover liquidated damages equal to 10% of claimed gross bill value.

On any next occasion of noticing any exaggerated/false measurement, railway shall recover liquidated damages equal to 15% of claimed gross bill value. In addition, the facility of recording of measurements by Contractor as well as release of provisional payment shall be withdrawn. Once withdrawn, measurements shall be done by railway as per clause 26(i) of GCC/2022.

12. "Measurement & Recording of Executed Works" (Contractor's e-MB)

1 For all contracts **costing more than Rs. 5 Crore, Contractor's e-MB is mandatory** and Contractor's e-MB, should be part of Tender Document. In exceptional cases, approval of DRM/PHOD/CHOD with concurrence may be taken, as the case may be.

2. The Tender documents, wherein, measurement of work by contractor is allowed shall contain special condition to this effect, **duly incorporating the provisions of para 1316A of Engineering code.(Attached as ANNEXURE-XXIII)**

3. Measurement is recorded by the contractor shall be test checked by Railway within 45 days of submission of measurement.

4. Following items shall be read alongwith Provisions of para 1316A of Indian Railway Code for Engineering Department dated 21.09.2017

a) While processing 75% provisional payment bill, concerned executives shall ensure that supply items given by contractor are commensurate with requirement for execution of works.

b) The word Deputy CE or its equivalent shall mean equivalent Branch Officer of the Division/RE organization. XEN/AXEN shall mean their equivalent counterparts in Division/RE organization.

(Railway Board's letter no. 2017/CE-I/CT/9 dated 31.05.2023)

SECTION-IV
SPECIAL CONDITIONS OF CONTRACT (General)

- 1 (A)** These special conditions and the work schedule shall govern the works to be executed under this contract in addition to and/or in part supersession of the General Conditions of Contract -2022 and Standard Specifications as laid down in the Indian Railways Unified Standard Specifications-2021/ CPWD Specifications 2019 Vol I &II as amended by correction slips on or before the opening of tender.
- 1(B)** The Similar nature of Work approved by PHOD/CHODs should be indicated in the NIT/Tender document. In cases where no PHOD is posted, CHODs holding independent charge shall define the same. In case of any deviation/modification in the list of similar nature of works, prior approval of competent authority should be obtained. It must be ensured that in no case the "Special technical/eligibility criterion" that has bearing on qualification of tenderers shall be incorporated in NIT/TD without approval of PHOD/CHODs. (Railway Board's Letter no. 2025/CE-I/CT/1 (3515789) dated 09.12.2025).
- 2** Where there is any conflict between the Special Conditions of Contract on one hand and Indian Railways Unified Standard Specifications 2021/CPWD Specifications 2019 Vol I & II on the other hand, the former shall prevail.
- 3** Any special condition stated by the tenderer(s) in the covering letter submitted along with the tender shall be deemed as part of contract to such extent only as have explicitly been accepted by the Railway.
- 4** **Use of Railway Land:**
- 4.1** Use of Railway land required by the contractor(s) for labour camp would be permitted to him/them free of charge by Railway, if available. However, this would be subject to approval of the Competent Authority of the Railway. Conservancy charges, as applicable, would be payable. The land will be restored to Railway by the contractor(s) in the same condition as when taken over or in vacant condition as desired by the engineer, after completion of the work or at any earlier day, as specified by the Engineer. The failure to do so will make the contractor(s) liable to pay the cost incurred by the Railway for getting possession of land.
- 4.2** The tenderer(s) shall also acquaint himself /themselves with the availability of land, working space for his/their works etc. The Railway will not acquire any land for the purpose of movement of vehicles of the Contractor/s for executing the work by the contractor/s.
- 4.3** Water and Electrical charges wherever consumed by the Contractor while executing this Contract would be paid by the Contractor as per Clause 31 of GCC.
- 4.4** The land shall be vacated by the contractor within 15 days after completion of work/closure of the contract, which does not include the maintenance period, or service of notice for vacation of allotted land by Railway Administration, failing which a penalty at @ 3% of the market value of occupied land per month or part thereof will be levied till its vacation.
- 4.5** The allotted land should be handed over back in original condition after vacation. The certificate of vacation of land shall be submitted by contractor duly signed by the concerned SSE/Works and ADEN. Release of PG /SD is subject to handing over back the allotted land.
- 4.6** Allotted land should not be used for purpose other than for which it is allotted. Use of allotted land for other purpose will result in cancellation of allotment and its vacation. Contractor will also be liable to pay penalty @ 3% of the market value of the land per month or part thereof for duration of misuse of such land till its vacation and handing over back to Railway. Such amount will be recovered from the amount due to contractor, i.e., final bills/SD/PG or any pending bills.
- 4.7** Eviction proceedings shall also be resorted to in addition to penal recoveries as mentioned in above paras.
- 5.0** **Use of Private Land**
The Contractor will have to make his/their own arrangements for use of private land, outside Railway limits for due fulfillment of contract or for borrow pits, approaches, etc., directly with the land owners or local authority and to pay such rents/charges if any as are payable as may be mutually agreed upon between them.

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6.0 Figures, Dimensions, etc. Figures, dimensions and drawings shall supersede measurements by scale and drawing to larger scale shall take precedence over those to a smaller scale. Special dimensions or directions in the specification shall supersede all else.

7.0 Plea of Custom

The plea of custom prevailing will not on any account be permitted as excuse for an infringement of any of the conditions of the contract or specifications.

8.0 Taxes and Royalties:

8.1 All rates quoted in the Tender shall be deemed to be inclusive of all Taxes, Royalties, etc. payable by the Contractor(s) to the Govt. or Public Body or Local Authority and no additional amount will be paid or claim entertained on the account by then Railway.

8.2 All Taxes such as Income Tax, Sales Tax and other Taxes as prescribed by Central/State Govt. from time to time shall be applicable. The Contractor shall be fully responsible for payment of all such Taxes without any liability of Railway Administration. Deduction towards such Taxes shall be made from the payments of the Contractor in accordance with Rules in force from time to time.

8.3 Income Tax:

The Railway will deduct Income Tax @ 2% of the gross amount and surcharge on income Tax of each bill as prescribed by Govt from time to time and such deduction of Income Tax shall be recovered while making payment to the Contractor/s. The settlement of Income Tax should be made by the contractor with the Income Tax authority.

8.4 Contractor will be required to obtain a royalty clearance certificate from the concerned Revenue Authorities / Collector and produce the same to the Engineer after completion of supply but before release of the final bill. If in any case the contractor fails to produce the clearance certificate for the Royalty charges, an amount equal to the amount unpaid royalty charges, as intimated by the Revenue Authorities / Collector or as calculated on the relevant rates for payment of royalty charges applicable to the area, may be retained from the dues of the Contractor, No claim regarding interest charges for retention of the aforesaid amount shall be entertained.

8.5 GST i.e. Goods and Services Tax including CGST, SGST & IGST shall be deducted from the Contractor's bill as per prevailing norms.

(Authority: Railway Board's L/No. 2017/CE-I/CT/4/GST dt. 23.06.2017)

9.0 Notice to Public Bodies

The Contractor(s) shall give to the Municipality, Police and other authorities all notices that may be required under the law or any other statutory orders and obtain all requisite licenses, permits, etc. for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be leviable on account of his own operations in executing the contract. He should make good any damage to adjoining premises whether public or private and supply and maintain any lights, etc., required at night.

10.0 Damage by Accident, Floods/Tides Or Natural Calamities:

- (i) No assurance can be given regarding the vulnerability of Railway land to flood/tides or other such natural calamities. Railway undertakes no responsibility or liability in this regard. The contractor shall take all necessary precautions against damages from accidents, floods or tides or other natural occurrence. He shall not be entitled to any compensation for his tools, plants, materials, machines and other equipment lost or damaged by any cause whatsoever.
- (ii) The contractor shall be liable to make good the damage to any structure or part of structure, plant or material of every description belonging to Railway covered under the contract, lost or damaged by any cause during the course of the contractor's work. Railway will not be liable to pay to the contractor any charges for rectification or repairs to any damages which may have occurred from any cause whatsoever, to any part of new structure during construction.

11.0 Access To Work Site

- (i) Contractor shall have acquainted himself with the availability of roads and their conditions for transportation of materials, machinery etc. to the work site. Railway will not acquire any land for the purpose of movement of vehicles of the Contractor for executing the work by the contractor.
- (ii) The Contractor will be permitted to make use of existing service roads, or service roads constructed by the Railway for its use free of cost. New service roads required by the contractor/s either near the work site or elsewhere within or outside railway limits for carriage of materials or for any other purpose whatsoever, will have to be constructed and maintained by the contractor at his own cost. For the purpose of constructions of service roads on railway land, permission will be given free of any charge. Railway reserves the right to retain all such service roads in Railway land without paying any compensation for the same. However, if so decided by Railway, contractor will have to remove the service road and make good all damage done to the site.
- (iii) If any land other than railway land is necessary to be acquired or to be entered upon, permission to enter in the land will have to be arranged by the contractor at his cost. The contractor will not refer any claim, whatsoever on this account. The Railway, however, reserves the right to make use of such service roads as may be constructed by the contractor without payment of any charges.

12.0 EMERGENCY WORKS

- 12.1 In the event of any accident or failure occurring in, on or about the work or arising out of or in connection with the construction, completion or maintenance of the works, which in the opinion of the Engineer requires immediate attention, the Railway may bring its own workmen or other agency to execute or partly execute the necessary work or carry out repairs if the Engineer considers that the contractor/s is/are not in a position to do so in time and charge the cost thereof, to be determined by the Principal Chief Engineer/DRM-- , Northeast Frontier Railway/---, to the contractor. The decision of the Engineer's representatives in regard to the need, appropriateness and adequacy of the deployment of the Railway Workmen or other agency with necessary equipment shall be final and conclusive.
- 12.2 Recovery for deployment of the Workmen would be at the rate specified in Clause 15.2, herein.

13.0 MAINTENANCE PERIOD

13.1 For Supply, consultancy and hiring items.

The maintenance period is limited to date of completion of work

13.2 All works other than mentioned in clause 13.1 above.

The tenderer(s) shall be required to maintain the work effectively for a period mentioned below from the date of completion as per Clause 47 of the General Conditions of Contract -2022 and no part refund of Security Deposit shall be permitted during the maintenance period mentioned above.

- 13.2.1 Other than earthwork, Construction of ROB/RUB/LHS, construction of new Rail Bridges/ROR, Work related to re-building of existing bridges - 6(Six) months.
- 13.2.2 Earthwork-Minimum 6 months but covering at least one monsoon period (Monsoon period be 1st June to 30th October).
- 13.2.3 Zonal work- Repair and maintenance work including white/colour washing: three calendar months from date of completion.

13.3 Maintenance period of 4 years, in case of:

- a) Construction of ROB/RUB/LHS
- b) Work of construction of new Rail Bridges/ROR
- c) Work related to re-building of existing bridges.

(Railway Board's Letter no. 2022/CE-III/Bridge Policy (E-3406846) dated 29.12.2025)

14. INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE

- 14.1 The contractor shall always execute the work under this contract in strict compliance with the instructions/directives by the Engineer's representative. Any act of non-compliance with the instruction/directives issued by the Engineer's representative shall be considered as a default of the contractor liable to action as per conditions of contract. The decision of the Engineer whether there has been an act of non-compliance with the instruction/directives of the Engineer's representative for the purpose of this clause shall be final and conclusive.

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- 14.2 In case of any act of non-compliance, in addition to other remedies available to the Railway & without prejudice to the Railway's rights in this regard, Engineer's Representative can suspend the Contractor's work till he is satisfied that the contractor is in a position/will comply with the instructions/directives issued by the Engineer's Representative. Decision of the Engineer's Representative in this regard shall be final and conclusive. Contractor shall not have any claim whatsoever against the Railway for such short term/long term suspension of the contract work.
- 14.3 During the above-mentioned period of suspension of work, the contractor shall not in any manner, attempt to carry out any work at the work site. Any such attempt of the contractor shall be deemed to be an unauthorized work, liable for action under the Indian Railway Act.
- 14.4 The instructions/directives by the Engineer's representative shall not, however, absolve the contractor of his responsibility or reduce his responsibility in any manner whatsoever in regards to maintaining at all times the safe working conditions at the work site.
- 15.0 NON-COMPLIANCE WITH THE INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE.**
- 15.1 The contractor shall always comply with the instructions/directives issued by the Engineer's representative from the time to time. In the event of any non-compliance with such instructions/directives, apart from and in addition to other remedies available to the Railway as specified herein above the Engineer's representative may employ at the works Railway's workmen with necessary equipment as considered appropriate and adequate by him to provide the requisite conditions for the safe and unhampered movement of Railway traffic. The decision of the Engineer's representatives in regard to the need of appropriateness and adequacy of the deployment of the Railway Workmen with necessary equipment shall be final and conclusive.
- 15.2 When the Railway workmen with necessary equipment are deployed in the above manner, recovery at the following rate shall be made from the contractor's dues under this contract or any other money of the contractor available with the Railway under this contract. The recovery for the total Railway Workmen Hours employed at the **rate of Rs. 2000/- (Rupees Two Thousand only) per Workman-days** irrespective of the type and grade of the Railway Employee actually employed. The aggregate period of the Workman-days for the above recoveries shall be reckoned from the time the Railway Workmen are actually deployed at the work site till the work is completed to the satisfaction of the Engineer's Representative whose decision in this regard shall be final and conclusive.
- 15.3 During the above-mentioned period of suspension of work, the contractor shall not in any manner attempt to carry out any work at the work site. Any such attempt of the contractor shall be deemed to be an unauthorized work on the work site. For such acts, the contractor shall then be liable for further appropriate action under the relevant provisions of the Indian Railway Act.
- 16.0 WARRANTY**
- The Contractor(s) shall warrant the materials supplied under this contract to be free of any defects in material and workmanship under ordinary use and service.
- 17.0 SHIFTING OF ELECTRICAL/TELEGRAPH WIRES.**
- In some stretches, high-tension grid towers /electric telegraph/telephones wires or posts etc. are to be shifted. It is expected that the electric lines/towers will be shifted in good time but in case, there is any delay on this account suitable extension in date of completion will be considered and given to the contractor for only the effected portion and no compensation whatsoever in this respect or due to the delay thus caused will be payable and contractor has to adopt such methods of execution of earthwork so as not to cause any damage to existing structure lines etc.
- 18.0 HANDING OVER OF SITE FOR WORK.**
- (i) The Railway will hand over the site free of all obstructions to contractor. However, entire land required for completion of this work may not be handed over in the beginning of work. Land may be handed over in different stretches, which may not be continuous. Contractor(s) will be required to carry out the work in available stretches. However, if some stretch of land cannot be handed over in time, contractor shall not have any claim whatsoever against the Railway for any delay in the execution of the work, on this account except for extension of the completion period under the General Conditions of Contract.
- (ii) If shifting of electric lines/towers, telegraph/telephones wires or post etc. involved for clearing the site same will be arranged by Railway in good time to complete the work. In case of any delay on this account, suitable extension in date of completion will be considered only for the effected portion and no compensation

whatsoever in this respect or due to delay caused will be payable and contractor has to adopt such method of execution so as not to caused any damaged to existing structure, lines etc.

