

NORTH WESTERN RAILWAY

(ELECTRICAL DEPARTMENT)

E-TENDER DOCUMENT- TOP SHEET-I

Tender No. ELCJP/NDT-DOHM/GC/T10-R/25

Name of work: - Left over miscellaneous electrical work under GC work in NDT-DOHM section, Doubling work in AII-CNA section and New BG Line work in BI-NMH section, NDT-NDT Town section and PUHT-MEC section.

OFFICE OF THE

Deputy Chief Electrical Engineer (Construction-I)

**Rail Nirman Bhawan, Ganga Marg Near Jagatpura Railway
Phatak, NORTH WESTERN RAILWAY JAGATPURA Jaipur-**

302017

JAIPUR

Name of work: - Left over miscellaneous electrical work under GC work in NDT-DOHM section, Doubling work in AII-CNA section and New BG Line work in BI-NMH section, NDT-NDT Town section and PUHT-MEC section..

Tender No ELCJP/NDT-DOHM/GC/T10-R/25

1	Tender No.	ELCJP/NDT-DOHM/GC/T10-R/25
2	Approximate cost of work in Rs.	44338511.00
3	Earnest Money:	886800.00
4	Cost of tender document in Rs	0.00
5	Completion Period	24 Months

Date & Time of closing E-Tender :

Date & time of opening E-Tender :

NOT TRANSFERABLE

Issued to:

Online

EMD & TDC: The payment of EMD and TDC is acceptable through on line Payment only.

TENDER FORMS INDEX

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SPECIAL CONDITIONS OF CONTRACT (Ver.11.4) FOR IREPS

<u>GENERAL INSTRUCTIONS</u>	
1.1	Works will be executed as per Indian Railways Standard General Conditions of Contract, Indian Railways Unified Standard Specifications (IRUSS Works and Materials) and CPWD Specifications Vol. I & II as amended/corrected up to latest correction slips, published upto date of notice for inviting tender published on IREPS, copies of which can be Obtained on https://indianrailways.gov.in/railwayboard/view_section.jsp?id=0,1,304,366,526
1.2	Works will be executed as per Standard Schedule of Rates (SSOR) CPWD Rates Vol. I, II as amended / corrected up to latest correction slips published upto date of notice for inviting tender published on IREPS, IR specifications, Codes, Manuals & guidelines updated with latest correction slips, relevant BIS codes updated with latest correction slips.
1.3	All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications. As per Clause No. 1(f) of tender form 2nd sheet Annex.I Part-I of GCC-2022, with up to date correction slip.
1.4	i) CPWD Delhi Schedules of Rates (DSR) (DSR-Vol,-I, DSR-Vol,-II, DSR Horticulture & landscaping), analysis of Rates for DSR (AOR-Vol. I, AOR Vol. II) & CPWD specification (Vol. I, Vol. II) shall be used for execution of civil Engineering works related to building work, Road works and Horticulture works. (except formation works, bridge works and Pway works). ii) Indian Railway Unified Standard Schedule of Rates (IRUSSOR) shall be used for execution of formation works, bridge works and P.WAY works.
2.0	Drawings for the Work: The Drawing for the work can be seen in the office of the concerned Dy. Chief Engineer (Const.) and / or Chief Administrative Officer (Const.) North Western and / or Principal Chief Engineer, North-Western Railway at any time during the office hours. The drawings are only for the guidance of Tenderer(s). Detailed working drawings (if required) based generally on the drawing mentioned above, will be given by the Engineer or his representative from time to time, during execution of work. As per Clause No. 2 of tender form 2nd sheet Annex.I Part-I of GCC-2022,
3.0	Tender Form embodies the contents of the contract documents either directly or by reference, e-Tender Forms shall be issued free of cost to all tenderers, downloadable from IPEPS. As per Clause No.3 of Part-I of GCC-2022 , with up to date correction slip
3.1	Date of inviting tender shall be the date of publishing tender notice on IREPS website if tender is published on website or the date of publication in newspaper in case tender is not published on website. As per Clause No. 1.2 (n) of Part-I of GCC-2022 , with up to date correction slip
3.2	The Tenderer(s) shall quote his / their rates as a percentage above or below the Standard Schedule of Rates (SSOR) of North Western Railway 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 Bill(s) of Quantities are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of the Bill(s) of Quantities. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by Railway. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.

	As per Clause No. 3 of tender form 2nd sheet Annex. I Part-I of GCC-2022, with up to date correction slip.				
4.0	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. As per Clause No. 4 of tender form 2nd sheet Annex. I Part-I of GCC-2022, with up to date correction slip.				
5.0	<u>BID SECURITY :</u>				
5.1	For the subject tender, the Bid security deposit shall be as specified in the NIT header and shall be governed by Para 5.1.1/ 5.1.2 below.				
5.1.1	<p>(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 :</p> <table border="1"> <tr> <td>Value of the work</td><td>Bid Security</td></tr> <tr> <td>For all work</td><td>2% of the estimated cost of the work</td></tr> </table> <p>Note :</p> <ul style="list-style-type: none"> (i) The Bid Security shall be rounded off to the nearest Rs. 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 deposit detailed above. (iii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above. <p>(b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the Railway.</p> <p>(c) If his tender is accepted this Bid Security mentioned in sub clause (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.</p> <p>As per Clause No. 5 (1)(a) of Part-I of GCC-2022, with up to date correction slip</p>	Value of the work	Bid Security	For all work	2% of the estimated cost of the work
Value of the work	Bid Security				
For all work	2% of the estimated cost of the work				
5.1.2	The Bid Security shall be deposited 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-XXXII and shall be valid for a period of 90 days beyond the bid validity period.				

5.1.2.1	<p>In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:</p> <ul style="list-style-type: none"> 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 (Name and address to be filled before floating the tender by concerned field unit) as indicated in the tender document before closing date for submission of bids (i.e. excluding the last date of submission of bids). (as per ACSNo.5 of GCC-2022). 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..... <i>(Name and address to be filled before floating the tender by concerned field unit)</i> 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. <p>As per Clause No. 5(3) of Part-I of GCC-2022, with up to date correction slip</p>
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5.1.3	<p>Bid Security :</p> <p>(a) Subject to exemptions provided under para 5.1.1 of this document, the tender must be accompanied by a Bid Security as mentioned in the NIT header as Earnest Money failing which the tender shall be summarily rejected.</p> <p>(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 the Chief Engineer/Dy. Chief Engineer/Construction North Western 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.</p> <p>(c) If his tender is accepted,</p> <p>(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.</p> <p>(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.</p> <p>(iii) 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.</p> <p>(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.</p> <p>As per Clause No. 6 of Tender Form (second sheet) Annex. I of Part-I of GCC 2022, with up to date correction slip.</p>
5.1.4	<p>The tenderers shall submit a copy of certificate stating that all their statements/documents submitted alongwith bid are true and factual. Standard format of certificate to be submitted by the bidder is enclosed as Annexure-II. In addition to Annexure-II, in case of other than Company/Proprietary firm, Annexure-II(A) shall also be submitted by the each member of a Partnership Firm / Joint Venture (JV) / Hindi 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.</p> <p>(As per Clause No. 6.1 Part-I of GCC 2022, as per correction slip No. 2).</p>
6.0	<p>Rights of the Railway to deal with Tender: The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/ their tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders.</p> <p>As per Clause No. 7 of Tender Form (second sheet) Annex. I of Part-I of GCC 2022, with up to date correction slip.</p>

6.1	<p>If the tenderer(s) deliberately gives / give wrong information in his / their tender or creates / create circumstances for the acceptance of his / their tender, the Railway reserves the right to reject such tender at any stage.</p> <p>As per Clause No. 8 of Tender Form (second sheet) Annex. I of Part-I of GCC2022, with up to date correction slip.</p>
6.2	<p>If any partner(s) of a partnership firm expires after the submission of its tender or after the acceptance of its tender, the Railway shall deem such tender as cancelled/contract as terminated under clause 61 of the Standard General Conditions of Contract, unless the firm retains its character as per partnership agreement. If a sole proprietor expires after the submission of tender or after the acceptance of tender, the Railway shall deem such tender as cancelled / contract as terminated under clause 61 of the Standard General Conditions of Contract.</p> <p>As per Clause No. 9 of Tender Form (second sheet) Annex. I of Part-I of GCC -2022, with up to date correction slip.</p>
7.0	SYSTEM OF TENDERING
	<p>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.</p>
7.1	<p>7B- Pre Bid Conference: Intenders having advertised value more than Rs 50 Crores mentioned in the tender document; Railway may conduct Pre Bid Conference(s) with the prospective bidders, notifying the date and details in the NIT itself.</p> <p>(Note*: - The concerned field unit shall specify date & venue of Pre-Bid Conference in the NIT header if applicable)</p>
7.2	Tenderer should submit the offer with due diligence after going through the tender documents.
7.3	7C-Make in India Policy: Provisions of Make in India Policy2017 issued by Govt. of India, as amended from timeto time, shall be followed for consideration of tenders.
7.3.1	7D-Permission to Bid for a bidder from a country which shares Land boundary with India: Any bidder from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this Para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.
7.3.2	<p>7E- 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.</p> <p>However, if a Bidder does not provide clarificationof its bid by the date and time communicated in the Railway request for clarification, the bid shall be evaluated as per the documents submitted</p>

	<p>alongwith the bid.</p> <p>As per Clause No.7A,7B,7C,7D&7E of Part-I of GCC 2022, with up to date correction slip.</p>
8.0	<p>Execution of Contract Document: 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 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. The Contract Agreement shall be entered into by Railway only after submission of valid Performance Guarantee by the Contractor. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender. 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 Securityand other dues payable to the Contractor under this contract. The failed Contractor shall be debarred from participating in the re-tender for that work.</p> <p>As per clause No. 8 of Part-I of GCC-2022, with up to date correction slip.</p>
9.0	<p>Documents to be Submitted Along with Tender</p> <p>(i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm)or on behalf of a Partnership Firm / HUF/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, authorized signatory and copy of PAN Card along with their tender as per proforma given in Annexure-I (Mandatory). Tendershall be submitted and 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.</p> <p>(ii) The various documents to be submitted by the tenderer are as per clause 14 (ii) of the GCC 2022, the tenderer shall ensure submission of mandatory document as listed in para 16 below along with the offer.</p> <p>(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.</p> <p>(iv) After closing 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 not submitted. Further, no suomoto 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.</p> <p>(v) A tender from JV . shall be considered only where permissible as per the tender conditions.</p> <p>(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.</p> <p>As per Clause No. 14 of Tender Form (second sheet) Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>

10.0	<p>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 favor 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.</p> <p>A separate power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favor 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.</p> <p>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.</p> <p>As per Clause No. 15 of Tender Form (second sheet) Annex. I of Part-I of GCC-2022 , with up to date correction slip</p>
11.0	Employment/Partnership etc. of Retired Railway Employees:
(a)	<p>Should a tenderer</p> <p>(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</p> <p>(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</p> <p>(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.</p>