19.0 MODE AND TERMS OF PAYMENT:

19.1 All payments will normally be made only for finished works on the basis of mode and terms of payments agreed upon and provided in the contract.

19.2 **MANNER OF PAYMENT:** Payment to the contractor will be made through Electronic Fund Transfer (EFT) for payment of running and final bills. The tenderer(s) will also fill the **Annexure-II** indicating the bank account number, name of bank and bank specific code number (MICR/IFSC) as enclosed. The conditions and **Annexure-II** will be part of the tender document.

19.3 **PAYMENT TO LABOUR AND STAFF** : It is desirable that all payment of the Contractor towards Labour and other Staff engaged for this Contract would be paid into their Bank Account.

20. Accident/natural calamities:-

20.1 Vehicle and equipments of the contractor can be drafted by Railway Administration in case of accidents/natural calamities involving human lives.

20.2 Payment for such vehicle and equipments etc. will be made as per accepted rates if available in the agreement or decided as per Clause 39 of General Condition of Contract. In case of disagreement, Principal Chief Engineer/DRM/---- Northeast Frontier Railway/-----'s decision after hearing both the parties in the matter would be final and binding on the Contractor and the Railway.

20.3 Contractor may submit list of vehicles and equipment available with him

21.0 Advance to Contractors:

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.

If payment(s) of Advances are applicable in the contract, as mentioned in the Tender Documents, Railway shall make payment(s) of Interest bearing advances, on the request of contractor. The payment and recovery of such Advances shall be made as under:

21.1 **Mobilization Advance-** This shall be limited to 10% of the Contract value and shall be paid in 2 stages :

Stage 1– 5% of Contract Value on signing of the contract agreement.

Stage 2 – 5% on mobilization of site-establishment, setting up offices, bringing in equipment and actual commencement of work.

The stage 1 of advance shall be payable immediately after signing of contract agreement.

The stage 2 of advance shall be payable at the time of mobilisation, only after submission of an utilization certificate by the contractor that the Stage 1 advance has been properly utilized in the contract.

These Advances shall be payable against irrevocable guarantee (Bank Guarantee, FDRs) from a scheduled commercial bank of India of at least 110% of the value of the sanctioned advance amount (covering principal plus interest).

21.2 Advance Against Machinery and Equipment -

This advances shall be limited to a maximum of 10% of the contract value against new machinery & Equipment, involving substantial outlay, brought to site and essentially required for the work. This advance shall not exceeds 75% of the purchase price of such Equipment and shall be payable when hypothecated to the President of India by a suitable bond or alternatively covered by an irrecoverable Bank Guarantee for full cost of the Plant t& Equipment from a nationalised Bank in India in a form acceptable to Railways. The Plant & Equipment shall be insured for the full value and for the entire period, they are required for the work. This Plant & Equipment shall not be removed from the site of work without prior written permission of the Engineer. No advance should be given against old Plant & Machinery.

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21.3 Advances for accelerating progress of the work during course of execution of Contract-

This advance is to be decided on the merits of each case and shall be restricted to a maximum of 5% of contract value. This is to be granted by the General Manager on the recommendations of the Chief Engineer in-charge, in consultation with the Associate Finance. While recommending this advance for sanction of General Manager, the Chief Engineer in-charge shall also confirm that progress of the contract work has been as per milestones/targets laid down and no extension to Date of completion of the contract has been given on contractor's account.

21.4 Advances in Exceptional Cases-

General Manager are further empowered to grant advances in exceptional cases upto a maximum of Rs 20 lacs in respect of even contracts of value less than Rs 20 crore, if considered absolutely essential, depending on the merits of each case and circumstances in each situation, to be recommended by the Chief Engineer in- charge and in consultation with the Associate Finance.

21.5 The above advances are subject to the following conditions-

- i. The advance shall carry an interest at the rate to be decide by the Railway Board and communicated at the beginning of every financial year, to be applicable for the tenders to be opened in that financial year.
- ii. Advances except those against machinery and equipment, shall be payable against irrecoverable guarantee(Bank Guarantee, FDRs, KVPs/NSCs) of at least 110% of the value of the sanctioned advance amount(covering principal plus interest). The Bank Guarantee shall be from a Nationalised Bank in India or State Bank of India in a form acceptable to the Railways.
- iii. The recovery shall commence when the value of contract executed reaches 15% of original contract value and shall be completed when the value of work executed reaches 58% of the original contract value. The installments on each "on account bill" will be on pro-rata basis;
- iv. That the grant of advance is primarily in Railway's own interest;
- v. That a contractor does not receive advances for same work from different officers;
- vi. That arrangement are made with the Accounts Officer for proper accounts being kept with regard to payment and recovery of these advances; and
- vii. That all necessary precautions are taken to secure Government from the possibility of loss and for preventing the system becoming more general or continuing longer than what may be absolutely necessary for proper progress of the work.

21.6 Method of Recovery of Interest-

Interest shall be recovered on the advance outstanding for the period commencing from the date of payment of advance till date of particular on-account bill(through which recovery of principal is effected) and adjusted fully against on-account bill along with pro-rata principal recovery. In the event of any short-fall, the same shall be carried forward to the next on account bill and shall attract interest.

The Bank Guarantee for such advance shall clearly cover at least 110% of the value of the sanctioned advance amount(covering principal plus interest).

(Authority: Railway Board's L/No. 2022/CE/I/CT/GCC-2022/POLICY Dt. 27.04.2022)

22.0 In case of any difference in the description of any NS item in tender schedule and the special conditions for that NS item, the description of that NS item in tender schedule shall prevail over the special conditions.

23.0 Contractor shall provide suitable manpower to Engineer at all times during currency of the contract for assisting him in giving layout of work, carrying out quality checks, taking measurements and other associated activities for effective supervision of work.

24.0 Jurisdiction Of Court:

The courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of the contract. The successful tenderers shall have to sign the contract agreement only at the office from where the acceptance letter has been issued.

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SECTION-V

(SAFTY PRECAUTIONS)

Safety Precautions to be Taken during execution of work

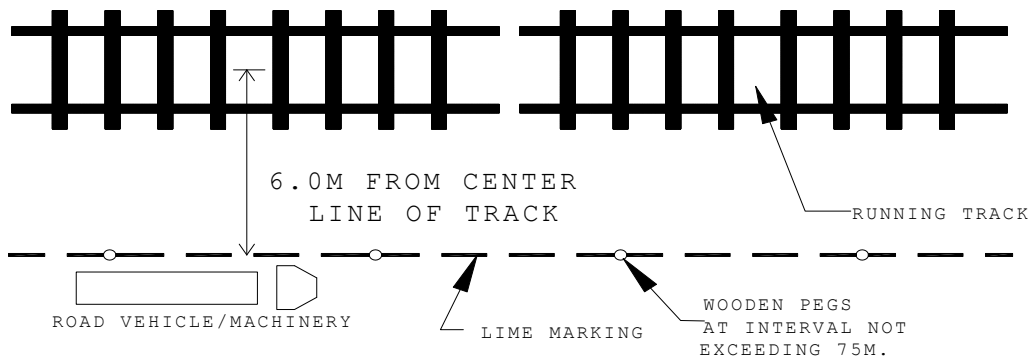
1.0 Safe working of contractors (Extract of para 826 of IRPWM) :-

1.1 A large number of men and machinery are deployed by the contractors for track renewals, gauge conversions, doublings, bridge rebuilding etc. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted.

- (i) The contractor shall not start any work without the presence of railway supervisor at site.
- (ii) Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. 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 vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.
- (iii) The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.
- (iv) The supervisor/workmen should be counseled about safety measures. A competency certificate to the contractor's supervisor as per Performa annexed shall be issued by AXEN/XEN, which will be valid only for the work for which it has been issued.
- (v) The unloaded ballast/rails/sleepers/other P-Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
- (vi) Supplementary site specific instructions, wherever considered necessary shall be issued by the Engineer in Charge.

1.2 PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TO RUNNING TRACKS

- (i) Normally, the road vehicles shall be run or machinery shall be worked so as not to come closer than 6.0m from centre line of nearest running track.
- (ii) The land strip adjacent to running tracks, where road vehicle is to ply or machinery is to work, shall be demarcated by lime in advance in consultation with the Railway's Supervisor. The road vehicles shall ply or machinery shall work so as not to infringe the line of demarcation.



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- (iii) If a road vehicle or machinery is to work closer to 6.0m due to site conditions or requirement of work, following precautions shall be observed.
- In no case the road vehicle shall run or machinery shall work at distance less than 3.5m from centre line of track.
 - Demarcation of land shall be done by bright colored ribbon/nylon chord suspended on 75cm high wooden/bamboo posts at distance of 3.5 m from centre line of nearest running track.
 - Presence of an authorized Railway's representative shall be ensured before plying of vehicle or working of machinery.
 - Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train. Whistle boards shall be provided wherever considered necessary.
 - Lookout men shall be posted along the track at a distance of 800m from such locations who will carry red flag and whistles to warn the road vehicle/machinery users about the approaching trains.
 - On curves where visibility is poor, additional lookout men shall be posted.
- (iv) **If vehicle/machinery is to be worked closer to 3.5m from running track.**
Under unavoidable conditions, if road vehicles is to ply or machinery is to work closer to 3.5m due to site conditions or requirement of work, following precautions shall be observed:
- Plying of vehicles or working of machinery closer to 3.5m of running track shall be done only under protection of track. Traffic block shall be imposed wherever considered necessary. The site shall be protected as per provisions of Para No. 806 & 807 of P-Way Manual as case may be.
 - Presence of a Railway's Supervisor shall be ensured at worksite.
 - Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train.
- (v) **Precaution to be taken while reversing road vehicle alongside the track.**
The location where vehicle will take a turn shall be demarcated duly approved by Railway's representative. The road vehicle driver shall always face the Railway track during the course of turning/reversing his vehicle. Presence of an authorized Railway representative shall be ensured at such location.
- (vi) Road vehicle shall not be allowed to run along the track during night hours generally. In unavoidable situations, however, vehicles shall be allowed to work during night hours only in the presence of an authorized Railway's representative and where adequate lighting arrangements are made and where adequate precautions as mentioned earlier have been ensured.
- (vii) Road vehicles/machinery/plant etc. when stabled near running tracks shall be properly secured against any possible roll off and always be manned even during off hours.

1.3 EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES

- (i) Any work close to or on running tracks shall be executed under the presence of a Railway's Supervisor only.
- (ii) **Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.**
- Such works shall be planned and necessary drawings particularly with regard to infringement to moving dimensions shall be finalized duly approved by competent authority before execution of work. The work shall be executed only as per approved procedure and drawings.
 - All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.

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- c. Suitable speed restriction shall be imposed or Traffic block shall be ensured as required.
- d. The site shall be protected as per provisions of Para No. 806 & 807 of Indian Railway P-Way Manual as case may be
- e. Necessary equipment for safety of trains during emergency shall be kept ready at site.
- (iii) **Precaution to be taken to ensure safety of electrical/signal/ telephone cables while excavating near tracks.**
 - a. Particular care shall be taken to mark the locations of buried electrical/signal/telephone cables on the plans jointly with S & T/Electric supervisor and also at site so that these are not damaged during excavation.
 - b. Copy of the cable plan should be given to the contractor's authorized representative before handing over the site to start the work.
 - c. Due care shall be taken to ensure that any part of the equipment or machinery or temporary arrangement does not come close to cables while working.
- (iv) **Precaution to be taken during execution of works requiring traffic blocks.**
 - a. Any work, which infringes the moving dimensions, shall be started only after the traffic block has been imposed.
 - b. Before closing the work, the track shall be left with the proper track geometry so that the trains run safely.
 - c. After completion of work the released sleeper and fittings should be properly stacked away from the track to be kept clear of moving dimensions.
 - d. Block shall be removed only when all the temporary arrangement, machineries, tools, plants etc. have been kept clear of moving dimensions.
- (v) **Precaution to be taken during execution of works during night.**

The work close to running line, generally, shall be carried out only during day hours. At locations, however, where night working is unavoidable, proper lighting arrangement should be made. The engineering indicator boards shall be lighted during night hours as per the provisions of IRPWM. The staff deputed for night working should have taken adequate rest before deploying them in night shift. We can specify duration of night shift from 20.00 hrs to 04.00 hrs. All other safety precautions applicable for day time work should be strictly observed during night working.
- (vi) **Precautions to be taken to ensure safety of workers while working close to running lines.**
 - a. Necessary lookout men with red flags and whistles shall be provided to warn the workmen about the approaching train.
 - b. Railway's supervisor shall issue suitable caution order to Drivers of approaching train for whistling to warn the workers about the approaching train. Whistle boards shall be provided wherever considered necessary.
 - c. A "First aid kit" shall always be kept ready at site.
- (vii) **Precaution shall be taken for safety of public or passengers ,while executing works at locations, used by passengers and public,.**

The worksite shall be suitably demarcated to keep public and passengers away from work area. Necessary signage boards such as "Work in progress. Inconvenience is regretted" etc. shall be provided at appropriate locations to warn the public/ passengers. Adequate lighting arrangement of worksite wherever required shall be done to ensure safety of public/passengers during night.
- (viii) **Precaution to be taken before stacking materials along side the track to ensure that safety of trains is not affected.**

The following precautions shall be taken before stacking the materials along the track for stacking of ballast, rails, sleepers etc.

 - a. The sites for material stacking should be selected in advance in such a manner as to ensure that no part of the material to be stacked is infringing the Standard Moving Dimensions. A plan of proposed stacking locations be made and signed jointly by an authorized Railway's representative and contractor's representative.

- b. The selected locations shall be marked by lime in advance.
- c. Presence of an authorized Railway's representative while unloading and stacking shall be ensured.
- d. The material shall be stacked in such a height so as to not to infringe SOD in case of accidental roll off.

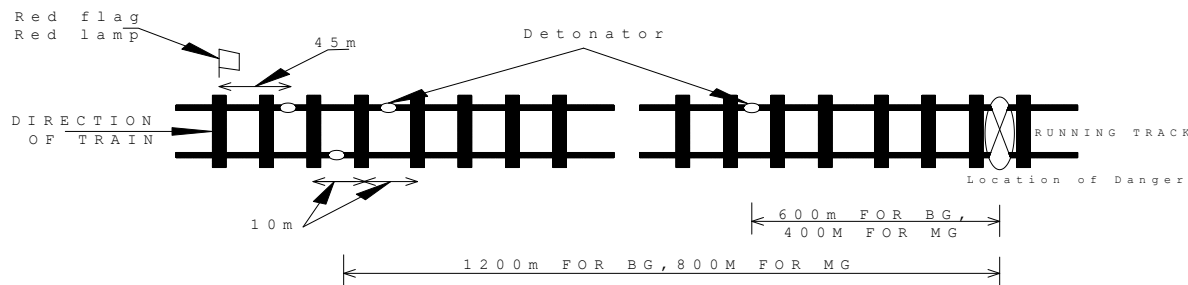
1.4 PROTECTION OF TRACK DURING EMERGENCY

(i) **Action to be taken when a contractor's supervisor or vehicle operator apprehends any unusual circumstances likely to infringe the track and endanger safe running of trains.**

At any time if a contractor's supervisor or vehicle operator observes any unusual circumstances likely to infringe the track and apprehend danger to safe running of track, he shall take immediate steps to advise a Railway official of such danger and assist him in protection of track.

The track shall be protected as under. One person shall immediately plant a red flag (red lamp during night) at the spot and proceed with all haste in the direction of approaching train with a red flag in hand (red lamp during night) and plant a detonator on rail at a distance of 600m from the place of obstruction of BG track (400m for MG track) after which he shall further proceed for not less than 1200m from the place of obstruction from BG track (800m for MG track) and plant three detonators at 10m apart on rails. After this he shall display the red flag (red lamp during night) at a distance of 45m from the detonators.

Attempts shall also be made to send an advice to nearest Railway station about the incident immediately.



(ii) **Action to be taken if train is seen approaching to site of danger and there is no time to protect the track as per guidelines mentioned above.**

In such a case the detonators shall be planted on rails immediately at distance away from place of danger as far as possible and attention of driver of approaching train shall be invited by whistling, waving the red flag vigorously, gesticulating and shouting.

(iii) **What action shall be taken if more than one track is obstructed.**

- a. In case of single line protection as above shall be done in both the directions from place of danger.
- b. In case of double line or multiple lines, if other tracks are also obstructed, the protection as above shall be done for other track also.
- c. The protection shall be done in that direction and on that track first on which train is likely to arrive first.
- d. The Contractor's Supervisors, Operators and lookout men shall be properly explained about the direction of trains on running tracks.

(iv) **Equipment required for protection of track.**

Minimum compliment of protection equipment i.e. 10 detonators, 4 red hand flags, 4 red hand lamps, 4 banner flags and whistles etc. shall always be kept ready at worksites for use in case of emergency. Railway will arrange to provide detonators, whereas Contractor shall arrange other equipment at his own cost.

(v) **Arrangement of lookout men and competency required for lookout man to warn labour about approaching train.**

- a. Contractor will provide lookout men.
- b. The lookout men shall be properly trained in warning to staff at worksite about approaching train.
- c. Only those lookout men shall be provided at site who have been issued with a competency certificate by the Railway's Supervisor.
- d. In case, it is felt necessary to provide lookout men by Railway, the charges for the same as fixed by Railway Administration shall be recovered from Contractor.

1.5 **Training to Supervisors and Operators of Contractor.**

The Supervisors and Operators of the contractor proposed to be deployed at work site, which is close to the running track, shall be imparted mandatory training by the Railway at site free of cost about the safety measures to be adopted while working in the vicinity of running track. Engineer of the work shall decide the scale, extent & adequacy of training. In case training is imparted at a recognized Railway training institute, the charges for the same, as decided by Railway, shall be recovered from contractor. A competency certificate to this effect to the individual Supervisor/Operator shall be issued as given below, by a Railway Officer not below the rank of Assistant Officer. No Supervisor/Operator of the Contractor shall work or allowed to work in the vicinity of running track that is not in possession of valid competency certificate.

Competency Certificate

Certified that Shri _____ Supervisor/Operator of M/s. _____ has been trained and examined in safety measures to be followed while working in the vicinity of running railway track for the work _____. His knowledge has been found satisfactory and he is capable of supervising the work safely.

This certificate is valid only for the work mentioned in this certificate only.

Signature and designation of the officer

1.6 **Cost of safety measures:**

All the labour, materials, tools, plants etc. except detonators, required for ensuring safe running of trains shall be provided by Contractor at his own cost. Wherever lookout men are provided by Railway, charges at the rate of Rs. 2000/-per man day shall be recovered from Contractor.

2.0 **Special Conditions for working of Road Cranes:**

To ensure safe working of road cranes used in works in connection with provision of ROB/RUB/Subways, following items shall invariable be ensured before putting the cranes to use :-

- i) No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered against the weights, dimensions and lift radii of the heaviest and largest loads.
- ii) The contractor shall ensure that a valid Certificate of Fitness is available before use of Road Cranes.
- iii) Contractors should utilize the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories.

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- iv) The laminated photocopies of fitness certificate issued by competent persons, the operators' photo, manufacturer's load chart and competency certificate shall always be either kept in the operator cabin or pasted on the visible surface of the lifting appliances.
- v) All lifting appliances including all parts and gears thereof, whether fixed or movable shall be thoroughly tested and examined by a competent person once at least in every six months or after it has undergone any alterations or repairs liable to affect its strength or stability.

3.0 Dismantling Works:

- (a) The dismantling of structure should be done under proper supervision and as per approved scheme of dismantling.
- (b) At major dismantling sites minimum level of supervision shall be Senior Sectional Engineer (In-charge), who should be nominated by Sr.DEN/C in writing.
- (c) The dismantling Plan should be scrutinised by the Drawing Office and approved by Sr. Divl. Engineer in case of Open Line Organisation. The dismantling equipments to be used for dismantling, area likely to be affected by debris, any adjacent likely to be affected and action to be taken thereof.
- (d) Proper barricading Plan should be done to stop access of unauthorized personnel near the dismantling area. Wherever necessary assistance of RPF should be taken to prevent people from coming closed to dismantling area. Signage warning people not to entire the danger zone should also be displayed.
- (e) Proper announcement through Public Address System should be done at intervals to keep the onlookers away from the major dismantling affected zone.
- (f) The adjacent buildings likely to be affected by dismantling should also be evacuated.
- (g) In area where law and order is likely to be affected, assistance of local Police should be taken to keep people away from dismantling area.

4.0 Contractor shall indemnify Railways against any loss/damage to public property, travelling public, railway or his own staff due to his (contractor's) negligence. In case there is any mishap, a fact finding inquiry will be conducted by Railway. A show cause notice will be issued to the contractor, in case he is prima-facie held responsible. Contractor's reply to show cause notice will be considered by the Engineer before taking final decision. In case contractor is found responsible for the mishap, recovery from him will be affected for only tangible direct losses.

5.0 Storage of Inflammable Articles:

No inflammable materials, such as petroleum, oil etc. within the meaning of the Indian Petroleum Act and Indian Explosives Act shall be stored at site or adjacent land until the approval of the Railway and necessary licenses under the Acts have been obtained by the Contractor.

SECTION-VI
IMPORTANT CODAL PROVISIONS

These are Important Codal Provisions for General Guidance. However, work will be carried out as per relevant codes.

1.0 Earthwork :

1.1 Earthwork in embankment/blanketing

- (a) For Earthwork in formation for Gauge conversion projects RDSO's guide line for Earthwork in Railway projects Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)** with latest amendment will be applicable.
- (b) For earthwork in formation/ blanketing for New Line and doubling projects guide line & specifications for design of formation for Heavy Axle Load Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)** will be applicable.

1.2 QUALITY CONTROL OF EARTHWORK

RDSO Specification No. RDSO/2020/GE: IRS-0004 (Including ACS No-01 dated 16.12.2021) for COMPREHENSIVE GUIDELINES AND SPECIFICATIONS FOR RAILWAY FORMATION

1.2.1 General

Quality of execution of formation earthwork shall be controlled through exercise of checks on the borrow material, blanket material, compaction process, drainage system, longitudinal & cross sectional profiles of the finished embankment. The details of quality control procedure are as follows:

1.2.2 Quality Control test on Construction Material

This is required to ascertain the suitability of the material for construction of Embankment and to decide the OMC/MDD and other relevant tests, which becomes the quality control inputs. Quality control tests are required to be conducted on borrow material as well as on blanket material.

1.2.3 Suitability tests at source

1.2.3.1 Borrow Material (Embankment fill as well as prepared subgrade)

a) Following specific tests to be conducted on borrow Material

- i) Sieve analysis
- ii) Hydrometer analysis
- iii) Consistency limits
- iv) CBR test
- v) Test for organic content in soil
- vi) Crumb test, double hydrometer test, pin hole & chemical test - for Dispersive soil only
- vii) OMC/MDD

Fill material proposed to be used either from Railway land or from outside would have to be assessed for its suitability as well as to decide thickness of the blanket layer after conducting soil classification and other relevant tests as per site requirement. On the basis of the tests, areas for borrow material, especially from outside the Railway land, need to be earmarked. Once the material has been found fit for use as fill material for Embankment, further lab tests, to assess OMC, MDD/ Relative Density, need to be conducted.

In case, slope stability analysis, as explained in **Chapter – 5 (RDSO Specification No. RDSO/2020/GE: IRS-0004)** is required, triaxial shear test will also need to be done to find effective shear strength parameters.

b) Frequency of Testing: The frequency of testing before laying for borrow material should be as detailed in **table 7.2(RDSO Specification No. RDSO/2020/GE: IRS-0004)**

Note: It would be in the interest of the execution agency to have frequent tests conducted at source/manufacturing point on his own to judge the suitability of the material to avoid any complication at a later stage. However the final acceptance of the borrow material should be at the site before laying.

1.2.3.2 Blanket Material: The source(s) of blanket material needs to be identified based on the final location survey report, tests & studies conducted and conformity to the Specification as stipulated in **Table 3.3 to 3.6. (RDSO Specification No. RDSO/2020/GE: IRS-0004)**

a) Method of Test: Blanket material should be tested as per IS: 2720 (Part 4) to plot particle size distribution curve, so as to assess its suitability. It would be necessary to carry out wet analysis to assess the actual percentage of fines.

b) Frequency of Tests: The frequency of testing at site before laying for blanket material should be as detailed in **Table 7.2 (RDSO GE: IRS-0004).**

c) Following tests/checks are to be conducted

- i) Sieve analysis and hydrometer analysis to determine CC, CU & percentage fines
- ii) CBR test
- iii) Los Angeles Abrasion value,
- iv) Filter criteria, as required
- v) Gradation Analysis,
- vi) Check for conformity with enveloping curves

Note: It would be in the interest of the execution agency to have frequent tests conducted at source/manufacturing point on his own to judge the suitability of the material to avoid any complication at a later stage. However the final acceptance of the blanket material should be at the site before laying.