(b)	<p>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.</p>
(c)	<p>Should a tenderer or Contractor being an individual on the list of approved Contractors, have a relative(s) or in the case of proprietorship firm/ partnership firm/ company / joint venture (JV) / registered society / registered trust/ LLP/ HUF 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 one or more of his shareholder(s) or a relative(s) of the shareholder(s) employed in gazetted capacity in the Engineering or any other department of the Railway, the authority inviting tenders shall be informed of the fact at the time of submission of tender, failing which the tender may be disqualified/rejected or if such fact subsequently comes to light, the contract may be rescinded in accordance with provision in clause 62 of standard general conditions of contract.</p> <p>Note: - If information as required as per 11 (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. As per Clause No. 16, of Tender Form (second sheet) Annex- I of GCC-2022, with up to date correction slip.</p>
12.0	<p>Omissions & Discrepancies: Should a tenderer find discrepancies in or omissions from the drawings or any of the Tender Forms or should he be in doubt as to their meaning, he should at once notify the authority inviting tenders. The tender inviting authority may, if deemed necessary, clarify the same to all tenderers. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of tender and 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.</p> <p>As per Clause No. 4 of Part-I of GCC-2022, with up to date correction slip.</p>
13.1(A)	<p>Care in Submission of Tenders:</p> <p>(a)(i) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all-inclusive in accordance with the provisions of Clause-37 of the General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer. (As per Clause No. 6 (a)(i) of G.C.C. 2022, Part-I with up to date correction slip).</p> <p>(a)(ii) Tenderers will examine the various provisions of the Central Goods and Services Tax Act, 2017 (CGST)/Integrated Goods and Services Tax Act, 2017 (IGST)/ Union Territory Goods and Services Tax Act, 2017 (UTGST)/ respective State's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt. & as amended from time to time and applicable taxes before bidding. Tenderer(s) will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates. (As per Clause No. 6 (a) (ii) of G.C.C.2022, Part-I with up to date correction slip).</p> <p>(a)(iii) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor.</p>

	<p>The contractor shall be responsible for deposition of applicable GST to the concerned authority. (As per Clause No. 6 (a) (iii) of G.C.C. 2022, Part-I with up to date correction slip)</p> <p>(a)(iv) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.</p> <p>(a)(v) Contractor shall be liable to pay/refund the amount collected as GST to the Indian Railways along with interest and penalties, if any imposed by the authorities. In case GST input tax credit of Indian Railways is denied/rejected by the tax authorities due to reasons mentioned below but not limited to:</p> <p>Wrong/incorrect invoices issued Contractor; No-filing of GST returns, Non-payment of GST collected from Indian Railways to the authorities; Any other non-compliance done by Contractor;</p> <p>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.</p> <p>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.</p> <p>As per advance correction slip No.6, Dt. 21.12.2023, clause 6(a) (v) of GCC-2022</p>
13.1(B)	<p>When work is tendered for by a firm or company, the tender shall be digitally signed & submitted by the individual legally authorized to enter into commitments on their behalf.</p> <p>or</p> <p>when all documents are uploaded on IREPS by using registered DSC on IREPS portal for firm or company, which is different from the legally authorized individual to enter into commitments on their behalf, then all uploaded documents should be signed by legally authorized individual to enter into commitments on their behalf.</p> <p>Failing above, tender shall be summarily rejected.</p>

13.1(C))	In E-tender, all submissions of documents are to be uploaded on web-site. Tenderers/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non submission of offer due to any reason whatsoever.
13.1(D))	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 agreement. 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. As per Clause No. 6 (c) of Part-I of GCC-2022, with up to date correction slip.
13.2	The tenderers shall submit a copy of certificate stating that all their statements/documents submitted alongwith bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as Annexure-II. Annexure-II shall be mandatorily submitted, when all document are uploaded on IREPS by using registered DSC on IREPS portal for firm or company, which is different from the legally authorized individual to enter into commitments on their behalf. In addition to Annexure-II, in case of other than Company/Proprietary firm, Annexure II(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 certificates (as applicable) 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. (ACS No.2) As per Clause No. 6.1 of Part-I of GCC-2022, with up to date correction slip.
14.0	RIGHT OF RAILWAY TO DEAL WITH TENDERS
14.1	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. As per Clause No. 7 of Part-I of GCC-2022, with up to date correction slip.
14.2	The tenderer/s are required to quote his/their rates as % (percentage) Above/Below /At Par in figures on IREPS while submitting his/their offer.
15.0	ELIGIBILITY CRITERIA:- Only such tenderer(s) who satisfy the following eligibility criteria shall be considered:- The Contractor should have valid Electrical Contractor License issue by Govt. and submit along with tender document if valid Electrical Contractor License is not submitted along with tender documents then offer will be summarily rejected

15.1

Technical Eligibility Criteria :-

Following works will be treated as similar nature of work: -

Similar nature of work: - "Any Electrical work related to HT/LT installations."

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

(i) Three similar works, each costing not less than the amount equal to 30% of advertised value of the tender,

OR

(ii) Two similar works, each costing not less than the amount equal to 40% of advertised value of the tender,

OR

(iii) One similar work, costing not less than the amount equal to 60% of advertised value of the tender.

(b) (1) 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 Categories of work(s) during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

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

OR

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

OR

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

Note for (b) (1): Separate completed works of minimum required values shall also be considered for fulfillment of technical eligibility criteria for different components.

(b) (2) What constitutes a component in a composite work is defined in para 15.5 (1).

(b) (3) 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 Contract 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 notarized, 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 fulfillment 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.

Note for item 15.1: - Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organization, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.

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

As per Clause No. 10.1 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.

15.1.1 Technical Eligibility Criteria for JV ('a' or 'b' mentioned hereunder):

(a) For Works without composite components.

The technical eligibility for the work as per para 15.1 above, 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 15.1 above, 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 15.1 above, 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 15.1 above, 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 15.1 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)

	<p>member of JV 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.</p> <p>Note for Clause 15.1.1:</p> <p>(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.</p> <p>(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.</p> <p>As per Clause No. 17.15.1 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>
15.2	<p>Financial Eligibility Criteria: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where</p> <p>V= Advertised value of the tender in crores of Rupees</p> <p>N= Number of years prescribed for completion of work for which bids have been invited.</p> <p>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.</p> <p>The tenderers shall submit requisite information as per Annexure-VIII, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant (bearing UDIN number for online verification) duly supported by Audited Balance Sheet. Supporting audited balance sheet of all relevant years shall be uploaded mandatorily with the bid otherwise turnover of the particular year will not be considered.</p> <p>As per Clause No. 10.2 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>
15.2.1	<p>Financial Eligibility Criteria for JV- The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 15. 2 above.</p> <p>The "financial capacity" of the lead partner of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 15.2 above. The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "Financial capacity" to satisfy this requirement.</p> <p>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</p> <p>As per Clause No. 17.15.2 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>
15.3	<p>Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as Annexure-D.</p> <p>Tenderer shall furnish bid capacity as per Annexure-D along with Annexure-V and annexure-XIX both duly certified by Chartered Accountant.</p> <p>As per Clause No. 10.3 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>

15.3.1	<p>Bid Capacity for JV-The JV shall satisfy the requirement of “Bid Capacity” mentioned at Para 15.3 above. The arithmetic sum of individual “Bid capacity” of all the members shall be taken as JV’s “Bid capacity” to satisfy this requirement.</p> <p>As per Clause No. 17.15.3 of Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date corrections slip.</p>
15.4	<p>No technical and Financial credentials are required for tenders having advertised value up to Rs. 50 Lakhs.</p> <p>As per Clause No. 10.4 of Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date corrections slip.</p>
15.5	<p>1. The NIT cost of the tender is as per Advertised value in NIT Header for the Technical Eligibility Criteria.</p> <p>The similar nature of work defined is</p> <p style="text-align: center;">OR</p> <p>Components and the similar nature of work defined as below</p> <p>1.for Cost/schedule</p> <p>2.for Cost/schedule</p> <p>3.for Cost/schedule</p> <p>Note- To evaluate the technical eligibility of tenderer, only components of work as stipulated in tender documents for evaluation of technical eligibility as laid down in clause 15.1 above, shall be considered.</p>
	<p>2. Remaining Components-</p> <p>(i) ‘To be submitted along with the offer’- Following remaining Components are being defined as special condition/ requirement to this tender with respective similar nature of work as below, for which the tenderer shall submit a formal agreement duly notarized, legally enforceable in the court of law, executed by tenderer with the subcontractor for the laid down Remaining component(s) of work proposed to be executed by the subcontractor(s), for considering subletting of that scope of work of the remaining Components along with the offer, failing which offer shall be summarily rejected.</p> <p>The tenderer shall also submit the documents in favor of the financial condition as laid down in clause 7 part II of GCC for the Remaining Components along with the offer, failing which offer shall be summarily rejected.</p> <p>1.forCost/schedule</p> <p>2.forCost/schedule</p> <p>3.forCost/schedule</p> <p>(ii) ‘To be ensured before execution’- The scope of work covered in the below defined remaining Components shall be either executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor), provided the tenderer himself/ the subcontractor fulfills the laid down eligibility Criteria for the remaining components (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor), with prior approval of Chief Engineer in writing.</p> <p>1.for Cost/schedule</p> <p>2.for Cost/schedule</p> <p>3. forCost/schedule</p> <p>(iii) Eligibility Criteria for the Remaining Components - At least one successfully completed similar</p>

nature work (as defined above), costing not less than 35% value of work of the remaining Components, in last 5 years ending last day of month previous to the one in which tender is invited through a works contract directly given to him by a Govt. Department; or by a 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, registered at least 5 years back from the date of submission of proposal by contractor to Railway and work experience certificate issued by a person authorized by the Public Listed Company to issue such certificates.

In case, 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. The details shall be furnished as per Performa in the annexure III, IIIA, IV A, IV-B, IV-C for five years (as applicable) along with the tender.

Note for clause 15.5 above *- The concerned field unit shall clearly specify the similar nature of work for the NIT and the Remaining components in the blank space (if applicable) (clearly write Not Applicable if not applicable) for the particular tender, at the time of processing the NIT.

As per Clause No. 10.1(b) (3) of Tender Form (second Sheet) of Annex. I of Part-I and clause 7 of part II of GCC-2022, with up to date correction slip.

15.6	<p>A - The criteria for completed works shall be as under:-</p> <p>(i) Entire work has to be completed in all respects as per contract agreement. Part completed work shall not be considered. (Except substantially completed works)</p> <p>(ii) Completion certificate from following organizations shall only be considered: -</p> <p>(a) The work(s) should have been directly awarded to the tenderer by Govt. Organization/ Semi Govt. Organization/ Public Sector Undertaking / Autonomous bodies/ Municipal Bodies/Public listed company having average annual turnover of Rs. 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender.</p> <p>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.</p> <p>(b) Completion certificate should be as per proforma given in Annexure- IVA or IV-B or IVC, as applicable or in the format containing all information required as per the Annexure- IV-A or IV-B or IV-C.</p> <p>(c) Work experience certificate issued by Public listed company shall 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.</p> <p>(iii) Details of works physically completed should be submitted in the proforma as per 'Annexure-III'.</p> <p>(iv) The total value of similar nature of work completed during the qualifying period and not the payments received within the qualifying period alone, should be considered.</p>
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	<p>In case, the final bill of similar nature of work has not been passed and final measurements have not been recorded, the paid amount including statutory deduction is to be considered. If final measurements have been recorded and work has been completed with negative variation, then also the paid amount including statutory deduction is to be considered.</p> <p>However, if final measurements have been recorded and work has been completed with positive variation but variation has not been sanctioned, original agreement value or last sanctioned agreement value whichever is lower should be considered for judging eligibility.</p> <p>(v) The amount given at Sr. No. 11 in proforma vide Annexure-IV-A, IV-C 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.</p> <p>(vi) The amount mentioned at Sr. No. 12 in 'Annexure-IV-A, IV-C' 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.</p> <p>(vii) Certificate from private individuals for whom such works are executed shall not be considered for eligibility.</p> <p>(viii) Conditional tenders are liable to be rejected straight away. Railway reserves the right to reject such tenders summarily without assigning any reasons whatsoever.</p> <p>As per Clause No. 10.1 of Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>
15.7	<p>Credentials if submitted in foreign currency shall be converted into Indian currency i.e. Indian Rupee as under:</p> <p>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.</p> <p>As per Clause No. 10.5 of Tender Form (second Sheet) of Annex. I of Part-I of GCC 2022, with up to date correction slip.</p>
15.8	<p>Explanation for clause 15 (clause 15.1 to 15.6) - Eligibility Criteria:</p> <ol style="list-style-type: none"> 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 as per Annexure IV-B. 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 for Item 10.1 Para 10 of the Tender Form (Second Sheet) of GCC, 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 proprietary 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 7 or 8 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 proprietary 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

	<p>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.</p> <p>13. In a partnership firm “AB” of A&B partners, in case A also works as proprietary firm “P” or partner in some other partnership firm “AX”, credentials of A in proprietary 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.</p> <p>14. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.</p> <p>15. In case company A is merged with company B, then company B would get the credentials of company also.</p> <p>As per Clause as explanation to clause 10 of Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date correction slip.</p>
16.0	The list of documents to be uploaded by the tenderer(s) for this tender.
16.1	Following documents are common for all types of firm i.e. Sole proprietorship, Partnership, Limited Liability Partnership Firm, Registered Society/ Trust, Limited Company or JV, HUF.
(a)	<p>Firm details as per proforma & Notes given in Annexure-I (Mandatory).</p> <p>As per Clause No. 14 (i) of Tender Form of Part-I of GCC-2022, with up to date correction slip</p>
(b)	<p>Certificate as per proforma given in Annexure-II & IIA. Annexure-II shall be mandatorily submitted, when all document are uploaded on IREPS by using registered DSC on IREPS portal, which is different from the legally authorized individual to enter into commitments on their behalf. Annexure II-A is mandatory for other than company/proprietary firm.</p> <p>As per Clause No. 6.1 & Para-11(iv) of Tender Form of Part-I of GCC-2022, with up to date correction slip. “In addition to Annexure-II, in case of other than company/proprietary firm, Annexure-II(A) shall also be submitted by each member of a partnership firm/Joint venture (JV)/Hindu undivided family (HUF)/Limited liability partnership (LLP) etc., as the case may be.”</p>
(c)	<p>List of similar nature of works physically completed in all respects during last 7 years, ending last day of month previous to one in which tender is invited, shall be submitted as per Performa given in Annexure-III / Annexure IIIA (in case of composite works).</p> <p>Above works should be directly awarded by Govt./Semi Govt./Public sector undertaking / Autonomous bodies /Municipal bodies/ Railways Siding owners (ii) Public listed company having average annual turnover of Rs. 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the Closing of tender.</p>
(i)	Details of work of similar nature successfully completed during last seven years, ending last day of month previous to the one in which tender is invited as per Performa given in Annexure III.
(ii)	<p>In case the completed or substantially completed work is having composite nature of work having distinct components (bifurcated with defined Components in the tender schedule) and having separate schedule for each component, as per Performa given in Annexure-III-A, (Mandatory in case of tender for composite nature of work).</p> <p>As per Clause No. 10.1(b) 1 and 2 Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date correction slip.</p>
(d)	<p>Attested copy of Completion Certificate of works mentioned in Para (c) above from the Organizations with whom they worked as per proforma given in Annexure-IV-A or IV-B or IV-C as applicable (Mandatory).</p> <p>As per Clause No. 11(i) Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to</p>

	date correction slip.
(e)	<p>In case, the Remaining Component(s) has/have been defined as special condition/ requirement to this tender in 2 (i) of clause 15.5 above, with special condition (i) 'to be submitted along with the Offer' tenderer shall submit -</p> <p>(i) Details of works of similar nature (defined for the Remaining Component), successfully completed executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, ending last day of month previous to the one in which tender invited as per Performa in Annexure III, IIIA (for five years) (bifurcated as per components of tenderschedule).</p> <p>(ii) Attested copy of Completion Certificate of works mentioned in Para (c) above from the Organizations with whom they worked as per performa given in Annexure-IV-A or IV-B or IV-C as applicable.</p> <p>(iii) Tenderer shall submit a formal agreement duly notarized, legally enforceable in the court of law, executed by tenderer 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 as per performa given in Annexure-XXXI.</p> <p>Mandatory in case of remaining components are defined in the tender with special condition 'for submission along with the Offer'.</p> <p>As per Clause No. 10.1(b)(iii) Tender Form (second Sheet) of Annex. I of Part-I and clause 7 (a) (ii) of part B of GCC-2022, with up to date correction slip.</p>
	<p>Note A - In case, completion certificate is issued by public listed company (Annex.IV-C). Following documents regarding the Public listed company are required to be submitted along with the certificate (Mandatory)</p> <p>(i) Details of Average Annual turnover of the public listed company in last three financial years excluding current financial year (should be 500 Cr and above) issued by Chartered Accountant. These details need to be submitted as per the proforma of Annexure-VIII.</p> <p>(ii) The copy of the documents regarding listing in the National stock exchange or Bombay stock exchange with details of status of listing as on closing of tender, duly self-attested.</p> <p>(iii) The copy of document of incorporation/ registration of the Public listed company (should be at least 5 years prior to date of Closing), duly self-attested.</p> <p>(iv) The copy of document regarding Person Authorized by the Public listed Company to issue such certificate, duly self-attested.</p> <p>(v) Tenderer shall also submit 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 the public listed company in support of above work experience certificate duly self-attested.</p> <p>Note-B: In addition to above, in case, completion certificate is issued for work executed as subcontractor, following documents are required to be submitted by the bidder along with the certificate (Mandatory)</p> <p>(i) Copy of agreement executed by sub-contractor with main contractor and approval of the authority (for the subcontract) who awarded the work to the main contractor.</p> <p>(ii) 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 in support of the work experience certificate duly self-attested.</p>

(f)	<p>List of works on hand, existing commitments and balance amount of ongoing works as per format given in ‘Annexure-V duly verified by Chartered Accountant to evaluate bid capacity of the tenderer. (Mandatory for tender value more than Rs. 10 crores)</p> <p>As per Clause No.10.3 Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date correction slip.</p>
(g)	<p>A statement showing 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 work in progress as per Annexure-XIXduly verified by Chartered Accountantto evaluate bid capacity of the tenderer (Mandatory for tender value more than Rs. 10 Crores)</p> <p>As per Clause No.10.3 Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correctionslip.</p>
(h)	<p>List of plants & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for the subject work in Annexure–VI.</p> <p>As per Clause No.11(iii)Tender Form (Second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correctionslip.</p>
(i)	<p>List of Personnel, Organization available on hand and proposed to be engaged for the subject work in Annexure–VII.</p> <p>As per Clause No.11(iii) Tender Form (second Sheet) of Annex. I of Part-I of GCC-2022, with up to date correctionslip.</p>
(j)	<p>Bid securityshould be in proper form. Bid securityshould be submitted by the tenderer only through net banking or payment GATEWAY/ or in form of BG as per Annexure –XXXII in favour of FA&CAO/Construction, North Western Railway, Jaipur (Mandatory)</p> <p>As per Clause No. 5 (1) (a) and 5 (2) of Part-I of GCC-2022, with up to date correction slip.</p>
(k)	<p>Contractual turnover as per Annexure.VIII (Mandatory)duly certified by Chartered Accountant.</p> <p>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.Supporting audited balance sheet of all relevant years shall be uploaded mandatorily with the bid otherwise turnover of the particular year will not be considered.</p> <p>As per Clause No.10.2 and 11(ii) Tender Form (second Sheet) of Annex.I of Part-I of GCC-2022, with up to date correctionslip.</p>
(l)	<p>Self-attested copy of Permanent Account Number (PAN) issued by Income Tax Department.</p> <p>As per Clause No.14(i) Tender Form (second Sheet) of Annex.IofPart-I of GCC-2022, with up to date correctionslip.</p>
(m)	<p>The tenderers are required to submit the test report of the stone ballast conforming to railways specifications as given in the Para 7.0 of Important Codal Provision of Tender Document. (Applicable only for the tenders of supply of ballast). The test report is required/ not required for this tender. (Mandatory if marked as required)*.</p> <p>Note*- the concerned field unit shall clearly specify whether the ballast test report is required or not for the particular tender, at the time of processing the NIT.</p>
(n)	<p>The tenderers are required to submit the information and particulars regarding retired Railway Engineer(s)/Officer(s) of the Gazetted rank and regarding Relative(s) employed in Gazetted capacity on North Western Railway as per proforma given in Annexure XXII (Mandatory).</p> <p>As per Clause No. 16, Tender Form (second Sheet) of Annex-I of Part-I of GCC-2022, with up to date correctionslip)</p>
16.2	<p>In addition to Para 16.1 above certain more documents are to be submitted by tenderers as per status of their firms and are mandatory. These documents are listed below</p>