1.2.4 Quality Control Checks on Finished Earthwork

1.2.4 .1 Compacted Earth: Degree of compaction of each layer of compacted soil should be ascertained by measurement of dry density/Relative Density of soil at locations selected in specified pattern. The method of sampling, frequency of tests, method of tests to be conducted and acceptance criteria to be adopted are as under

a) Method of Sampling

- i) Various methods of selection of sample points for checking the field dry density are in practice. These methods **are shown in Fig-7.1(RDSO GE: IRS-0004).** The sampling method should be such that the effectiveness of compaction for the entire area of compacted earthwork can be judged properly. The Engineer in-charge should specify the sampling method depending on the site conditions.
- ii) For each layer, a minimum of one sample at a predetermined interval along the centerline of the alignment would be taken in a staggered pattern so as to attain a minimum frequency of tests as given in the note below **table 7.2(RDSO GE: IRS-0004).** For subsequent layer, the stagger should be such that the point of sampling does not fall vertically on the earlier sampling points of the layer immediately below. The process of sampling is explained in **Fig-7.1(RDSO GE: IRS-0004)** for guidance. Additional sampling points can be taken, as considered necessary.
- iii) In case of embankment widening, sampling should be done at an interval of minimum 200metres on the widened side(s) of Embankment.

fig -7.1 (RDSO GE: IRS-0004) : Sampling

A diagram of a cell. It features a large central nucleus containing several small triangles. Surrounding the nucleus are several small circles, some of which are enclosed by dashed lines, representing vacuoles. The entire cell is bounded by a solid line.

R.	D.	S.	O.
COMPREHENSIVE GUIDELINES AND SPECIFICATIONS FOR RAILWAY FORMATION			
SAMPLING PATTERNS FOR CHECK OF COMPACTION			
DRG.NO.: GT/SD/C016/Rev.1/2020			

b) Methods of In-situ Dry Density Measurements: Any of the following methods could be adopted as per the requirements at site.

Table–7.1(RDSO GE: IRS-0004)

Method of measurement	Procedure of test	Parameters to be measured	Remarks
i) Sand Replacement Method	As per IS-2720 (Part 28) - latest version	a) In-situ Dry Density b) Moisture Content	May be adopted for all type of soils
ii) Core Cutter Method	As per IS-2720 (Part 29) - latest version	-do-	In some of the coarse-grained soils (with little fines) taking core cutter samples is difficult. In such cases, a sand replacement method may be used for density measurement.
iii) Nuclear Moisture Density Gauge	As per Appendix-H	a) Bulk density b) Moisture Content c) Dry density d) Degree of compaction	It is a faster Method and should be widely used for large construction projects.

c) Acceptance Criteria

- Coarse grained soils which contain fines passing 75 micron IS Sieve, upto 5 percent should have the Density Index (Relative Density) a minimum of 70% as obtained in accordance with IS: 2720 (Part 14) – 1983 (Reaffirmed 2015).
- In field compaction trial, the maximum attainable dry density should not be less than 98% of MDD value as obtained by Heavy Compaction Test (IS: 2720 (Part 8) – (Reaffirmed 2015) in the laboratory. In case, there are difficulties in achieving 98% of the MDD values as obtained by Laboratory test, in the field trials, the same may be relaxed upto 95% of MDD with the specific approval of Chief Engineer/Construction, recording reasons for such relaxation. The level of compaction to be achieved in field, as a percentage of MDD value achieved in field compaction trial, for various layers shall be as per Table 3.3 to 3.6 of Chapter 3 (**RDSO GE: IRS-0004**) given below. In case of PSU, existing provision of Equivalent authority for acceptance criteria shall continue.
- During widening of embankment in case of gauge conversion and rehabilitation of unstable formation, compaction of earthwork should be minimum 95% of MDD as obtained by Laboratory test as per Heavy Compaction Test (IS: 2720 Part 8 – 2013) or 70% Relative Density for Coarse grained soils which contains fines (passing 75 micron IS Sieve) upto 5 percent (IS: 2720 (Part 14) –1983 (Reaffirmed 2015)).

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1.2.4 .2 Deformation Modulus (Ev2) measurement

It is a parameter expressing the deformation characteristics of a soil. It is calculated taking values from the load settlement curve obtained from the second cycle of loading in the Plate Load Test (Details given in **Appendix-H) (RDSO GE: IRS-0004)**. It is to be determined in the field on top of each formation layer i.e. at top of compacted Blanket layer/Prepared sub-grade/Subgrade- Top & Lower layer in accordance with DIN: 18134-2012.

1.2.4.3 Frequency of Tests

The frequency of testing at finished earthwork should be as specified in the Table **7.2 (RDSO GE: IRS-0004)** given below.

1.2.5 Qualifying and Quality assurance Tests

Qualifying tests as part of pre-selection of good earth for Blanket, Prepared sub-grade, Subgrade is required to be carried out. Also quality of execution of formation earthwork shall be controlled through exercise of checks on the borrow material, blanket material, compaction process to ensure good quality construction. The quality control procedures are summarised in

Table-7.2(RDSO GE: IRS-0004) below.

Item/ Material	Parameters to be determined	Location of sampling for quality control	IS Code Ref. (Latest version)	Frequency of test	Acceptance Criteria
(i) Borrow material					
(a) Subgrade/ Prepared Subgrade	(i) Soil classification	At site before laying	IS: 1498	At least one test at every change of subgrade/ prepared-subgrade material subject to minimum of one test for every 5000 cum.	Soil should not be "unsuitable type" as given in Para 3.7 (RDSO GE: IRS-0004) and should conform to specification given in Para 3.10 (RDSO GE: IRS-0004) for 25T/32.5T Axle load of Chapter 3
	(ii) CBR		IS: 2720-Part-16		
	(iii) Plasticity Index (Prepared Subgrade)		IS: 2720-Part-5		
	(iv) OMC & MDD		IS: 2720 – Part-8		
(b) Blanket material	(i) Gradation	At site before laying	IS: 2720-Part-4	Minimum one test for every 500 cum or part thereof	
	(ii) Cc & Cu				
	(iii) Fines (passing 75 μ)				
	(iv) Abrasion value		IS:2386 – Part-4		
	(v) CBR		IS: 2720-Part-16		

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	(vi) Filter criteria		IS: 2720-Part-4		
	(vii) OMC & MDD		IS: 2720-Part-8		
	(viii) γ _{max} &γ _{min} (Determined in Relative Density test If fines are upto 5%)		IS: 2720-Part-14		
(ii) Finished Earthwork					
(Subgrade/Prepared Subgrade/Blanket)	(i) Ev2	Top of final finished surface of Blanket/ Prepared subgrade & Subgrade	DIN 18134 –2012	One test per Km (*)	Acceptance Criteria as specified in Para 3.10 (RDSO GE: IRS-0004) of Chapter 3
	(ii) Compaction	Every compacted layer	IS: 2720 (Part-28/29) or NMDG(as per Procedure issued by RDSO)	As per note given below	
	(iii) Density Index (Relative Density if fines are upto 5%)	Every compacted layer	IS: 2720 – Part-14		Minimum 70%

** Additionally this test can also be done by third party (i.e. IIT, NIT, Govt. Labs or any NABL approved Lab) having testing facilities, to cross check the results achieved at site. Frequency of testing in this case shall be decided/approved at the level of Chief Engineer (Con). In PSUs, frequency of such tests shall be decided as per existing delegations for testing.*

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Note: Frequency of Tests: Density check would be done for every layer of compacted fill/blanket material as per following minimum frequency:

- i) At least one density check for every 30 m length for blanket layers and top one metre of prepared subgrade/subgrade along the alignment in a staggered pattern of each compacted layer.
- ii) At least one density check for layers other than as specified in(i) above, every 500 m² or 75 m c/c whichever occurs earlier along the alignment in a staggered pattern of each compacted layer.
- iii) In case of important bridge approaches (100 m length on either side), at least one density check for every 25 m length shall be adopted.

1.2.6 Formation Level: Finished top of sub-grade level may have variation from design level by ± 25 mm and finished top of blanket layer may also be permitted to have variation from design level by plus 25 mm only. The ballast should be placed only on level formation without ruts or low pockets.

1.2.7 Cross Slope: Cross slope should be within 1 in 28 to 1 in 30.

1.2.8 Side Slopes: Side slope should be 2H: 1V or flatter as per design.

1.2.9 Formation Width: Formation width should not be less than the specified width.

1.2.10 Quality Control Records: At least, following records of quality control as per proforma given in **Appendix-D & G** [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**] needs to be maintained.

- i) Characteristics of borrow materials as per proforma **No. G-1**. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]
- ii) Quality of blanket materials as per proforma **No. G-2**. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]
- iii) Field compaction trial computation sheet details as per **Table D-4 of Appendix-D**. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]
- iv) Quality of compaction of earthwork including blanket material as per proforma no. **G-3** for core cutter method & proforma no. **G-4** for sand replacement method. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]
- v) Quality of material and its compaction for backfill behind bridge approaches etc. as per proforma no. **G1, G2, G3 & G4**. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]
- vi) Details of machineries engaged in execution of earth work including its output as per proforma decided by field engineers.

1.2.11 Setting up of GE Lab at Construction/Rehabilitation Site

A well-equipped Geo-technical Engineering (GE) Field Laboratory shall be set up at all construction projects connected with new lines, doubling and gauge conversion works as well as, where rehabilitation of failing formation is being undertaken. (Details are given in Para 6.2.8 of Chapter 6). [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]

1.2.12 Certification for quality of earthwork

Certification for quality of earthwork in formation in respect of new lines, Gauge Conversion and Doubling projects etc. will be done by Executive authority at SAG level (i.e. CE/Con of respective projects). CE/Con will submit details for certification of quality of earthwork to CRS as per RDSO checklist.

1.2.13 Checklist for certification of quality of earthwork

Checklist for certification of quality of earthwork in Railway projects was issued by RDSO vide letter no RS/G/95/Main, dated: 11.06.2004. This Checklist has been revised and placed at Appendix .M. [Specification No.RDSO/2020/GE: **IRS-0004 (Including ACS No-01 dated 16.12.2021)**]

1.2.14 Special design problems related with construction of formations

Any special design problems related with construction of formations may be referred to RDSO for guidance and advice, if required.

1.2.15 Requirement of Blanket Layer

a) The provision of blanket layer shall not be needed when formation/earth fill embankment have:

i) Rocky beds except those, which are very susceptible to weathering e.g. rocks consisting of shale and other soft rocks, which become muddy after coming into contact with water.

ii) Soils conforming to specifications of Blanket layer as given in Table 3.3 to 3.6(RDSO GE: IRS-0004).

b) For other conditions, the system of layered construction of embankment (Single layer/ Two layer) shall normally be followed.

1.2.16 Soil Quality

For Design of Railway Formation, the soils for their use in Indian Railway Embankment have been grouped based on percentage of fines present in the soil, as given below: (RDSO GE: IRS-0004)

Description of Soil Quality Class	
Description w.r.t. Fine-Particles (size less than 75 micron)	Soil Quality Class
Soils containing fines > 50 %	SQ1
Soils containing fines from 12% to 50%	SQ2
Soils containing fines < 12%	SQ3

1.2.17 Specifications and Thickness of Formation Layers:

Specifications and Thickness of Formation Layers can be taken as per para 3.10 of chapter-3 of RDSO Specification No. RDSO/2020/GE: IRS-0004.

2.0 Cement Concrete work

2.1 IRS code of Practice for plain, reinforced & Pre-stressed concrete and IRS Concrete Bridge Code will be apply for General Bridge construction.

2.2 For Road bridges, the construction shall comply with the standard specifications and Codes of Practices for Road Bridges issued by Indian Road Congress.

2.3 For building & other construction works provisions of Plain and Reinforced Concrete Code of Practices IS-456-2000 will be followed.

2.4 MATERIALS

2.4.1 **General** :Water, cement, and fine aggregate shall conform to IS:456/IS:383:1970 and as specified in IRUSS/CPWD Specification

2.4.2 Coarse Aggregate

This shall conform to IS 383:1970.

2.4.3 Construction Joints (CPWD Specification Vol I, Para 4.2.8)

2.4.3.1 Construction joints for structures other than bridges will be provided as under (based on CPWD Specification Vol I, Para 4.2.8):-

(a) Concreting shall be carried out continuously upto construction joints. The position and arrangement of construction joints shall be as shown in the structural drawings or as directed by the Engineer-in-Charge. Number of such joints shall be kept minimum. Joints shall be kept as straight as possible. Construction joints should comply with IS 11817.

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(b) When the work has to be resumed on a surface which has hardened, such surface shall be roughened. It shall then be swept clean and thoroughly wetted. For vertical joints, neat cement slurry, of workable consistency by using 2 kgs of cement per sqm shall be applied on the surface before it is dry. For horizontal joints, the surface shall be covered with a layer of mortar about 10-15 mm thick composed of cement and sand in the same ratio as the cement and sand in concrete mix. This layer of cement slurry or mortar shall be freshly mixed and applied immediately before placing of the concrete.

(c) Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of particles of coarse aggregate. The surface shall be thoroughly wetted and all free water removed. The surface shall then be coated with neat cement slurry @ 2 kgs of cement per sqm. On this surface, a layer of concrete not exceeding 150 mm in thickness shall first be placed and shall be well rammed against old work particular attention being paid to corners and close spots; work, thereafter, shall proceed in the normal way.