(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, JV as the case may be.
(ii)	Following documents shall be submitted by the tenderer:
(a)	<p>For Sole Proprietorship firm</p> <p>a) Affidavit as per Proforma given of Annexure–IX (duly executed on stamp paper and notarized).</p> <p>b) Power of Attorney to be submitted by sole proprietor firm as per proforma given in Annexure-XIV(duly registered with the Registrar or notarized). (Not required if tender documents are submitted by proprietor himself as per (a)above).</p> <p>As per Clause No. 14 (ii) (a), 15 Annex. I of Part-I of GCC-2022, with upto date correction slip.</p>
(b)	<p>For HUF (Hindu Undivided Family)</p> <p>(a) Affidavit as per proforma given of Annexure –XXVI (duly executed on stamp paper and notarized).</p> <p>(b) Power of Attorney to be submitted by the HUF as per proforma given in Annexure-XXVII(duly registered with the Registrar or notarized). (Not required if tender documents are submitted by Karta of the HUF, himself as per (a)above).</p> <p>As per Clause No. 14 (ii) (b) & 15 Annex. I Part-I of GCC-2022, with upto date correction slip.</p> <p>(c) Certificate as per proforma of Annexure-IIA by each member of HUF.</p> <p>(d) Certificate by HUF as per proforma given in Annexure-XXVI.</p>
(c)	<p>For Partnership firm</p> <p>(a) A copy of Partnership Deed (Notarized or duly registered with the Registrar prior to submission of tender as per the Indian Partnership Act).</p> <p>(b) Special/General Power of attorney to be submitted by Partnership firm in favour of the individual to sign the tender on behalf of the firm and create liability against the firm as per proforma given in Annexure-XIII/ General Power of Attorney(duly registered with the Registrar or notarized).</p> <p>(c) Certificate by each partner of the partnership firm as per proforma given in Annexure-IIA.</p> <p>(d) Declaration by the newly formed partnership firm as per proforma given in Annexure-XXVIII(mandatory if tenderer is newly formed partnership firm). Details regarding (i) one or more partner(s) of the newly formed partnership firm came from previous proprietary firm(s) or dissolved previous partnership firm(s) or LLP firm or split previous partnership firm(s) or LLP firm.</p> <p>(e) Declaration by the existing partnership firm as per proforma given in Annexure-XXIX (mandatory if tenderer is an existing partnership firm).Details regarding (a)joining of new partner(s) in the partnership firm, (b) quitting of partner(s) from the partnership firm. Details required for last seven years or since formation if firm is formed within 7 years.</p> <p>As per Clause No. 14(ii)(c), 15, 18 & explanation to Clause 10.1 to 10.5 of Annex. I Part- I of GCC-2022, with up to date correction slip).</p>
(d)	<p>For Company registered under Companies Act 2013</p> <p>(a) Copy of Memorandum of association/ Articles of Association of Company.</p> <p>(b) Copy of Certificate of Incorporation</p> <p>(c) Copy of resolution passed by Board of Directors authorizing its Director/Employee to deal with</p>

	<p>tender on behalf of company.</p> <p>(d) Power of Attorney/ Authorization issued by the Company (backed by the resolution of Board of Directors) in favor of the individual to sign the tender on behalf of the company and create liability against the Company, as per proforma given in Annexure-XV (duly registered with the Registrar or notarized).</p> <p>(e) Declaration regarding constitution of the Company, for merging of another company, details required for the entire period for last seven years as per proforma given in Annexure-XXX. (Mandatory if company is merged).</p> <p>As per Clause No. 14 (ii)(e), 15 & explanation to Clause 10.1 to 10.5 of Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
(e)	<p>For LLP Firm Registered under LLP Act 2008</p> <p>(i) A copy of LLP Agreement.</p> <p>(ii) A copy of certificate of Incorporation and</p> <p>(iii) A copy of Power of Attorney/ Authorization issued by LLP firm in favor of the individual to sign the tender on behalf of the LLP firm and create liabilities against the LLP as per proforma given in Annexure-XX (duly registered with the Registrar or notarized).</p> <p>(iv) Declaration by the newly formed LLP firm as per proforma given in Annexure-XXVIII. (Mandatory if tenderer is newly formed firm).</p> <p>(v) Declaration by the existing formed LLP firm as per proforma given in Annexure XXIX. (Mandatory if tenderer is existing formed firm).</p> <p>(vi) Certificate by each partner of the LLP as per proforma given in Annexure-IIA.</p> <p>(vii) All other documents in terms of Clause No. 14(f), 15 & explanation to Clause 10.1 to 10.5 of Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
(f)	<p>For Registered Society & Registered Trust</p> <p>(a) A copy of the certificate of registration.</p> <p>(b) A copy of Memorandum of Association of Society/Trust Deed.</p> <p>(c) A copy of Power of Attorney in favor of the individual to sign the tender documents and create liabilities against the Society/ Trust as per proforma given in Annexure-XXI (duly registered with the Registrar or notarized).</p> <p>(d) A copy of Rules & Regulations of the Society.</p> <p>As per Clause No. 14(g), 15 Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
(iii)	<p>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.</p> <p>As per Clause No. 14(iii), Part-I of GCC-2022, with up to date correction slip.</p>
(iv)	<p>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.</p> <p>As per Clause No. 14(iv), Part-I of GCC-2022, with up to date correction slip.</p>
(v)	<p>A tender from JV shall be considered only where permissible as per the tender conditions.</p> <p>As per Clause No. 14(v), Part-I of GCC-2022, with up to date correction slip.</p>
(vi)	<p>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.</p> <p>As per Clause No. 14(vi), Part-I of GCC-2022, with up to date correction slip.</p>

16.2.1	<p>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.</p> <p>A separate power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favor 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.</p> <p>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 Appostille certificate.</p>
16.2.1(a)	<p>For JV firm</p> <p>Following documents are mandatorily to be submitted by constituents of the JV firm depending upon their status as per clause no. 14(d), 17.0 Annex.I Part-I, GCC-2022, with up to date correction slip.</p> <p>a) Memorandum of Understanding of JV as per proforma given in Annex. X(duly executed on stamp paper and notarized).</p> <p>b) Special Power of attorney to be submitted by Joint Venture in favor of the individual to sign the tender on behalf of the JV and create liability against the JV (duly registered with the Registrar or notarized).</p> <p>c) Certificate by the each member of JV as per proforma given in Annexure-IIA.</p> <p>As per clause No. 17.6, 17.12 of Annex.I Part-I of GCC-2022, with up to date correction slip. As per Annexure-II A,</p>
16.2.2	<p>Documents mandatory for Sole Proprietorship firm participating as member of JV</p> <p>(a) Notarized Affidavit as per proforma given of Annexure –IX (duly executed on stamp paper and notarized).</p> <p>(b) Power of Attorney to be submitted by Sole Proprietor participating as member of JV firm as per proforma given in Annexure-XII (duly registered with the Registrar or notarized) (Not Required if MOU/JV agreement is signed by the sole Proprietor himself as per (a) above).</p> <p>(c) Certificate by Sole Proprietorship firm participating as member of JV as per proforma given in Annexure-IIA.</p> <p>As per Clause No.15 Annex.I of Part-I GCC-2022, with up to date correction slip.</p>
16.2.3	<p>Documents mandatory for HUF (Hindu Undivided Family) participating as member of JV</p> <p>(a) Notarized Affidavit as per proforma of Annexure-XXVI (duly executed on stamp paper and notarized).</p> <p>(b) Power of Attorney to be submitted by HUF participating as member of JV firm as per proforma given in Annexure-XII (duly registered with the Registrar or notarized) (Not required if MOU/JV agreement is signed by the Karta of HUF himself as per (a) above).</p> <p>(c) Certificate as per proforma of Annexure-IIA by each member of HUF.</p> <p>As per Clause No. 17.14.2, 15 Annex. I of Part-I GCC-2022, with up to date correction slip.</p>
16.2.4	<p>Documents mandatory for partnership firm participating as member of JV</p>

	<p>In case one or more of the members of the JV is/are partnership firm(s), following documents shall be submitted:</p> <ul style="list-style-type: none"> (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(Annexure-XI), (iii) A notarized or registered copy of Power of Attorney in favor of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm.(Annexure -XVIII) (iv) Certificate by each partner of the partnership firm as per proforma given in Annexure-IIA. (v) Declaration by the newly formed partnership firm as per proforma given in Annexure-XXVIII.(mandatory if member of JV is newly formed partnership firm) (vi) Declaration by the existing partnership firm as per proforma given in Annexure-XXIX. (mandatory if member of JV is an existing partnership firm) <p>As per Clause 17.14.1, 15 & 18.2 of Annex.I Part-I GCC-2022, with up to date correction slip.</p>
16.2.5	<p>Documents mandatory for Company participating as member of JV</p> <ul style="list-style-type: none"> (a) A Copy of Memorandum of Association/ Articles of Association of Company. (b) A Copy of certificate of Incorporation. (c) A Copy of resolutions passed by Board of Directors of the Company permitting the Company to enter into a JV agreement, to be submitted as per Annexure-XVII. (d) Special Power of Attorney/ Authorization issued by the Company (backed by the Resolution of Board of Directors) in favor of the individual to sign the tender, to sign the MOU/JV agreement on behalf of the company and create liability against the Company, as per proforma given in Annexure-XII (duly registered with the Registrar or notarized). (e) Declaration regarding constitution of the Company for merging of another company, details required for the entire period for last seven years as per proforma given in Annexure-XXX (Mandatory if company is merged). (f) Certificate by the company participating as member of JV as per proforma given in Annexure-IIA. <p>As per Clause No. 17.14.3, 15 of Annex.I Part-I GCC-2022, with up to date correction slip.</p>
16.2.5.1	<p>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 confirming Apostille certificate. (As per correction slip No.3 of GCC).</p>

16.2.6	<p>Documents mandatory for LLP Firm participating as member of JV</p> <p>(a) A copy of LLP agreement.</p> <p>(b) A copy of Certificate of incorporation</p> <p>(c) A copy of Resolution passed by the partners of LLP firm permitting the firm to enter into a JV agreement to be submitted as per proforma given in Annexure-XXIII.</p> <p>(d) Special Power of Attorney/ Authorization issued by LLP firm (backed by resolution of partners) in favor of the individual to sign the tender, sign the MOU/ JV agreement on behalf of the LLP firm and create liabilities against the LLP firm as per proforma given in Annexure-XXIV (duly registered with the Registrar or notarized).</p> <p>e) Certificate by each partner of the LLP as per proforma given in Annexure-IIA.</p> <p>(f) Declaration by the newly formed LLP firm as per proforma given in Annexure-XXVIII. (Mandatory if tenderer is newly formed partnership firm).</p> <p>(g) Declaration by the existing formed LLP firm as per proforma given in Annexure XXIX. (Mandatory if tenderer is existing formed partnership firm).</p>
16.2.7	<p>Documents mandatory for Society/ trust participating as member of JV</p> <p>In case one or more members of the JV is/are Society/s or Trust/s, the following documents shall be submitted:</p> <p>(i) A copy of Certificate of Registration</p> <p>(ii) A copy of Memorandum of Association of Society/Trust Deed (GCC April 2022)</p> <p>(iii) A copy of Rules & Regulations of the Society</p> <p>(iv) A copy of Power of Attorney, in favor of the individual to sign the tender documents and create liability against the Society/Trust.-(Annexure –XII)</p> <p>(v) Certificate by the Society / trust participating as member of JV as per proforma given in Annexure-IIA.</p>
16.2.8	<p>The tenderers shall submit a certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as Annexure-II as mentioned in clause No. 16.1(b). Non submission of a mandatory certificate by the bidder shall result in summarily rejection of his/their bid. And 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.</p> <p>As per Clause No. 11(iv) Annex-I part I of GCC-2022, with up to date correction slip.</p>