2.4.3.2 Location, preparation of surface and concreting of construction joints for bridges shall conform to the additional specifications given in Appendix-A of IRS – Concrete Bridge Code (Clause 8.5.3) which is reproduced below -

Appendix-A

(IRS – Concrete Bridge Code CLAUSE 8.5.3)

SPECIFICATION FOR CONSTRUCTION JOINTS

A-1 Construction Joints for Bridges

A-1.1 The Position of Construction Joints

A-1.1.1 Construction joints should be positioned to minimise the effect of the discontinuity on the durability, structural integrity and appearance of the structure.

A-1.1.2 As far as possible, joints should be positioned in non-aggressive zones, but if aggressive zones cannot be avoided, joints should be sealed.

A-1.1.3 Joints should be positioned where they are readily accessible for preparation and concreting, the preparation of the joints is more likely to be satisfactory where the cross section is relatively small and where reinforcement is not congested.

A-1.1.4 As far as possible, joints for fairfaced concrete should be located where they conform with the architectural features of the construction. Unless they are masked in this way, the position of the joints are always obvious, even when the concrete is given a textured finish.

A-1.1.5 If substantial changes in the cross section of a member are necessary, the joints should be formed where they minimise stresses caused by temperature gradients and shrinkage.

A-1.1.6 Joints should be located away from regions of maximum stress caused by loading, particularly where shear and bond stress are high. Construction joints between slabs and ribs in composite beam should be avoided. As a general rule, joints in column are made as near as possible to the beam hunching, joints in beams and slabs should normally be made at the centre or within the middle third of the span.

A-1.2 Preparing the surface of the Joint

A-1.2.1 The minimum number of joints should be used and their construction should be simple. They should be either horizontal or vertical, because concreting sloping surfaces are usually unsatisfactory.

A-1.2.2 Where concrete is placed in vertical members e.g. walls, columns and the like, the lift of concrete shall finish level or at right angles to the axis of the member, the joint line matching the features of the finished work. Concreting shall be carried out continuously upto the construction joint.

A-1.2.3 Laitance, both on the horizontal and vertical surfaces of the concrete, should be removed before fresh concrete is cast. The surface should be roughened to promote good adhesion. Various methods for removal can be used but they should not dislodge the coarse aggregate particles. Concrete may be brushed with a stiff brush soon after casting while the concrete is still fresh, and while it has only slightly stiffened.

A-1.2.4 If the concrete has partially hardened, it may be treated by wire brushing or with a high pressure water jet, followed by drying with an air jet, immediately before the new concrete is placed.

A-1.2.5 Fully hardened concrete should be treated with mechanical hand tools or grill blasting, taking care not to split or crack aggregate particles.

A-1.2.6 The best time for treating the joint is a matter of judgment because it depends on the rate of setting and hardening (which is itself dependent on the temperature of the concrete). Before further concrete is cast, the surface should be thoroughly cleaned to remove debris and accumulated rubbish, one effective method, being air jet.

A-1.2.7 Where there is likely to be a delay before placing the next concrete lift, protruding reinforcement should be protected. Before the next lift is placed, rust, loose mortar or other contamination should be removed from the bars and where conditions are particularly aggressive and there has been a substantial delay between lifts, the concrete should be cut back to expose the bars for a length of about 50mm to ensure that contaminated concrete is removed.

A-1.2.8 In all cases, when construction joints are made, it is essential to ensure that the joint surface is not contaminated with release agents, dust or curing membrane, and that the reinforcement is fixed firmly in position at the correct cover.

A-1.3 Concreting at Construction Joints

A-1.3.1 When the form work is fixed for the next lift, it should be inspected to ensure that no leakage can occur from the fresh concrete. It is a good practice to fix a 6mm thick sponge which seals the gap completely.

A-1.3.2 The practice of first placing a layer of mortar or grout is not recommended. The old surface should be soaked with water without leaving puddles, immediately before starting concreting; then the new concrete should be thoroughly compacted against it. When fresh concrete is cast against existing mature concrete or masonry, the older surfaces should be thoroughly cleaned and soaked to prevent the absorption of water from the new concrete. Standing water should be removed shortly before the new concrete is placed and the new concrete should be thoroughly vibrated in the region of the joint.

3.0 REINFORCED CEMENT CONCRETE

3.1 GENERAL : Reinforced cement concrete work may be cast-in-situ or pre-cast as may be directed by the Engineer according to the nature of work. Reinforced cement concrete work shall comprise of the following which may be paid separately or collectively as per the description of the item of work.

- a) Form work (Centering and Shuttering)
- b) Reinforcement
- c) Concreting : (1) Cast-in-situ (2) Pre-cast

3.1.1 Selection and Preparation of Test Sample for steel reinforcement:

This shall be done in accordance with provisions of IS:1786. All test pieces shall be selected by the Engineer either –

a) From cutting of bars

or

b) If he so desires, from any bar after it has been cut to the required or specified size and the test piece taken from any part of it.

In neither case, the test pieces shall be detached from the bar or coil except in the presence of the Engineer. The test pieces obtained in accordance with above shall be full sections of the bars as rolled and shall be subjected to physical tests without any further modifications. No reduction in size by machining or otherwise shall be permissible except in case of bars of size 28mm and above. No test piece shall be annealed or otherwise subject to heat treatment. Any straightening which a test piece may require shall be done cold..

3.1.2 Retest

Should any one of the test pieces first selected fail to pass any of the tests specified above, two further samples shall be selected for testing in respect of each failure. Should the test pieces from both these additional samples pass, the materials represented by the test samples shall be deemed to comply with the requirement of the particular test. Should the test piece from either of these additional samples fail, the material represented by the test samples shall be considered as not having complied with standard.

- (a) Where there is likely to be a delay before placing the next concrete lift, protruding reinforcement should be protected. Before the next lift is placed, rust, loose mortar or other contamination should be removed from the bars and where conditions are particularly aggressive and there has been a substantial delay between lifts, the concrete should be cut back to expose the bars for a length of about 50mm to ensure that contaminated concrete is removed.
- (b) In all cases, when construction joints are made to essential it is to ensure that the joint surface is not contaminated with release agents, dust or curing membrane, and that the reinforcement is fixed firmly in position at the correct cover.
- (c) When the form work is fixed for the next lift, it should be inspected to ensure that no leakage can occur from the fresh concrete. It is a good practice to fix a 6mm thick sponge which seals the gap completely.
- (d) The practice of first placing a layer of mortar or grout is not recommended. The old surface should be soaked with water without leaving puddles, immediately before starting concreting, then the new concrete should be thoroughly compacted against it. When fresh concrete is cast against existing mature concrete or masonry, the older surfaces should be thoroughly cleaned and soaked to prevent the absorption of water from the new concrete. Standing water should be removed shortly before the new concrete is placed and the new concrete should be thoroughly vibrated in the region of the joint.

3.1.3 Guidelines for use of Steel Items in Railway Works Contracts.

Reinforcement steel shall be as per Specification & Guidelines for procurement of steel items for Works Contracts w.r.t supply and use of quality TMT bars and structural steel as under:

- a) All reinforcement steel (TMT Bar) shall be as per IS: 1786(latest) as well as Para 5.3 of IS: 13920 (latest) for all seismic zones i.e. II, III, IV or V.

(As per RDSO's letter no. WKS/67/Vd/TMT dated 21.02.2022)

TMT should be Procured from the following steel producers

1. SAIL (Steel Authority of India Ltd.)
2. Rastriyalpat Nigam Ltd.
3. TISCO (TATA Steel Ltd.)
4. JSW (JSW Steel Ltd.)
5. Any Other Steel Producer having **integrated Steel Plant (ISP) and using iron ore as the basic raw material and having in house iron rolling facilities, followed by production of steel through the process of DRI-EAF (Direct reduced Iron – Electric Arc Furnace), BF-BOF (Blast Furnace - Basic Oxygen Furnace) and Corex-BOF (Corex – Basic Oxygen furnace).** The vendor should have already produced minimum 50,000 Metric Tonnes TMT Reinforcement bars in every year for the last 3 years. However, total production quantity 1,50,000 MT shall be considered upto last 36 months prior to the month of supplying.

(As per RDSO's letter no. WKS/67/Vd/TMT dated 21.02.2022)

b) The contractor shall provide certificate issued by plant manufacture/plant consultant (with documentary proof of process) for establishing process being used at plant. It must be ensured that steel being supplied is produced by any one of the processes i.e., DIR-EAF, BF-BOF and Corex-BOF route only, for manufacturing TMT reinforcement bar using iron ore as basis raw materials.

(As per RDSO's letter no. WKS/67/Vd/TMT dated 21.02.2022)

- 3.1.4 Testing of reinforcement steel for physical properties is required in addition to submission of manufacturers' certificate by the tenderer/contractor for the discretion of the Engineer.
- 3.1.5 If a lot of reinforcement steel supplied at site is having size less than 100 MT, then minimum 2 nos of tests on physical and mechanical properties shall be conducted. In case of lot size is more than 100 MT minimum number of such tests shall be 3.
- 3.1.6 Testing of this material shall be done by the contractor at approved laboratories as directed by the Engineer.
- 3.1.7 Cost of testing has to be borne by the contractor at his own cost. Rates quoted by the contractor are inclusive of above testing charges.
- 3.1.8 Cost of steel to be paid to the contractor under relevant Schedule is inclusive of transportation from source to site of work, loading, unloading, stacking, storing, all taxes, tools, plant, labour, re-handling from site go down to mixer, royalty, freight, incidental charges, Sheds for storage and Chowkidars etc.
- 3.1.9 The contractor should disclose the source from where supplies of cement and steel are received by him and shall maintain a detailed record of receipt of cement and steel from different sources and shall keep the challan, invoice, lorry No. etc., and shall enter the receipts, issues and store balance in a Register as directed by the Engineer and produce the same to the Engineer as and when demanded. Railway reserves the rights to inspect the contractor's godown and documents pertaining to this work. The contractor shall use these materials in the work as per Rly's specifications/approved drawings and shall not use the quantities than what is stipulated in the relevant specifications/approved drawings. The copy of invoice of steel and cement should be submitted to the Railway for their record.
- 3.1.10 No wastage on any of the materials supplied and used in the work by the contractor including steel is payable by the Railway.
- 3.1.11 For accountal of steel reinforcement, reinforcement register will be maintained by the Railway for entering the details, such as description of reinforcement, Nos, cut length, total lengths, diameter of the bar, weight per RM, total weight etc. The above details are to be entered by the concerned Jr. Engineer (Works)/ Sr. Section Engineer (Works) and the contractor shall sign the register as a token of acceptance of the details entered by the Jr.

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Engineer (Works)/ Sr. Section Engineer (Works) of the Railway

- 3.1.12 Unit weights per Meter Run of different diameter of reinforcement should be as per Table-I of IS: 1786-1985 for the purpose of arriving payment of steel.

3.2 FORM WORK (CENTERING AND SHUTTERING)

3.2.1 Removal of Form work (Stripping time)

Soffit false work shall not be released until the concrete has achieved a strength of at least twice the stress to which the concrete may be subjected at the time of removal.

In normal circumstances and where ordinary Portland cement is used, forms may generally be removed after the expiry of the following periods. **(Based on Clause 9.5.1 of IS: 14687-1999)**

Type of Formwork	Minimum Period before striking Form work
(a) Vertical formwork to columns, walls, beams	16 – 24 hours
(b) Soffit formwork to slabs (Props to be refixed immediately after removal of formwork)	3 days
(c) Soffit formwork to - beams (Props to be refixed immediately after removal of formwork)	7 days
(d) Props to slabs (1) Spanning up to 4.5m (2) Spanning over 4.5 m	7 days 14 days
(e) Props to beams and arches: (1) Spanning up to 6m (2) Spanning over 6m	14 days 21 days

Note:- For other cement and lower temperature, the stripping time recommended above may be suitably modified. For this reference would be made to IRUSS /CPWD Specification.

3.3 SAMPLING AND ACCEPTANCE CRITERIA OF STRENGTH OF DESIGN CONCRETE MIX (Extract from IS: 456-2000)

3.3.1 General:

Samples from fresh concrete shall be taken as per IS: 1199 and cubes shall be made, cured and tested at 28 days in accordance with IS: 516.

3.3.2 Frequency of sampling :

3.3.2.1 Sampling Procedure -

A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested that is, the sampling should be spread over the entire period of concreting and cover all mixing units.

3.3.2.2 Frequency:

The minimum frequency of sampling of concrete of each grade shall be as shown in para 3.5 below.

3.3.3 Test Specimen:

Three test specimens shall be made for each sample for testing at 28 days. Additional samples may be required for various purposes such as to determine the strength of concrete at 7 days or at the time of striking the formwork, or to determine the duration of curing, or to check the testing error. Additional samples may also be required for testing samples cured by

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accelerated methods as described in IS: 9013. The specimen shall be tested as described in IS: 516.

3.3.4 Test Results of Sample

The test results of the sample shall be the average of the strength of three specimens. The individual variation should not be more than ± 15 percent of the average. If more, the test results of the sample are invalid.