	<p>Note to Para 16</p> <ol style="list-style-type: none"> 1. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned. 2. The Railway reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the Railway, make available all such information, evidence and documents as may be necessary for such verification. 3. Any such verification or lack of such verification by the railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the railway there under. 3.1 In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Bid security besides banning of business for a period of up to two years. (as per correction slip no.3 of GCC) 3.2 In case of any information submitted by tenderer is found to be false forged or incorrect after the award of contract, the contract shall be terminated. Bid Security (if applicable as per para 5.1.2 above), Performance Guarantee and Security Deposit available with the railway shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of up to two years. As per Clause No. 11(v), 11(vi) (a)(b) Annexure 1 part I of GCC-2022, with up to date correction slip . <ol style="list-style-type: none"> 4.No post tender submission of documents shall be permitted in respect of tender. However, only clarification can be called for by Railway in respect of any part / document submitted by the tenderer which shall be responded to by the tenderer within 7 working days of the date of issue of such letter for clarifications, failing which the offer shall be dealt with as per available documents. 5. The documents mentioned ‘mandatory’ in clause No. 16 above are required to be uploaded by the contractor with tender document. If any of these documents is not uploaded along with the tender, the offer shall be summarily rejected. 6. Wherever the special power of attorney/ General power of attorney /MOU/deed /affidavit/letter of consent etc. is mentioned, the following text may be added “executed on the non-judicial stamp paper of appropriate value” 7. When all document are uploaded on IREPS by using registered DSC onIREPS portal for firm or company, which is different from the legally authorized individual to enter into commitments on their behalf, then all uploaded documents should be signed by legally authorized individual to enter into commitments on their behalf, failing which tender shall be summarily rejected.
17.0	<p>Participation of Partnership Firms in works tenders.</p> <p>The partnership firm shall be governed as per Clause No. 18.1 to 18.12 of Tender Form (second Sheet) Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
18.1	<p>Participation of Joint Venture (JV) in Works Tender:</p> <p>This Clause shall be applicable for works tenders wherein tender documents provide for the same. As per Clause No. 17 of Tender form second sheet Annex. I of Part-I of GCC-2022, with up to date correction slip.</p>
18.2	<p>JV firms will be permitted participation in tender costing rupees more than Rs. 10 crores.</p>
18.3	<p>Separate identity/name shall be given to the Joint Venture Firm :</p> <p>As per Clause No. 17.1 of Tender form second sheet Annex.I of Part-I of GCC-2022, with up to date correction slip.</p>

18.4	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 up to 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%. As per Clause No. 17.2 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip
18.5	A member of JV firm shall not be permitted to participate either in individual capacity or as a member of another JV Firm in the same tender. As per Clause No. 17.3 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip
18.5.A	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 person through Power of Attorney to submit tender. As per Clause No. 17.4, of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.
18.6	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. As per Clause No. 17.5 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.
18.7	A copy of Memorandum of Understanding (MOU) duly executed by the JV members on stamp paper shall be submitted by the JV Firm alongwith the tender. The complete details of the members of the JV Firm, their share and responsibility in the JV Firm etc. particularly with reference to financial, technical and other obligations shall be furnished in the MOU. (The MOU format for this purpose is enclosed as Annexure-X in this document.) As per Clause No. 17.6 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip.
18.8	Once the tender is submitted, the MOU shall not 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 (if applicable as per para 5.1.2 above), is liable to be forfeited. As per Clause No. 17.7 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip
18.9	Approval for change of constitution of JV firm shall be at the sole discretion of the Employer (Railways). The constitution of the JV firm shall not normally be allowed to be modified after submission of the tender bid by the JV firm except when modification becomes inevitable due to succession laws etc. provided further there is no change in qualification of minimum eligibility by JV after change of composition. However, the Lead Member shall continue to be the Lead Member of the JV firm. Failure to observe this requirement would render the offer invalid As per Clause No. 17.8 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip.
18.10	Similarly, after the contract is awarded, the constitution of JV firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this

	<p>stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.</p> <p>As per Clause No. 17.9 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip</p>
18.11	<p>On award of contract to a JV firm a single Performance Guarantee shall be submitted by the JV firm 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 firm and no splitting of guarantees amongst the members of the JV firm shall be permitted.</p> <p>As per Clause No. 17.10 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip</p>
18.11.1	<p>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:</p> <p>As per Clause No. 17.11 of Tender form second sheet Annex.I Part-I of GCC-2022, with up to date correction slip.</p>
18.11.2	<p>Joint and Several Liability – Members of the entity to which the contract is awarded, shall be jointly and severally liable to the Employer (Railways) 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. As per Clause No. 17.11.1 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
18.11.3	<p>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. As per Clause No. 17.11.2 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip)</p>
18.12	<p>Governing Laws – The Registered Entity shall in all respect be governed by and interpreted in accordance with Indian Laws. As per Clause No. 17.11.3 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
18.13	<p>Authorized Member – Joint Venture members in the JV MOU shall authorize Lead member on behalf of the Joint Venture Firm 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.</p> <p>As per Clause No. 17.12 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
18.14	<p>No member of the Joint Venture Firm 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 employer (Railways) in respect of the said tender/contract. As per Clause No. 17.13 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.</p>
18.15	<p>Credentials & Qualifying Criteria - Technical and financial eligibility of the JV firm shall be adjudged based on satisfactory fulfillment of the criteria as laid down in clause 18.1 above: As per Clause No. 17.15 of Tender form second sheet Annex. I Part-I of GCC-2022, with up to date correction slip.</p>

19.0	<p>The tenderer shall submit the original copies of the documents as per Annexure-II, Annexure IIA, IX, X, XI, XII, XIII, XIV, XV, XVII, XVIII, XX, XXI, XXIII, XXIV, XXVI, XXVII, XXVIII, XXIX, XXX and as applicable for Sole Proprietor/Partnership firm/LLP/Registered Society & Trust /Limited Company/JV/HUF Firms as and when required by the Railway for the verification. If the required documents are not submitted by the tenderer or any discrepancy between the scanned uploaded documents and original documents then the offer of the tenderer will be summary rejected and the action will be taken as per the various provisions of Certificate to be submitted by the tenderer as per Annexure-II and Annexure-II A.</p>
19.1	<p>In Contracts for works of New Line/Gauge Conversion/Doubling/Railway Electrification, finalized through Tenders having advertised value more than Rs.100crores, the Contractor shall submit a detailed time programme to the Engineer within 30 days after issue of LOA. The program shall include the physical and Financial Progress vis-à-vis program and forecast cash flow adopting Project Management Software such as Primavera/Sure Track/MS Project etc. The program must identify the milestones, interface requirements and program reporting elements. The Contractor shall supply, free of cost one set of authorized software to the Engineer and the soft copy of structured program for the project. This shall be updated every month. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress. Each programme shall include:</p> <p>The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage, Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, each of these stages for work by each Subcontractor, if any, the sequence and timing of inspections and tests specified in the Contract, and a supporting report which includes: a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and details showing the Contractor's reasonable estimate for the number of each class of Contractor's Personnel & Equipment, required on the Site for each major stage.</p> <p>Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Engineer shall be entitled to rely upon the programme when planning their activities.</p> <p>If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer within 15 days in accordance with this Sub-Clause.</p> <p>(As per clause No. 19.3 of GCC 2022 with upto date Correction slips)</p>
20.0	<p><u>Security Deposit:</u></p>
20.1	<p>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.</p> <p>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</p>

	<p>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.</p> <p>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.</p> <p>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.</p>
20.2	<p><u>Refund of Security Deposit:</u> Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after the following:</p> <p>(a) <u>Final Payment of the Contract as per clause 51. (1) and</u></p> <p>(b) <u>Execution of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor and</u></p> <p>(c) <u>Maintenance Certificate issued, on expiry of the maintenance period as per clause 50 (1), in case applicable.</u></p> <p>As per Clause No. 51. (1) and 16.2(i) Part-II of GCC-2022, with up-to-date correction slip.</p>
20.3	<p>Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of these conditions, the Security Deposit already with railways under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of these conditions, the Security Deposit shall not be forfeited. As per Clause No. 16.2(ii) Part-II of GCC-2022, with up to date correction slip</p>
21.0	<p>No interest shall be payable upon the Bid Security and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited in terms of Sub Clause 16.(4)(b) of GCC2022 with up to date correction slip will be payable with interest accrued thereon. As per Clause No. 16.3, Part-II of GCC-2022, with up to date correction slip.</p>
22.0	<p><u>Performance Guarantee : –</u></p> <p>The procedure for obtaining Performance Guarantee is outlined below:</p>
	<p>(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 up to 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.</p> <p>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 (if applicable as per para 5.1.2 above), 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</p>

	<p>Industry, DIPP shall be informed to this effect.</p> <p>The failed Contractor shall be debarred from participating in re-tender for that work.</p>
	<p>(b) The successful bidder shall submit the Performance Guarantee (PG) amounting to 5% of the original contract value and additional Performance as per clause 22(h) in any of the following forms -</p> <ul style="list-style-type: none"> (i) A deposit of Cash; (ii) Irrevocable Bank Guarantee; (iii) Insurance surety bond as per Annexure-XVII of GCC/XXXIII of SCC. <p>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.</p> <ul style="list-style-type: none"> (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 Defense Certificates; (x) Ten years Defense Deposits; (xi) National Defense Bonds and (xii) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favor of FA & CAO/C/NWR/Jaipur (free from any encumbrance) may be accepted.
	<p>(c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.</p>
	<p>(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.</p>
	<p>(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.</p>
	<p>(f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed.</p>
	<p>(g) The Engineer shall not make 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 agreement) in the event of:</p> <ul style="list-style-type: none"> (i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee. (ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer. (iii) The Contract being determined or rescinded under clause 62 of these conditions. <p>As per Clause No.16.(4), Part-II of GCC-2022, with up to date correction slip. (Authority: Rly Bd's L.No.2022/CE-I/CT/GCC-2022/Policy/Part-I dated 09.01.2025) ACS-9)</p>

	<p>(h) If a tender is accepted on the quoted rates of bidder which is below the advertise tender value, an additional performance security shall be submitted by the bidder as below :</p> <table border="1"> <tr> <td>Bid quoted in % of advertise cost</td><td>Additional Performance Guarantee (%)</td></tr> <tr> <td>Below 0 – 5% (inclusive)</td><td>Nil</td></tr> <tr> <td>Below 5%</td><td>5%</td></tr> </table>	Bid quoted in % of advertise cost	Additional Performance Guarantee (%)	Below 0 – 5% (inclusive)	Nil	Below 5%	5%
Bid quoted in % of advertise cost	Additional Performance Guarantee (%)						
Below 0 – 5% (inclusive)	Nil						
Below 5%	5%						
23.0	<u>MEASUREMENTS OF CONTRACTOR WORKS.</u>						
23.1	<p>The tenderer whether sole proprietor, a company or a partnership firm / joint venture (JV) / registered society /registered trust 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 submit the tender, sign the agreement, receive money, co-ordinate measurements through contractor's authorized engineer, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration. As per Clause No. 15 of Annexure I Part-I of GCC-2022, with up to date correction slip</p>						
	<p>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.</p> <p>(As per clause 44- Part-II of General Conditions of Contract 2022 with upto date correction slips)</p>						
23.2	<p><u>Measurement of works by Railway:</u></p> <p>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 :</p> <p>(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.</p> <p>(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.</p> <p>(As per Clause No. 45 (i), Part-II of GCC-2022, with up to date correction slip)</p>						
23.3	Measurement of Works by Contractor's Authorized Representative (In case the contract provides for the same):						