3.4 ACCEPTANCE CRITERIA

3.4.1 Characteristic Compressive Strength Compliance Requirement (Clause 16.1 and 16.3 of IS: 456)

Specified Grade (1)	Mean of the Group of 4 Non-Overlapping Consecutive Test Results in N/mm^2 Min. (2)	Individual Test Results in N/mm^2 Min. (3)
M 15	$\geq f_{ck} + 0.825 \times \text{established standard deviation}$ (rounded off to nearest 0.5 N/mm^2) Or $f_{ck} + 3 \text{ N/mm}^2$, whichever is greater	$\geq f_{ck} - 3 \text{ N/mm}^2$
M 20 or above	$\geq f_{ck} + 0.825 \times \text{established standard deviation}$ (rounded off to nearest 0.5 N/mm^2) Or $f_{ck} + 4 \text{ N/mm}^2$, whichever is greater	$\geq f_{ck} - 4 \text{ N/mm}^2$
NOTES Attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation. In the absence of established value of standard deviation, the values given in Table-8 as per clause No. 9.2.4.2 of IS 456:2000 may be assumed.		

3.4.2 Quantity of Concrete Represented by Strength Test Results

The quantity of concrete represented by a group of 4 consecutive test results shall include the batches from which the first and last samples were taken together with all intervening batches.

Where the mean rate of sampling is not specified the maximum quantity of concrete that four consecutive test results represent shall be limited to 60cum.

3.4.3 Structural adequacy of the parts affected shall be investigated and any consequential action as needed shall be taken to the satisfaction of Engineer.

3.4.4 Concrete of each grade shall be assessed separately.

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- 3.4.5 Concrete is liable to be rejected if it is porous or honey combed; its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified; or construction tolerances have not been met. However, the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of the Engineer.

3.5 RECOMMENDED LIST OF TESTS ON MATERIALS AND WORKS

Material	Test	Field/ Lab.	Test Procedure		Frequency of Testing
Cement Concrete	(a) Slump Test	Field / Lab	Annexure 3.5 of Chapter-3 of IRUSS.		(As per site requirement)
	(b) Cube Test	Lab	IR Concrete Bridge Code	Quantity of concrete in the work (cum) 1 – 5 6 – 15 16 – 30 31 – 50 51 & above	Number of samples 1 2 3 4 4 plus one additional sample for each additional 50 cum or part thereof.

Material		Field/ Lab	Test Procedure	Frequency of Testing for all sizes.	
				Quantity	
Steel for Reinforc ement in RCC	High Strength Deformed Steel Bars/TMT (a) Nominal Mass (b) Tensile test (c) Bend Test (d) Rebend Test	Lab/Field Lab/ Field Lab/Field Lab/Field	IS: 1786:2008 IS:1608 IS:1599 IS:1786:2008	For Casts/ Heats Below 100 tonnes 2 Per Cast	For Casts/ Heats of 100 tonnes or More 3 Per Cast

4.0 Bridge Works: Super Structure-Concrete

This is additional requirement as mentioned in para 2 & 3.

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4.1 CONCRETE FOR SUPERSTRUCTURE

4.1.1 Additional Requirements

Concrete shall meet with any other requirements as specified on the drawing or as directed by the Engineer. Additional requirements shall also consist of the following overall limits of deleterious substances in concrete:

- a) The total chloride content of all constituents of concrete as a percentage of mass of cement in mix shall be limited to values given below: [IRUSS :2021 para 3.3.2 (iii)] - Prestressed Concrete : 0.06 % for extreme and 0.1 % for severe and moderate condition - Reinforced concrete exposed : 0.15 per cent
- b) The total sulphuric anhydride (SO₃) content of all the constituents of concrete as a percentage of mass of cement in the mix shall be limited to 4 per cent.

4.1.2 Construction Joints

Construction joint for bridge work will be provided as per para 2.4.3.2

4.2 Method statement & QAP shall be submitted by the successful tenderer as per guidelines issued by RDSO, relevant IS Codes & Manuals and shall be got approved from Engineer.

5. Bridge Works: Superstructure-Steel

5.1 FABRICATION OF STEEL WORK

5.1.1 Codes of Specifications:-The work shall be done in accordance with the following codes and specifications and any other requirements that may be prescribed in special cases.

- (a) Bridge Work
 1. IRS Steel Bridge Code
 2. IRS Specification No.B-1-2001 for Steel Girder Bridges
 3. IRS Specification No P-31 Zinc Chromate red oxide primer.

The fabrication and erection of the steel work shall be in accordance with IRS: B1-2001 supplemented by relevant provisions of this Specifications.

- (b) Iron and steel tanks and staging:- IRS Specification No.B-3-61 Part 4

5.1.2 Quality of Steel:- The structural steel will be used as per IS Code 2062 – 2011 as required grade & Quality.

5.1.3 HSFG Bolts:- High strength friction grip bolts as per RDSO report No. BS-111 shall be permitted for use only on satisfactory evidence of performance to the requirements (not covered by these specifications i.e IRUSS_2021) specified by the Engineer or included in the special provisions of the Contract. (As per IRUSS-2021 para 4.2.2.1)

5.1.4 Tolerances

Tolerances in dimensions of components of fabricated structural steel work shall be specified on the drawings and shall be subject to the approval of the Engineer before fabrication.

A machined bearing surface, where specified by the Engineer, shall be machined within a deviation of 0.25 mm for surfaces that can be inscribed within a square of side 0.5m

5.1.5 Guidelines for procurement of Steel Items in Railway Projects/ Contracts.

Procurement of steel items in Indian Railway Projects/Contracts for bridge works will be as per para 3.1.3

6.0 Bridge Works - Miscellaneous

6.1 POT BEARINGS AS PER RDSO GUIDE LINES. (As per para 22.4 para 5.4 of chapter 5 of IRUSS -2021.

6.1.1 General

Pot type bearings shall consist of a metal piston supported by a disc or reinforced elastomer confined within a metal cylinder to take care of rotation. Horizontal movement, if required, shall with a system of sealing rings be provided by sliding surfaces of PTFE pads sliding against stainless steel mating surfaces. The pot bearings shall consist of cast steel assemblies or fabricated structural steel assemblies.

Provisions of IRC-83 (Part I) shall be applicable for all metallic elements. Provisions of IRC:83 (Part II) shall be applicable for all elastomer elements. When any item is not covered by IRC:83 (Parts I and II), the same shall be as per guidelines given hereunder and BS:5400 (Sections 9.1 and 9.2), except that no natural rubber shall be permitted. If there is any conflict between BS on the one hand and IRC on the other, the provisions of IRC will be guiding.

6.1.2 Acceptance test on Bearing

- i) All bearings shall be checked for overall dimensions.
- ii) All bearings shall be load tested to 1.1 times maximum design capacity including seismic force. Bearing tested at higher loads cannot be used.
- iii) A pair of bearings selected at random will undergo testing in order to determine the coefficient of friction " μ ". The coefficient of friction shall be < 0.05 at the design load.
- iv) Two bearings selected at random shall be tested for permissible rotation.

6.1.3 Installation of POT –cum-PTFE Bearings

a) General

- i) Care shall be taken during installation of the bearings to permit their correct functioning in accordance with the design scheme.
- ii) To prevent contamination, dismantling of the bearings at site shall not be done.
- iii) The load shall be transferred on to the bearings only when the bedding material has developed sufficient strength. The props for the form work shall be removed only after lapse of appropriate time. In special cases, this can be ensured by suitable devices like jacks etc.
- iv) Temporary clamps and shims (introduced to maintain working clearance) shall be removed at an appropriate time, before the bearing is required to permit movement.
- v) Permitted installation tolerance of the bearing from plane of sliding shall be maintained.
- vi) Cement based non-shrink grout with air releasing additive and epoxy based grout, whichever is specified, shall be first tried at the site. For the proprietary grout mixes, appropriate instructions from the manufacturer shall be followed specially with regard to the following:
 - a) Preparation → concrete cleaning, roughening, pre-soaking, etc
 - b) Forms → sturdiness, leak proofing, shape, header funnel vents, etc.
 - c) Bearing Base → cleaning, etc.
 - d) Placement → mixing, consistency, time period, finishing etc.
 - e) Protection → curing, ambient temperature, etc.

b) In-situ Casting of Superstructure

- i) Form work around the bearing shall be carefully sealed to prevent leakage.
- ii) Sliding plates shall be fully supported and care taken to prevent tilting, displacement or distortion of the bearings under the weight of wet concrete.
- iii) Bearings shall be protected during concreting operation. Any mortar contaminating the bearing shall be completely removed before it sets.

c) Seating of bearing

A. Using Template

- i) Template with required rigidity and matching holes corresponding to the base of the bearing shall be used.
- ii) All the anchors shall be fitted to the lower face of the template using the anchor screws but with steel washer replacing the elastomer washers. Separate screws may be used in case of inconvenience in the length of the original anchor screws.
- iii) The template assembly shall be located with regard to level and alignment. It shall be ensured that the top of the anchors lie in a horizontal plane at the required elevation. The anchors shall be tied / welded to reinforcements to avoid displacement during concreting.
- iv) Concreting of the pedestal / pier cap shall be done to a level leaving a gap of 25-50mm below the template.
- v) The template and steel washers shall be removed prior to placement of the bearing assembly with temporary clamps. The bearing assembly shall be fitted to the anchors with the help of anchor screws and elastomer washers. Level at the bearing shall be checked.
- vi) The gap below the bearing assembly shall be grouted with cement based grout. Reference may be made to Para 22.4.6 (a) (vi)

B. Without Template with Gap

- i) Pockets commensurate with the sizes of the anchors shall be kept in pedestals during concreting of the same. The pedestal shall be cast approximately 25mm short of the required finished level.
- ii) Anchors shall be fitted to the bearing bottom with elastomer washers and anchor screws. The bearing assembly shall be seated in the location on steel chairs / packs. The anchors fitted below the bearing shall go into pockets in the bed block. Level and alignment of the bearing shall be checked. It shall be ensured that the bearing sits in a horizontal plane.
- iii) The gap below the bearing assembly including anchor pockets shall be grouted with cement based grout.

C. Without Template without Gap

Elongated pockets commensurate with the sizes of the anchors shall be kept in pedestals during concreting of the same. The geometry and location of the anchor pockets (with tapered funnel extension, if required) shall be such that after placement of the bearing the pockets can be successfully grouted. The pedestal shall be cast 5mm to 15mm short of the required finished level. The required level shall be achieved by chipping before placement of the bearing. Careful control shall be exercised to cast at the exact finished level or 1mm to 3mm down from the required finished level.

D. Seating of bearings shall be as per manufacturer's instructions.

6.1.4 Inspection and Testing

Where any patents are used, the manufacturer's certificate with test proofs shall be submitted along with the design and got approved by the Engineer before their use in work

6.1.5 Tests and Standards of Acceptance

The materials shall be tested in accordance with these specifications and shall meet the prescribed criteria. The work shall conform to these specifications and shall meet the prescribed standards of acceptance.

6.2 Method statement & QAP shall be submitted by the successful tenderer as per guide lines issued by RDSO, relevant IS Codes & manuals and shall be got approved from Engineer.

7.0 SPECIFICATIONS FOR SUPPLYING AND STACKING STONE BALLAST

7.1 SUBMISSION OF TENDER

7.1.1 Each tenderer at the time of tendering for supply of ballast shall submit the following:-

- (a) Test report of impact value, abrasion value, and water absorption value from reputed laboratory/institution as mentioned below. These shall have to be in accordance with is codes as under:

Aggregate abrasion value test.....IS: 2386 part IV 1963.

Aggregate impact value testIS: 2386 Part IV 1963

Water absorption testIS: 2386 Part III 1963.

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It may be noted by tenderer/s that they are required to submit the test report of the stone ballast, along with their offer, issued from the approved laboratory as listed in the tender documents .

The test viz. determination of Abrasion value, Impact value and water absorption should be got done through approved laboratories or Railway's own laboratories. (List given below).

- (i) Government Engineering College.
- (ii) Government Polytechnic College.
- (iii) Engineering Workshop/ BNGN, GM/CON/MLG, Assam Engineering College, IIT Guwahati, NIT Silchar, Jorhat Engineering College.
- (iv) Laboratory /Test house owned / approved by Central / State Government/
NABL approved laboratory.
- (b) The tenderer/s shall also furnish an undertaking that the ballast supply at all times will Conform to the specifications for track ballast as specified by Railway as mentioned at Note No. 3 of offer sheet.

7.2 SPECIFICATION FOR STONE BALLAST:- (IS/RDSO-GE/0001: 2023, February 2023)

7.2.1 GENERAL:

- 7.2.1.1 Basic Quality:- Ballast should be hard durable and as far as possible angular along edges/corners, free from weathered portion of parent rock, organic impurities and in organic residues.
- 7.2.1.2 Particle Shape:- Ballast should be cubical in shape as far as possible, individual pieces should not be flaky and should have generally flat faces with not more than two rounded/sub-rounded faces.
- 7.2.1.3 Mode of Manufacture:- Ballast for all BG main lines and running lines, shall be machine crushed. For other BG lines and MG/NG routes planned/sanctioned for conversion, the ballast shall preferably be machine crushed. Hand broken ballast can be used in exceptional cases with prior approval of Chief Track Engineer/CAO/C. Such approval shall be obtained prior to invitation of tenders.

On other MG and NG routes not planned/sanctioned for conversion hand broken ballast can be used for which no approval shall be required.

7.2.2 PHYSICAL PROPERTIES:

- 7.2.2.1 Ballast sample should satisfy the following physical properties in accordance with IS: 2386 part-IV-1963, when tested as per the procedure given in Annexure-I-II of specifications for track ballast from RDSO Geo-Technical Engineering Directorate.

	BG, MG & NG (planned/sanctioned conversion) for	NG & MG (other than those planned for conversion)
Aggregate Abrasion Value	30% Max. *	35% Max.
Aggregate Impact	20% Max. *	30% Max.