	<p>(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 part II of GCC-2022, with up to date correction slip on of these conditions 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 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.</p> <p>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 notwithstanding 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 :</p>
	<p>(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.</p> <p>(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.</p> <p>(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:</p> <p>(i) On first occasion of noticing exaggerated/false measurement, engineer shall recover liquidated damages equal to 10% of claimed gross bill value.</p> <p>(ii) 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 45(i) of GCC. The detailed procedure for recording of measurements, provisional payment, test check, final payment etc. shall be as per para 1316 A of the Indian Railway Code for Engineering Department. As per Clause No. 45 (ii), Part-II of GCC-2022, with up to date correction slip</p>
	<p>Note:- Contractor's authorized engineer' shall mean a graduate engineer or equivalent, having more than 3 year experience in the relevant field of construction work involved in the contract, duly approved by Deputy Chief Engineer. As per Clause No. 1(1)(q), Part-II of GCC-2022, with up to date correction slip.</p>
23.4	Contractor's e-MB for measurements & Billing of works in IR-WCMS implemented as per Railway's latest instructions,
24.0	PAYMENT OF CONTRACTUAL WORKS
24.1	<p>"On-Account" Payments: The contractor shall be entitled to be paid from time to time by way of "On-Account" payment only for such works as in the opinion of the Engineer he has executed in terms of the contract. All payments due on the Engineer's/Engineer's Representative's certificates of measurements or Engineer's certified "Contractor's authorized engineer's measurements" shall be subject to any deductions which may be made under these presents and shall further be subject to, unless otherwise required by Clause 16 of these Conditions, a retention of six percent by way of Security Deposits, until</p>

	<p>the amount of Security Deposit by way of such retentions shall amount to 5 % of the total value of the contract provided always that the Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate, if the works or any part thereof are not being carried out to his satisfaction.</p> <p>As per Clause No. 46. (1) Part-II of GCC-2022, with up to date correction slip</p>
24.2	<p>On account Payments Not Prejudicial To Final Settlement “On-Account” payments made to the Contractor shall be without prejudice to the final making up of the accounts (except where measurements are specifically noted in the Measurement Book as “Final Measurements” and as such have been signed by the Contractor and Engineer’s/ Engineer’s Representative) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts nor of any particular quantity of work having been executed nor of the manner of its execution being satisfactory.</p> <p>As per Clause No. 46(3) Part-II of GCC-2022, with up to date correction slip</p>
24.3	<p>Rounding off Amounts: - The total amount due on each certificate shall be rounded off to the nearest rupee, i.e. sum less than 50 paise shall be omitted and sums of 50 paise and more up to ₹1 will be reckoned as ₹ 1. As per Clause No. 46.2 Part-II of GCC-2022, with up to date correction slip</p>
24.4	<p>Final Payment: On the Engineer's certificate of completion in respect of the works, adjustment shall be made and the balance of account based on the Engineer or the Engineer's representative's certified measurements or Engineer's certified “contractor's authorized engineer's measurements” of the total quantity of work executed by the Contractor up to the date of completion and on the rates accepted in Bill(s) of Quantities and for extra works on rates determined under Clause 39 of these Conditions shall be paid to the Contractor subject always to any deduction which may be made under these presents and further subject to the Contractor having signed delivered to the Engineer enclosing either a full account in detail of all claims he may have on the Railway in respect of the works or having delivered No Claim Certificate and the Engineer having after the receipt of such account given a certificate in writing that such claims are not covered under excepted matter i.e. 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) and 62(1) 63(iv) and 63.2.11 of Standard General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things, removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the Railway for or in the respect of damage or loss by from or in consequence of the works, have been satisfied agreeably and in conformity with the contract.</p> <p>(As per Clause No. 51(1) of Part-II GCC-2022, with up to date correction slip).</p>
25	<p><u>INSTRUCTIONS OF MODE OF PAYMENT IN WORKS TENDERS OR SERVICE TENDER THROUGH LETTER OF CREDIT (LC) (Rly Bd's L.No. 2018/CE-I/CT/9 dated 04.06.2018)</u></p>
25.1.1	<p>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.</p>
25.1.2	<p>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.</p>
25.1.3	<p>The option so exercised, shall be an integral part of the bidder's offer.</p>
25.1.4	<p>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.</p>
	<p>In case tenderer opts for payment through LC following shall be the procedure to deal release of payment through LC:</p>
(a)	<p>The LC shall be a sight LC,</p>
(b)	<p>The contractor shall select his Advising/Negotiating bank for LC. The incidental cost towards issue of</p>

	LC and its operation thereof shall be borne by the contractor.
(c)	SBI, New Delhi, Main Branch will be the nodal branch for issue of LCs based on online requests received from Railway Accounts Units for tenders opened in financial year 2019. SBI branches where the respective Railway Accounts Office has its Account (local SBI branch) will be the issuance/ reimbursing branch for LC issued under this arrangement. The Bank shall remain same for this tender till completion of contract. The incidental cost @ 0.15% per annum of LC value, towards issue of LC and operation thereof shall be borne by the contractor and shall be recovered from his bills.
(d)	The LC shall be opened initially for duration of 180 to 365 days in consultation with contractor. The LC shall be extended time to time as per the progress of the contract, on the request of the contractor. The value of LC to be opened initially as well as extended thereafter shall be 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 Railway 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 Authorization (format enclosed as Annexure-‘B’) 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 Authorization.
(h)	The Document of Authorization shall be issued by Railway Accounts Office against each bill passed by Railway.
(i)	On issuance of Document of Authorization, a copy of Document of Authorization shall be posted on IREPS for downloaded by the contractor. A digitally signed copy of Document of Authorization 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 Authorization 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 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 with reference to 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 LC, provided the sum total of payments to contractor is within the amount for which LC has been opened.
(o)	The LC shall be closed after the release of final payment including PVC amount, if any to the contractor.
25.2	The release of performance guarantee or security deposit shall be dealt directly by railway with the contractor i.e., not through LC.
25.3	For opening of LC, executive department shall make a request letter to concerned Accounts Department on a format, placed as Annexure-‘A’.
26	GUIDELINES FOR ELECTRONIC REVERSE AUCTION FOR WORKS, SERVICE CONTRACTS: (Authority: No. 2017/Trans/01/Policy/Pt.-S Dated 28.03.2018)
26.0	Reverse auction will normally not be applicable unless otherwise specified. (Authority:Rly.Bd'sletterNo.2020/RS(G)/779/17Dated21.11.2024&CAO/C's letter

No.NWR/HQ/S&C/444173801 dated 27.11.2024)

Annexure-‘B’

(Clause No. 25.1.4(f) of General Instructions to Tenderer)
LCDA No. (18 DIGIT IPAS GENERATED NO.)

Dated: -

DOCUMENT OF AUTHORIZATION

Ref.: (i) Works Contract/ Supply Contract No..... Dated.....

(ii) Inland Letter of Credit No.....Dated.....

This document is issued against contract No (FROM IREPS)
DATED..... FOR WORK OF (DESCRIPTION OF WORK
FROM IREPS).....

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

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

S. No.	Invoice No.	Invoice date	Invoice Amount (INR)	LCDA No.	LCDA date	Amount paid (INR)
1						
2						
Total Paid						

THIS PAYMENT: sass.....

LC balance after this payment:

(Signature of authorized Railway authority)

Name
Designation
Official Seal

Annexure-‘C’

(Clause No. 26.0 of General Instructions to Tenderers)

Deleted

ANNEXURE – D

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

TENDERER'S CREDENTIALS (BID CAPACITY)

North Western Railway

Name of Bidder:

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:

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) [all members of JV] 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

	<p>purpose of satisfying his/her compliance to the above mentioned bid capacity in the tender under consideration.</p> <p>(d) The arithmetic sum of individual “bid capacity” of all the members shall be taken as JV’s “bid capacity”.</p> <p>(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.</p> <p>(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.</p>
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SPECIAL CONDITIONS OF CONTRACT (GENERAL)

1.0	<p>Applicability: These instructions and conditions of contract shall be applicable for all the tenders and contracts of railways for execution of 'Works' as defined in GFR 2017.</p> <p>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 (Works and Material) -2021, CPWD Specifications 2021 Vol I & II as amended/ updated by correction Slips on or before the opening of tender. As per Clause No. 1.01 Part-I of GCC-2022, with up to date correction slip</p>
2.0	<p>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(s) of quantities etc., forming part of the tender/contract, the following shall be the order of precedence:</p> <ul style="list-style-type: none"> (i) Letter of Award /Acceptance (LOA) (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 updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents. (vii) Indian Railways Unified Standard Specification (IRUSS) 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) CPWD Specifications 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. (ix) Indian Railways Unified Standard Specifications (Works and Material) updated with correction slips issued up to date of inviting of tender or as otherwise specified in the tender documents, if applicable in the contract. (x) IR Specifications/Guidelines updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents. (xi) Relevant B.I.S. Codes updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents. <p>(As per Clause No. 1.01 Part-I of GCC-2022, with up to date correction slip)</p>
3.0	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
4.0	<u>USE OF RAILWAY LAND</u>
4.1	Use of Railway land required by the contractor(s) for constructing temporary offices, quarters, hutments etc. for the staff and for storing materials etc. would be permitted to him/them free of charge by Railway, if available. The location of these offices, hutments, stores etc., will be subject to the approval of the engineer or his authorized representative. 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.
5.0	<u>USE OF PRIVATE LAND</u> 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 if any as are payable as may be mutually agreed upon between them.
6.0	<u>FIGURES, DIMENSIONS ETC.</u> 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	<u>PLEA OF CUSTOM</u> 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	<u>SEIGNIORAGE CHARGES</u>
8.1	The contractor/s shall comply with all the instructions issued by the Chief Inspector of Mines in respect to the safety of the workmen and the working of quarries and maintain register in which shall be recorded, such information/s for supply annually to Chief Inspector of Mines of the Government of India, as required by him. Final payment will be released after producing the no dues certificate from Mining department or any other concerned office of the area. The contractor/s are required to produce necessary documentary proof regarding payment of royalty to Mining Department of the stone ballast supplied, as and when demanded by the Railway administration. Final Bill shall be released only after production of “No Dues” certificate from the Mines Department, by the contractor.
8.2	The rates quoted by the tenderer shall be inclusive of seigniorage charges on all items of work to be executed under the contract, applicable as on the last date of submission of tender
9.0	<u>TAXES –</u> The accepted rates should be deemed to include all taxes direct or indirect Including Income Tax leviable under Central/State or Local Bodies Act or Rules, Octroies, Tolls, Royalties, Seignorages, Cess and similar imposts that may be prevailing from time to time in respect of land, structures and all materials supplied in the Performance of this Contract.
10.0	The Building and Other Construction workers (Regulation of Employment and conditions of service) Act, 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996: The tenderers for carrying out any construction work must get themselves Registered with the Registering Officer under section-7 of the ”Building and other construction workers act, 1996” and rules made there to by the concerned state Govt. and submit certificate of Registration issued from the Registering Officer of the concerned State Govt. (Labour Department). The Cess shall be deducted from contractor’s Bills as per provision of the Act.
11.0	<u>DEDUCTION OF INCOME TAX AT SOURCE</u> In terms of new section 194 inserted by the Finance Act 1972 in the Income Tax Act 1961, the Railway shall at all the time arranging payment to the contractor sub-contractor (in case of sub-contractor only when the Railway responsible for payment of the consideration to him under the contract) for carryout any work (including supply of Labour for carryout the work under the contract) be entitled to deduct income tax at source or income comprised in the sum of such payments. The deduction towards income tax to be made at source from the payments due to non-residents shall continue to be governed by section 195 of the Income Tax Act, 1961.

12.0	<p><u>ROYALTIES AND PATENT RIGHTS</u></p> <p>The contractor shall defray the cost of all royalties, fees and payment in respect of patents, patent rights and licenses which may be payable to patentee, license or other person or corporation and shall obtain all necessary licenses. In case of any breach (whether willfully or inadvertently) by the contractor of this provision, the contractor shall indemnify the Railway and its officers, servants, representatives against all claims, proceedings, damages, cost, charges, acceptance, loss and liability which they or any of them, may sustain, incur or be put to by reason or inconsequence of directly or indirectly or any such breach and against payment of any royalties, damages or other monies which the Railways may have to make to any person or paid in total to patent rights in respect of the users of any machine, instrument, process, articles, matters of thing constructed, manufactured, supplied or delivered by the contractors to his order under this contract.</p>
13.0	<p><u>NOTICE TO PUBLIC BODIES</u></p> <p>The Contractor(s) shall give to the municipality, police and other authorities all notices that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be leviable on account of his 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</p>
14.0	<p><u>DAMAGE BY ACCIDENTS, FLOODS OR TIDES</u></p> <p>The contractor shall take all precautions against damage from accident, floods or tides. No compensation shall be paid to the contractor for his plant or material lost or damaged by any cause whatsoever. The contractor shall make good the damages at his cost to any structure or part thereof by any cause during the course of the work.</p>
15.0	<p><u>SERVICE ROADS</u></p> <p>The Contractor/s 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/s at his/their own cost. For the purpose of construction of service roads on Railway land, permission will be given free of charge. 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/s at his/ their cost. The contractor/s will not prefer 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/s without payment of any charges.</p>
16.0	<p><u>EMERGENCY WORKS</u></p> <p>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, which will be determined by the Chief Administrative Officer (C), North Western Railway, to the contractor.</p>
17.0 17.1	<p><u>Maintenance of Works:</u></p> <p>The Contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the Tender Form after the date of issue of the certificate of completion by the Engineer or any other earlier date subsequent to the completion of the works that may be fixed by the Engineer, be responsible for and effectively maintain and uphold in good substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times as often as the Engineer shall require, any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot, and the Contractor shall be liable for and shall pay and make good to the Railway or other persons legally entitled thereto whenever required by the Engineer so to</p>

	do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to by reasons or in consequence of the operations of the Contractor or of his failure in any respect. (As per Clause No. 47 Part-II of GCC-2022, with up to date correction slip)
17.2	<p><u>Certificate of Completion of Works:</u> As soon as in the opinion of the Engineer, the work has been completed and has satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a certificate of completion duly indicating the date of completion in respect of the work and the period of maintenance of the work shall commence from the date of completion mentioned in such certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways against the contract concerned.</p> <p>The Engineer may also issue such a certificate indicating date of completion with respect to any part of the work (before the completion of the whole of work), which has been both completed to the satisfaction of the Engineer and occupied or used by the Railway. When any such certificate is given in respect of part of a work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of completion mentioned in the completion certificate issued for that part of the work.</p> <p>As per Clause No. 48(1) Part-II of GCC-2022, with up to date correction slip</p>
17.2.1	<p>Offloading of Part(s) of Work: At the final stage of completion/ commissioning of work, in case the contractor fails to complete the final part(s) of the work and the value of such part(s) of the work is limited to 5% of the original contract value, the Engineer may allow/decide for offloading of such part(s) of works, either after the Contractor's request in writing to do so or after serving a 14 (Fourteen) days suo-moto notice (as per GCC Annexure- VII-A), if the Engineer is of the opinion that :-</p> <ul style="list-style-type: none"> (i) Such Offloading of works (up to 5% of original contract value) would enable successful completion of contract/work, (ii) Termination/ Part termination of the contract at this stage is not be in the interest of the Railway/work;, and (iii) The anticipated additional cost for execution of such works through other mode would not be substantial and can be recovered from the pending dues of the contractor; <p>The Contractor shall be informed, in due course, by the Engineer of the mode and cost of execution of such offloaded work through other agency(ies)(as per GCC Annexure- VII-B). The extra expenditure so incurred in execution of the offloaded work, shall be recovered from subsequent Bill(s) or any other dues of the Contractor, but not exceeding the value of Performance Guarantee available in the contract. There shall be no other repercussion of such offloading on execution of the balance contract. The Contractor shall have no claim on account of above mentioned offloading of works.</p> <p>(As per Clause No. 40A Part-II of GCC-2022, with up to date correction slip)</p>
17.3	<p>Final Supplementary Agreement: 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 mentioned in item 4 of GCC Annexure XIV, the parties shall execute the final supplementary agreement as per Annexure XIV of the GCC</p> <p>(As per Clause No. 48(3) Part-II of GCC-2022, with up to date correction slip)</p>
17.4	<p><u>MAINTENANCE PERIOD</u> (a) For Supply, consultancy and hiring items. The maintenance period is limited to date of</p>

	<p>completion of work.</p> <p>(b) All works other than mentioned in clause 17.4 (a), The tenderer(s) shall be required to maintain the work effectively for a period of six months 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.</p>
17.5	<p><u>Maintenance Certificate:</u></p> <p>The Contract shall not be considered as completed until a Maintenance Certificate, if applicable shall have been signed by the Engineer stating that the works have been completed and maintained to his satisfaction. The Maintenance Certificate shall be given by the Engineer upon the expiration of the period of maintenance or as soon thereafter as any works ordered during such period pursuant to Sub Clause (2) to Clause 48 of these Conditions shall have been completed to the satisfaction of the Engineer, and full effect shall be given to this Clause notwithstanding the taking possession of or using the works or any part thereof by the Railway.</p> <p>The Competent Authority to issue above Maintenance Certificate shall normally be the authority who is competent to sign the contract. If this Competent Authority is of the rank lower than JA Grade, then a JA Grade Officer (concerned with the work) should issue the certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways against the contract concerned.</p> <p>(As per clause No. 50(1) Part-II of GCC-2022, with up to date correction slip)</p>
18.0	<p><u>INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE</u></p>
18.1	<p>The contractor shall at all times, execute the contract work only in the presence and under the supervision of the Engineer's Representative or a Railway employee specifically appointed on his behalf. No work under the contract shall, therefore, be commenced by the contractor without the express permission of the Engineer's representative.</p>
18.2	<p>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 where after the Railway shall be free to take further appropriate action as provided in the contract for dealing with such defaults of the contractors. The decision of the Engineer-in-charge whether there has been an act of noncompliance with the instruction/directives of the Engineer's representative for the purpose of this clause shall be final and conclusive.</p>
18.3	<p>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.</p>
18.4	<p>Any instructions or approval given by the Engineer's representative to Contractor in connection with the works shall bind the Contractor as though it had been given by the Engineer provided always as follows:</p> <p>(a) Failure of the Engineer's representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or material and to order the removal or breaking up thereof.</p> <p>(b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's representative, he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision.</p> <p>(As per Clause No. 21.0 Part-II of GCC-2022, with up to date correction slip).</p>
19.0	<p><u>NON-COMPLIANCE WITH THE INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE</u></p>

19.1	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.
19.2	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. 100/- (Rupees Hundred only) per Workmen-Hour irrespective of the type and grade of the Railway Employee actually employed. The aggregate period of the Workman-Hours 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.
19.3	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.
20.0	<u>WARRANTY</u> 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.
21.0	<u>SHIFTING OF ELECTRICAL/TELEGRAPH WIRES</u> 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.
22.0	<u>HANDING OVER OF SITE FOR WORK</u> The entire land required for this work is available. However, Railway may not hand over the entire land required for completion of this work for making bank/cutting or excavation to the contractor(s) due to any unavoidable reasons. 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. If some stretch of land cannot be handed over to the contractor for borrowing earth or making bank/cutting within the contract period then suitable extension will be granted only for the affected portion without any payment of extra claim to the contractor.
23.0	<u>Working during Night:</u> The Contractor shall not carry out any work between sun-set and sun-rise without the previous permission of the Engineer. However, if the Engineer is satisfied that the work is not likely to be completed in time except by resorting to night work, he may order the same without confirming any right on the Contractor for claiming any extra payment for the same. (Authority Clause No. 23 Part-II of GCC-2022, with up to date correction slip)
24.0	<u>MODE AND TERMS OF PAYMENT</u>
24.1	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.
24.2	<u>MANNER OF PAYMENT</u> 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-I indicating the bank account

	number, name of bank and bank specific code number (MICR/IFSC) as enclosed. The conditions and Annexure-I will be part of the tender document.
24.3	All suppliers (i.e. registered persons under GST) of Indian Railways (excluding notified exempted categories) having aggregate turnover more than INR 20 Crores in any preceding Financial year from 2017-18 onwards, shall mandatorily issue e-invoices having QR code embedding IRN and requisite particulars against all taxable suppliers being made to Indian Railways. (Authority : Rly Bd.'s letter No. 2016.AC/II/01/06/CRIS dated 09.03.2022)
25.0	<u>ACCIDENT/NATURAL CALAMITIES</u>
25.1	Vehicle and equipment of the contractor can be drafted by Railway Administration in case of accidents/natural calamities involving human lives.
25.2	For payment purpose, the item may be operated as New Non-Schedule (NS Item) as per existing norms and powers delegated.
25.3	Contractor may submit list of vehicles and equipment available with him.
26.0	<u>MOBILIZATION ADVANCE (For Tender of value above Rs. 50 Crores)</u> <u>(Authority: L.No.2022/CE-1/CT/GCC-2022 / Policy Dated 27.04.2022 with C.S.No.58 of Engg. Code)</u>
26.1	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:
(a)	<p><u>Mobilization Advance –</u></p> <p>This shall be limited to 10% of the Contract Value and payable in 2 stages as indicated below :</p> <p>Stage I – 5% of Contract Value on signing of the contract agreement.</p> <p>Stage II – 5% of mobilization of site-establishment, setting up offices, bringing in equipment and actual commencement of work.</p> <p>The 1st stage of advance shall be payable immediately after signing of contract documents.</p> <p>The 2nd stage of advance shall be payable at the time of mobilization, after submission of an utilization certificate by the contractor that the Stage-I advance has been properly utilized in the contract.</p>
(b)	<p><u>Advance Against Machinery and Equipment –</u></p> <p>This advance 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 exceed 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 irrevocable Bank Guarantee for full cost of the Plant & Equipment from a Nationalized Bank in India in a form acceptable to Railway. 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.</p>
(c)	<p><u>Advances for accelerating progress of the work during course of execution of contract –</u></p> <p>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-Incharge, in consultation with the Associate Finance. While recommending this</p>