* In exceptional cases, on technical and/or economic grounds relaxable upto 35% and 25% respectively by CTE in open line and CAO/C for construction projects. The relaxation in Abrasion and Impact values shall be given prior to invitation of tender and should be incorporated in the Tender document.

- 7.2.2.2 To carry out Impact Test on ballast, a test sample of ballast pieces (about 5 kg in weight) of size 10 mm to 12.5 mm will be required. Appropriate care should be taken by the railways that ballast selected for breaking down to 10 mm to 12.5 mm size for Impact Test should be random from the ballast supply to avoid any subjectivity in selection of test sample. Alternatively, the test sample in the recommended range of size be got manufactured along with the ballast in sufficient quantity required for this test
- 7.2.2.3 The 'water absorption' tested as per IS: 2386 part-III-1963 (Reaffirmed in 2021) (when tested as per the procedure given in Annexure-3 of RDSO Geo-Technical Engineering Directorate) should not be more than 1%. This test, however, is to be prescribed at the discretion of CE/CTE in open line and CAO/Con. for construction projects.

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- 7.2.2.4 The power of relaxing for water absorption limit should be delegated to CTE in open line/CAO on construction for specified areas. However, maximum water absorption in any case should not be allowed more than 2.5%.
- 7.3 The track ballast shall be procured confirming to specifications for Track Ballast-IRS- (IS/RDSO-GE/0001: 2023, February 2023) issued by RDSO with amendments upto the date of opening of tender.

8.0 Repairs to Buildings.

Reference- CPWD Specification, 2019 Vol.I& Vol. II(latest), Indian Railway Works Manual (2000). Relevant - IS Codes.

8.1 Expansion joint:

Expansion joints in buildings/other structures may become source of perennial seepage due to failure of expansion joints fillers and sealants. Expansion joint for structures exceeding 45m length then it shall be divided by one or more expansion joints. Expansion joint should be treated with suitable non-absorbent, non-brittle and water tight sealants so that no leakage occurs through joints. Joint fillers should confirm to IS:3414- Code of Practice for Design and Installation of Joints in Buildings or IS:1838 (Pt.I or Pt.II)- Specification for Preformed Fillers for Expansion Joint in Concrete Pavement and Structures. Sealing compound should confirm to IS:1834. (Para 226-d of IRWM).

Filling of the joints with bitumen filler/felt and provision of copper plate etc shall be as per Specification. (Para 5.4.5 CPWD Specification, 2019 Vol.I).

8.2 Curing of RCC/CC works:

Curing should be started after 24 Hrs of RCC/CC work for all exposed faces shall be kept continuously wet by applying water or covering with wet sacking, hessian or by ponding etc. for a minimum period of 10 days (As per IS:456/2000).

8.3 Brick work:

Type of Bricks/ Tiles	Nominal Size mm	Actual Size mm
Modular Bricks	200 × 100 × 100 mm	190 × 90 × 90 mm
Modular tile bricks	200 × 100 × 40 mm	190 × 90 × 40 mm
Non-modular tile bricks	229 × 114 × 44 mm	225 × 111 × 44 mm
Non-modular bricks	229 × 114 × 70 mm	225 × 111 × 70 mm

8.3.1 Bricks used in masonry work would be of the following types-

- Common burnt clay bricks conforming to IS: 1077.
- Fly Ash Lime Bricks conforming to IS: 12894.
- Clay Fly Ash Bricks conforming to IS:13757.
- Sampling- Bricks shall be subjected to the test- Dimensional tolerance, water absorption, Efflorescence & Compressive strength.
- Socking of brick- Bricks shall be soaked in water before use for a period for the water to just penetrate the whole depth of the bricks.
- Laying of bricks- Bricks shall be laid in English Bond unless otherwise specified or as per specification.
- Bricks shall be laid on a full bed of mortar after cleaning, wire brushing and wetting the surface. Joint shall be fully filled and packed with mortar of specified proportion.
- Brick wall shall be taken up truly in plumb or true to the required batter where specified.

- (i) Weep holes- In retaining walls and the like, where water is likely to accumulate, weep holes, 50 to 75 mm square size shall be provided at 2 m vertically and horizontally unless otherwise specified. From ground level, weep holes should be 30cm above.
- (j) Pilasters- These shall be so set out to avoid a broken bond.
- (k) Openings.
For fixing of doors/windows, opening area should be kept on walls as per drawing, no cutting of brick walls should be allowed, as it weakens the masonry.
- (l) Curing- Brick work shall be constantly kept moist on all faces for a minimum period of 7 days and dated to keep a watch on the curing period.

8.4 Flooring:

- (i) Before flooring surface should be properly compacted and leveled.
- (ii) Brick on edge/flat brick base- Base of flooring may be brick on edge or may be flat brick flooring. Brick joints should not be more than 1.0cm thick and filled with cement mortar (1:4)
- (iii) Concrete over soling – Concrete flooring ranging from 1:3:6 to 1:2:4 shall be laid over brick soling, depending upon the locations, unless otherwise specified.
- (iv) Floor of water closet portion shall have slope of 1:30 or as decided at site.
- (v) Flooring shall commence within 48 hours of the laying of base, failing which, base surface shall be roughened with steel wire brushes without disturbing the concrete. Before laying flooring base shall be wetted and smeared with a coat of cement slurry @ 2.0 Kg/Sqm.
- (vi) Finished layer- Top finished layer shall be either cement plaster (1:4) with neat cement punning or Tiles/Marble/Kota Stone/Chequered tiles over 20mm thick cement mortar (1:4).

8.5 Repairing of wall/floor plaster- Existing plaster to be removed by cutting in square/rectangular shape and base surface shall be roughened with steel wire brushes without disturbing base brick wall/floor concrete. Before plastering flooring base shall be wetted and smeared with a coat of cement slurry @ 2.0 Kg/Sqm.

8.6 Roof leakage:

- (i) Light repair of A.C/C.G.I/R.C.C roof leakage should be attended by tarfelt IS: 1346/76 with adhesive IS: 1609/76 or by cement concrete (1:2:4) with damp proof course as per specification.
- (ii) Heavy leakage on Brick Arch roof should be covered with GCI/PPGI/Bamboo Jute(Natural Fibre) thermostat composite sheet IS:15476-2004 etc. with tubular frame.
- (iii) If entire RCC roof is leaky, than it should be attended with cement concrete (1:2:4) with damp proof course maintaining proper slope 1:100 or steeper as per specifications.

8.7 Cracks on roof-

- (a) Cleaning the surface: Surface shall be thoroughly cleaned to removed all growths, lime terrace, leveling concrete, plaster, dirt, laitance, any other loose or soft material and all other non-structural works to exposed the surface of the structural concrete. Any grease, oil, paint, etc. shall be removed.
- (b) If crack is minor- Cracks are to be cut in 'V' shape cleaned and filled up flush with cement mortar slurry 1:4 or blown type petroleum bitumen of IS:85/25 or approved quality conforming to IS:702.
- (c) Preparation of slurry coat-Surface coat of Water Proofing Compound and Polymer (3Kg WPC mixed with 9 Kg Acrylic-styrene copolymer to form a thick paste) should be applied. No water shall be added.
- (d) Crack sealing compound- Acrylic-styrene sealing compound is diluted with water 1:10 and filled. Repeated coat of sealing compound should be applied when it is dried without dilution. Dry course sand is sprayed on the last coat when it will still be wet, excess sand to be removed on the next day.

8.8 Ceiling repair:

- (i) Existing bamboo mat ceiling should be repaired and replaced by A.C board /Gypsum board or any other board protected with anti termite treatment as per specification.
- (ii) Exposed reinforcement in ceiling to be attended by micro- concreting with necessary anti-corrosive treatment with plastering 1:3(6mm thick).

8.9 Doors & Windows:

- (i) All timbers used for doors & windows shall be well seasoned, approved species as per IS:12806& all quality and parts of doors & windows shall be as per specification and got passed by ADEN.
- (ii) Preservation of timber- Preservative treatment, as specified shall be done using Oil type, Organic solvent type or water soluble type preservatives.
- (iii) For doors & windows paneling, material shall be as per IS:303, IS:328, IS:3087, IS:3097, IS:12823, IS:14616, IS:1658, IS:1659, IS:12406 & IS:14842.
- (iv) Aluminium work for doors, windows, ventilator and composite units.
 - (a) All aluminium Doors & Windows etc. shall be as per IS:1948 and shall be made as per specifications. In place of wooden doors & windows Aluminium doors & windows may be considered due to less maintenance required.
 - (b) Glass panes for aluminium doors & windows shall be free from flaws, specks or bubbles. Weight shall be 10Kg/Sqm of 4mm glass panes and 13.5 Kg/Sqm of 5mm glass panes as per specifications.

8.10 Pipe lines for water supply:

- (i) For office/domestic pipe line, preferably Plastic un-plasticized rigid PVC/UPVC pipe shall be used as per IS:4984& IS:4985 for internal & external water supply system, water mains etc.
- (ii) Under ground pipe lines from reservoir or from tanks- *Centrifugally cast ductile iron presser pipe IS:8329:1994* may be used where only rubber gasket are used which is more leak proof.
- (iii) During execution of work it should be invariably checked that there is no any adjacent septic tanks/drains/sewerage man holes etc. which may cause contamination with filtered water.
- (iv) Before connecting with office/residential water tanks all main line should be cleaned/disinfected and sterilized with a solution of lime chloride as per specifications.

8.11 Pathway to Quarter/Bungalow:

No plastering should be done for domestic pathway. Repairing of path way should be done by cement concreting(1:2:4) 100mm thick over flat brick flooring/precast paver block as per specification.

8.12 Renovation of kitchen:

During Special/Zonal repairing work, in kitchen, one Gas slab with granite/marble stone, on walls and floor provision of Glazed/un-glazed tiles with one sink shall be provided.

8.13 Renovation of toilet and bath:

Toilet/bath room walls and floor should be provided by tiles, wash basin with necessary fittings. In floor non-glazed (Mat finished) tiles and in walls glazed tiles should be provided.

Section -VIII

1.0 Special Specifications: -

(1) Clearing site:-Before the work is started, the Contractor at his own cost should clear the whole of the work site.

2.0 SUPPLY/USE OF MATERIALS BY THE CONTRACTOR:-

(1) All materials to be supplied by the contractor for execution of the work shall be in conformity with the specification as laid down in the specification of the tender. Steel to be used in the work shall conform to the specified specification and must be invariably purchased from the authorized dealer of SAIL, IISCO, TISCO, RASTRIYA ISPAT NIGAM LTD, VIZAG and document in support need to be submitted. Prior to the use of materials, by the Contractor, in the work the SE/Bridge/SSE/Bridge who is recording in the Measurement Book and Executive/Assistant Engineer (Bridge) at site shall pass them in writing in Materials Passing Register. A test certificate from the authority of Government Engineering College, Indian Test House or from similar Government Institution to be submitted in proof of the same. For timely supply of materials where required, the contractor may have to carry materials even by road or through river route, but no claim whatsoever shall be entertained on this account.

(2) Contractor shall procure and provide within the contract price all equipments Plants and materials required for completion of the work in all respects. The contract shall cover the cost of all equipment, plants and materials etc. to be incorporated in the work. Materials to be supplied by the contractor shall conform to specifications. If called upon to do so the contractor is required to state the actual source of supply of any materials to be supplied by him and submit samples for approval of the Engineer-in-charge of the work. During the execution of work, all materials brought to site by the contractor must be offered for inspection/test and passing by the Engineer or his representative, before being used in the work. Cost of tests will be borne by the contractor.

(3) The contractor shall at his own expense provide unless specified otherwise in the schedule, all materials including cement reinforcement steel & dowel bars required for the works. The labour and all other materials will have to be arranged by the contractor at their own cost.

(4) Steel, which will be used in the works, should conform to IS specification subject to fulfillment of Para No. 1 above.

(5) The contractor may construct a temporary site office and store for carrying out the work at their own cost.

(6) The contractor shall indemnify the Railways, or any agent, servant or employee of the Railway against any action claim or proceedings relating to infringement or use of any patent or design right and shall pay all royalties or other charges which may be payable in respect of any articles or materials or part thereof included in the contract. In the event of any claim being made or action being brought against the Railway or any agent, servant of the Railway in respect of any such matters, as aforesaid the contractor shall be immediately notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific direction issued by the Railway but the contractor shall pay any royalties or other charges payable in respect of any such use.

(7) It shall be clearly understood that the rates to be quoted shall include all wastages and wash away either due to rains or storm or floods or other causes whatsoever. The rates shall also include the cost that may be necessary for stacking the materials at site of work.

(8) If called upon to do so the contract is required to state the actual source of supply of any materials to be supplied by him and submit samples for approval of the Engineer-in-charge of the work. During the execution of work, all materials brought to site by the contractor must be offered for inspection/test and passing by the Engineer or his representative, before being used in the work. Cost of tests will be borne by the contractor.

3.0 SPECIAL SPECIFICATIONS :

GENERAL

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- 3.1 These specifications shall apply to all such works as are required to be executed under the contract or otherwise directed by the Engineer. In every case the work shall be carried out to the satisfaction of the Engineer and shall conform to grades and cross sections shown on the drawing or as indicated by the Engineer. The quality of the work and materials shall comply with the requirements set forth in the succeeding sections.
- 3.2 Where the drawings and specifications describe of portion of the work in only general terms and not in complete details, it shall be understood that only the best general practice is to prevail. Materials and workmanship of the best quality are to be employed and that the instructions of the Engineer are to be fully complied with and shall be binding on the contractor. The contractor shall be fully responsible to ensure that the finished works are free from any defects, weakness, cracks etc.

3.3 CODES OF PRACTICE AND SPECIFICATION :

(1) The abbreviations mentioned elsewhere for standard specifications and code of practices shall be considered to have the following meanings.

IS: Indian standard of the Bureau of Indian Standard.

IRS: Indian Railway's Standard Specifications and Codes of Practices.

GCC: N. F. Railway General and Special conditions of contract and standard specifications – 2022.

RDSO: Research, Designs and Standards Organization (Ministry of Railways)

(2) Wherever the terms Engineer comes in the above specifications it shall be read as defined in the relevant clause of "Special conditions".

(3) Wherever a reference is made to any of the standards specifications and codes of practice under relevant clause it shall be taken as a reference to the latest version/revision of the same and shall include all the Errata /corrections made in the same from time to time.

(4) In case of any contradiction between provisions in the special specifications laid down here under and in the specifications and codes which have been referred to, the former shall prevail and that in all cases the decision of the Engineer shall be final and binding on the contractor.

(5) All measurements shall be made in the metric system. Different items of work shall be measured in accordance with the procedures set forth in the relevant sections read in conjunction with the GCC and Special Conditions of the contract.

- 4.0 SAMPLES AND TESTS:-**The samples of all the materials proposed to be used by the contractor in the work shall be got tested by the contractor in an approved laboratory and necessary test certificates indicating that all these materials conform to the various provisions laid down in the relevant IS Codes, other relevant standard specification or these specifications and shall be submitted to the Engineer on request free of charge.

4.1 TEST CERTIFICATES:-

(1) All materials for the work should pass test on an analysis prescribed by the specifications mentioned above or to such other recommended specifications as the Railway shall have authorized as equivalent to the rate or in the absence of such authorized specifications such tests and analysis as the Railway shall specify.

(2) For new materials like rivets and paints the contractor shall furnish copies of test certificates. If any testing of materials is required by the Railway in respect of any other item this shall be arranged for by the Railway at the cost of the contractor.

(3) Any approval given by the Railway in consequence of such tests or analysis shall in no way limit or interfere with the absolute right of the Railway to reject the whole or portions, of such materials supplied, which in the judgment of the Railway do not comply with the conditions of the contract. The decision of the Railway in this regard shall be final & conclusive for all purposes.

- 4.2 All manufactures certificates of tests, proof sheets, mill sheets etc. showing that the materials have been tested in accordance with the requirements of the appropriate Indian Standard, other relevant standing specification or these specifications, shall be supplied free of charges on request to the Engineer or his representatives.
- 4.3 Samples provided to the Engineer or his representative for their retention are to be in labeled boxes suitable for storage. Materials or workmanship not corresponding in character and quality with approved samples shall be rejected.

- 4.4 Samples required for testing and approval must be supplied giving sufficient time to allow for such testing and approval, due allowance being made to the fact that if samples are rejected further samples shall be required. Delay to the works arising from the late submission of samples shall not be acceptable as a reason for delay in the completion of the works.
- 4.5 The Railway in any laboratory of its choice if required may carry out the testing of the materials. If the materials are not found to comply with the various provisions laid down in the relevant IS Codes, other relevant Standard Specifications or these specifications, the same shall be rejected irrespective of the test certificate submitted by the contractor.
- 5.0 INSPECTION OF MATERIALS**:- Wherever the Engineer or his representative gives notice to the contractor that materials are to be inspected off the site, the contractor shall, having regard to the location of the materials and the nature of the inspection, test or examination required, give to the Engineer or his representative at least one week's notice of such materials being ready for inspection, test or examination. Delay to works arising from the late submission of such notice will not be acceptable as reason for delay in the completion of the works.
- 5.1 INSPECTION OF MATERIALS TO BE SUPPLIED BY CONTRACTOR**:-
- a) Materials shall be inspected by RDSO/RITES/CONSIGNEE as indicated in Schedule of Rates. A consolidated charge for RDSO/RITES inspection shall have to be paid to RDSO/RITES by the contractor @1% (one percent) of the cost of the materials (including excise duty, sale tax). After inspection, the contractor shall produce the materials along with RDSO/RITES's inspection certificate to the concern XEN/AXEN/SSE/BRs. If RDSO/RITES due to any reason refuse to inspect any of the items, the tenderer have to produce a letter from RDSO/RITES for denying the inspection of any such items.
- b) Documentary proof in support of procurement of materials from RDSO approved firm if indicated in technical specification for consignee inspected items shall have to be produced to the consignee along with materials for inspection.
- c) All the materials inspected and passed vide clause No. 5.1(a) & (b) above shall be marked suitably by the inspecting official and shall be kept under custody of concern XEN/AXEN/SSE/BRs. In this regard a ledger to be maintained by the concern XEN/AXEN/SSE/BRs duly showing receipt & issue particulars of materials.
- d) Any material rejected by the inspecting official due to not being as per specification or not in the proper condition, the same is to be replaced by the contractor at his own cost. For this the decision of inspecting official shall be final and binding on the contractor.
- e) Rate offered by Firm/contractor will be considered inclusive of RDSO/RITES inspection charges. In case of changes of inspection authority from RDSO/RITES to consignee, inspection charge of 1% will be deducted in the bill.
- 6.0 ASSEMBLY AND ERECTION**:- The contractor shall observe sufficient accuracy in the assembling & Erection of every part of the work to ensure that all parts fit accurately together on erection. Rectification of any bent or twisted component, if any, is to be done without any extra payment. The contractor shall maintain a master steel tape of approved make for which he has to obtain a certificate of accuracy from the National Test House calibrated under a tension of 1.8 Kg. at 16.0 degree Celsius.
- 7.0 REJECTION OF MATERIALS**:- Materials shall be tested before leaving the manufacturer's premises, where appropriate, materials may also be tested on the site and they may be rejected if found not suitable or not in accordance with the specifications notwithstanding the results of tests at manufacturer's works or elsewhere or test certificate. The Engineer or his representative shall have the right to order, at any time, that any aggregates or other construction materials which do not meet with his approval shall not be used in the works, such rejected materials shall be removed from the site by the contractor at his own expenses, not withstanding any prior approval which might have been given earlier. In case of default on

the part of the contractor in removing rejected materials within the time specified is noticed, the Engineer shall be at liberty to have them removed by other means at the cost of the contractor.

8.0 PAINTING OF GIRDER:

(1) The steel work shall be cleaned by wire brushes, waste cotton etc. to make free from rust and dirt etc. and one coat ready mixed zinc chromate paint as 1ST priming coat conforming to IS:104 and ready mixed red oxide zinc chrome paint as 2nd priming coat conforming to IS: 2074 be applied . On dried surface two coats of aluminum paint conforming to IS: 2339/Red Oxide Paint conforming to IS: 123, as the case may be, shall be applied after the first two coats are dried up.

(2) Paint & other painting materials such as scrapper, wire brush, painting brush, scaffolding materials etc. will be supplied by the contractor at his own cost & approved by the Engineer prior to application. Surface cleaning can be done manually with wire brush of approved quality and application of paint can also be done manually with brushes up to the satisfaction of the Engineer.

Paint preferably in drum packing should bear the following information in legible markings: -

(i) Manufacturer's name

(ii) Registered trade mark of the manufacturer, if any.

(iii) Type of Paint

(iv) Weight of each drum in Kg/litre.

(v) Date of manufacture, generally marked as week of the year of manufacture i.e. 30/2006, which means 30th week of 2006.

9.0 THE FITTING / FIXING:-

(1) The fitting / fixing rate is to include the supply of all site rivets, turned & black bolts, nuts, washers etc. required to complete erection at site of IRS specification B1-2001. The rate also includes dismembering by cutting, removing ex-rivets & re-fixing, riveting which may be warranted in course of fitting/fixing.

(2) Service bolts & nuts, ordinary plate washers and drifts for use in erection/fitting/fixing shall be provided and used as specified in IRS specification as B1-2001. The rate quoted for erection shall consider that these will remain the property of the contractor after the completion of the work.

(3) Specification noted in Indian Railways Standard Specification for erection & riveting of bridge girders specification No.B1-2001 should be followed.

(4) The contractor shall, if and when required by the Railways pull down, take up or do any work or remove from site or separate any bad materials, which, in the opinion of the Engineer or his representative are defective or unused without any extra payment.

5. The following standard specifications, rules, codes of practice, modified up to date must be followed in regard to materials & workmanship etc. viz.

i) IRS No. B1-2001 for steel girder bridges with up to date correction.

ii) IS 1148-1982 – specification for hot rolled steel rivet bars.

iii) IS 1363-1984-specifications for Hexagonal head bolts, screws & nuts of product grade C (part-I, II & III)

iv) IS: 2062 Gr.B of 1984

v) IRS bridge rules 1975

- vi) Schedule of Dimensions (BG) up to date
- vii) IRS Steel Bridge Code.
- viii) IS: 2339-1963 for Aluminum paint.
- ix) IS: 1929-1982 for hot forged steel rivets for hot closing.
- x) IS : 102 – 1962 for Ready Mixed Paint, Red Lead Primer.
- xi) IS: 123 - for Ready Mixed Red Oxide.
- xii) IS : 104 -1979 for Paint Zinc chromate primer yellow
- xiii) IS: 2074 – 1979 for Ready Mixed paint, Red Oxide Zinc chromate primer.

10.0 FIELD RIVET, BOLTS, NUTS& SERVICE ACCESSORIES: -

- (1) The work is to include supply of all rivets, drifts, bolts, nuts, washers etc. required to complete erection at site with allowance for wastage. The contractor shall be responsible for supplying at site, rivets of correct diameter & length.
- (2) The diameter & length of such rivets shall be verified by tapping a few rivets of each length in the presence of the inspecting officers for examining whether the holes have been completely filled-in by the rivet materials. No structural steel for the manufacture of rivets, bolts etc. will be supplied by the Railway and no extra payment will be made to the contractor for supply of bolts, rivets etc.
- (3) Service bolts and nuts, the contractor at his own cost shall also arrange washers and drifts etc. for use in the erection of the work.

11.0 PARTS IN CONTACT:- All materials intended to be riveted or bolted together shall be in contact absolutely over the whole surface.

12.0 PAINTING RIVETS, BOLTS ETC.:- All rivets, drifts, bolts, nuts, washers will have to be thoroughly cleaned and dipped in boiling linseed oil to be arranged by the contractor at his own cost, before using. No extra payment will be made on these accounts.

13.0 RIVETS AND RIVETTING:

- (1) The dimensions on the drawings refer to the diameters of the rivet holes and the finished rivets.
- (2) Rivets shall completely fill-in the hole and shall be machine-driven of approved design. The rivet shall be made to relevant specification. The rivets holes shall be 1.5mm (1/16 in.) greater than the diameters of the rivet bars used. The clearance i.e. the difference in diameter between the rivet measured under head before being rivetted and rivet hole shall not be less than 0.75mm (1/32 in.) The shanks shall be made of a length sufficient to fill the holes thoroughly and to form the head.
- (3) The rivet shall be at the proper heat and in no case shall the top be hotter than the head. Rivets less than 10mm (3/8 in.) diameter may be driven cold. Flattened rivet heads may be used in certain places where clearance requires them.
- (4) Gauges for rivet dimension and the contractor for the use of the Inspecting Officer shall provide centers.
- (5) Before riveting is commenced, all works shall be properly bolted up so that the sections riveted are in close contact throughout. Driven rivets when struck on the head, with a 110 grams rivet-testing hammer shall be free from movement and vibration.

(6) Drifts may be used for drawing light members into position but their use on heavy members should be restricted to securing them in their correct positions. In no case shall drifting be allowed to such an extent that holes are distorted. Drift steel shall be in accordance with relevant specification.

14.0 DRILLING:-All holes shall be drilled.

15.0 DEFECTIVE RIVETS:-All loose & burnt rivets and rivets with cracked, badly formed, eccentric or deficient heads, shall be cut out and rivets shall also be cut out when required for the examination of the work. The Engineer shall approve the actual method of cutting out. Re-cupping & caulking shall in no circumstances be resorted to. To avoid rusting, linseed oil shall be applied on new rivets without any extra payment.

16.0 QUANTITY:-If the contractor makes use of any estimated quantity, which may be given to him in the schedule of tender drawings or in any other way, he does so at his own risk and will not be entitled to make any claim or demand or to raise any question whatsoever on account of any errors or miscalculations in the said quantity.

17.0 PAINTING CONTACT SURFACES BEFORE BOLTING, WELDING:- All steel works before fitting & fixing shall have the parts which will be in contact painted immediately before assembling on each surface with a heavy coat of red lead and pure raw linseed oil freshly ground and the surface brought into close contact while still wet. Paints and their ingredients shall comply with the following specification:

I.S. Specification for Linseed Oil (Raw): - IS: 75 --1973.

I.S. Specification for Linseed Oil, boiled for paints: - IS : 77 – 1976.

I.S. Specification for Aluminum Paint: - IS: 2339 – 1963.

IS: Specification for Paint Zinc chromate primer yellow 104

IS: Specification for Ready Mixed paint, Red Oxide Zinc chromate primer. 2074

[All parts shall be thoroughly cleaned and dried before they are painted and when so specified all mill-scale shall also be removed before painting]