	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.
26.2	<p><u>Advances in Exceptional Cases –</u></p> <p>General Managers 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. 50 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.</p>
26.3	<p>The above advances are subject to the following conditions-</p> <p>(i) The advance shall carry an interest at the rate to be decided 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.</p> <p>(ii) Advances except those against machinery and equipment, shall be payable against irrevocable 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 Nationalized Bank in India or State Bank of India in a form acceptable to the Railways.</p> <p>(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 85% of the original contract value. The installments on each "on account bill" will be on pro-rata basis;</p> <p>(iv) That the grant of advance is primarily in Railway's own interest;</p> <p>(v) That a contractor does not receive advances for same work from different officers;</p> <p>(vi) The arrangements are made with the Accounts Officer for proper accounts being kept with regard to payment and recovery of these advances; and</p> <p>(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.</p>
26.4	<p><u>Method of Recovery of Interest</u></p> <p>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 onaccount bill and shall attract interest.</p> <p>The Bank Guarantee for such advance shall clearly cover at least 110% of the value of the sanctioned advance amount (covering principal plus interest).</p>
27.0	STAGE PAYMENT ON SUPPLY OF STEEL IN WORKS CONTRACT (For contract value Rs. 15.00 Crores & above)

27.1	<p>Stage payment for steel physically brought by the contractor to the site (even before its actual use in work) can be made subjected to following conditions:-</p> <p>(a) The material shall be strictly in accordance with the contract specifications.</p> <p>(b) The material shall be delivered a site and properly stored under covered sheds in measurable stacks.</p> <p>(c) The quantities of materials shall be brought to the site only in such installments that would facilitate smooth progress of work and consumed in reasonable time.</p> <p>(d) Proper accountal in the material registers to be maintained in the prescribed format at the site for the receipt and use of the material.</p> <p>(e) Ownership of such material shall be deemed to rest with the Railways for which the contractor should submit an indemnity bond in prescribed format.</p> <p>(f) Before releasing the stage payment, the contractor shall insure the material at his own cost in favour of Railways against theft, damages, fire etc.</p> <p>(g) Stage payment in all such cases shall not be more than 75% of the rate of steel awarded in the contract. The balance payment shall be released only after the material is actually consumed in the work.</p> <p>(h) The price variation claim for steel would continue to be governed as per extant PV clause and with reference to delivery at site.</p>
28.0	<p><u>BONUS FOR EARLY COMPLETION OF WORK:</u> In case of open tenders having advertised value more than Rs. 50crore 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.</p> <p>(As per Clause No. 17(c) Part-II of GCC-2022, with up to date correction slip)</p>
29.0	<p>Contractor shall provide suitable manpower to Engineer in Charge or his representative 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.</p>
30.0	<p>DEPLOYMENT OF QUALIFIED ENGINEERS AT WORK SITES BY THE CONTRACTOR (As per Clause No.26A.1 of G.C.C. 2022 Part-II with up to date correction slip)</p>
30.1	<p>The Contractor shall also employ qualified Graduate Engineer(s) or equivalent, or qualified Diploma Engineer(s), as prescribed in the tender documents.</p>
30.2	<p>In case the Contractor fails to employ the Engineer, as aforesaid in Para 26A.1of GCC, he shall be liable to pay liquidated damages at the rates, as prescribed in the tender documents. (As per Clause No.26A.2 of G.C.C. 2022 Part-II with up to date correction slip)</p>
30.3	<p>No. of qualified Engineers required to be deployed by the Contractor for various activities contained in this works contract shall be specified in the tender documents as 'Special Condition of Contract'.</p> <p>(i)For tenders costing below Rs.50.00 Cr.</p> <ol style="list-style-type: none"> 1) Graduate Engineer – Minimum 1 Nos. 2) Diploma Engineer – Minimum 1 Nos. <p>(ii)For tenders costing Rs.50.00 Cr. and above.</p> <ol style="list-style-type: none"> 1) Graduate Engineer – Minimum 2 Nos. 2) Diploma Engineer – Minimum 2 Nos.
30.4	<p>In case the contractor fails to employ the Qualified Engineer, as aforesaid in Para 30.1 above, he, in terms of provisions of Clause 30.2 to the Conditions of Contract, shall be liable to pay an amount of</p>

	Rs. 80,000/-and Rs. 50,000/- for each month or part thereof for the default period for the provisions, as contained in Para 30.3 abovefor graduate engineer and diploma engineer respectively. (As per Clause No. 26A.3 of G.C.C. 2022 Part-II with up to date correction slip)
31.0	<u>PRICE VARIATION CLAUSE (PVC)</u> (As per Clause No. 46 A of GCC 2022 with up-to-date correction slip) For this contract, the PVC shall be paidunder work classification ** as mentioned in table 46A-6 of GCC-2022 for calculation of price variation. <i>Note**- The concerned field unit shall clearly specify the type of contract in which the PVC shall be payable for the particular tender, at the time of processing the NIT itself.</i> Example – ‘Earthwork in Formation’ under Civil Engineering Works
31.1	<u>Applicability</u> Price Variation Clause shall be applicable only in tender having advertised value above Rs. 2Crore. 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 Quantitiesof 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).
	(i) In case of running bill, the date of measurement recorded in MB, shall be considered. If measurement dates are more than one, then 1 st date of measurement recorded in MB will be considered.
	(ii) In case of final bill, the date of completion or 1 st date of measurement recorded in MB, whichever is earlier, will be considered.
	<u>(c)Base Month:</u> (Clause No. 46-A.2 of GCC-2022, with up to date correction slip) The Base Month for ‘Price Variation Clause’ shall be taken as onemonth prior to closing of tender including extensions, if any, 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.
	<u>(d)Validity:</u> (Clause No. 46-A.3 of GCC-2022, with up to date correction slip) Rates accepted by Railway Administration shall hold good till completion of work and no additional individual claim shall be admissible except: (i)Payment/recovery for increase/decrease in GST on works contract or imposition/removal of any tax/cess on Works Contract as per Clause 37, (ii) Payment/recovery for overall market situation as per Price Variation Clause given hereunder. (As per Clause No. 46-A of part II of GCC 2022 with up-to-date correction slip).
31.2	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. (As per Clause No. 46A.4 of part II of GCC 2022 with up-to-date correction slip).
31.3	No price variation shall be admissible for fixed components (As per Clause No. 46A.5 of part II of GCC 2022 with up-to-date correction slip).
31.4	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:
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(I). For Civil Engineering Works

SN	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
1	<i>Fixed</i>	*	15	15	15	15	15	15	15	15	15	15	15
2	Labour	L _c	20	25	30	20	50	20	20	0	0	10	25
3	Steel	S _c	0	0	0	0	0	0	0	85	0	50	0
4	Cement	C _c	0	0	15	0	0	0	0	0	85	0	0
5	Plant Machinery & Spares	PM _c	30	15	5	20	15	20	30	0	0	10	30
6	Fuel & Lubricants	F _c	25	15	5	15	15	20	15	0	0	10	20
7	Other materials	Mc	10	15	30	30	5	25	20	0	0	5	10
8	Detonators & Explosive	Ec	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	Tunneling Works (Without Explosives)	
	3A	All Item(s) excluding 3B or/and 3C or/and 3D or/and 3E
	3B	Item(s) for supply of Steel
	3C	Item(s) for supply of Cement or/and Grout
	3D	Item(s) for Fabrication & Erection of Structures including supply of Steel
	3E	Item(s) for Fabrication & Erection of Structures excluding supply of Steel.
4	Tunneling 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

Formulae:- The Amount of variation in prices in various components (Labour, Material etc.) shall be worked out by the following formulae:

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

(As per Clause No. 46A.I of part II of GCC 2022 with up-to-date correction slip).

(II) For Railway Electrification Works:

(As per Clause No. 46A-II of part II of GCC 2022 with up-to-date correction slip)

31.5	<p>The demands for escalation of cost shall be allowed on the basis of provisional indices as mentioned above in clause 46A.7 of GCC. Any adjustment needed to be done based on the finally published indices shall be made as and when they become available.</p> <p>(As per Clause No. 46A.7 Part-II of GCC-2022, with up to date correction slip)</p>
31.6	<p>For relevant category of steel for operating PVC and regarding relevant city for JPC, clause 46A.9 of GCC 2022 to be followed.</p>
32.0	<p><u>Communications to be in Writing:</u></p> <p>All notices, communications, reference and complaints made by the Railway or the Engineer or the Engineer's Representative or the Contractor inter-se concerning the works shall be in writing or email on registered e-mail IDs i.e. the e mail id provided for correspondence in the contract agreement, otherwise email id registered with IREPS and no notice, communication, reference or complaint not in writing or through e-mail, shall be recognized. (As per Clause No. 4 Part-II of GCC-2022, with up to date correction slip)</p>
32.1	<p><u>Assignment or Subletting of Contract:</u></p> <p>The Contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the Chief Engineer, save as provided below. Any breach of this condition shall entitle the Railway to rescind the contract under Clause 62 of these Conditions and also render the Contractor liable for payment to the Railway in respect of any loss or damage arising or ensuing from such cancellation; provided always that execution of the details of the work by petty Contractor under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this clause.</p> <p>In case Contractor intends to subcontract part of work, he shall submit a proposal in writing seeking permission of Chief Engineer for the same. While submitting the proposal to railway Contractor shall ensure the following:</p>
	<p>(a) (i) The contractor shall not sub- contract the works comprising more than 40% (Forty per cent) of the Contract Price and shall carry out Works for at least 60% (sixty per cent) of the total Contract Price directly under its own supervision and through its own personnel. The Parties expressly agree that for the purpose of computing the value of sub-contract under this clause, the Contract price shall exclude any sub-contract for the procurement of goods and equipment like (rails, sleepers and track fittings, signaling and telecommunication & power supply equipment). The parties agree that all obligations and liabilities under this agreement for the entire Railway Project shall at all time remain with the contractor.</p> <p>(The Parties agree that works equal to at least 30% (thirty per cent) of the Contract Price shall be discharged solely by the Lead Member.)\$</p> <p>Procurement of material, hire of equipment or engagement of labour by prime contractor or procuring entity will not mean sub-contracting.</p> <p>\$ may be deleted if the contractor is not a consortium/ joint venture.</p> <p>(ii) The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract, in last 5 years, ending date of submission of proposal by Contractor to Railway, costing not less than 35% value of work to be subletted, through a works contract. For fulfillment of above, Work Experience Certificate issued by a Govt. Department / Organization shall be considered. Further Work Experience Certificate issued by a Public listed company shall be considered provided the company is having average annual turnover of Rs. 500 Crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, registered at least 5 years back from the date of submission of</p>

	<p>proposal by Contractor to Railway and work experience certificate issued by a person authorized by the Public Listed Company to issue such certificates.</p> <p>Note: - For subletting of work costing upto Rs. 50 Lakh no previous work experience shall be asked for by the Railway.</p> <p>In case contractor submits subcontractor's work experience certificate issued by public listed company, the contractor shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.</p> <p>(iii) There is no banning of business with the Sub-contractor in force over IR.</p>
	(b) The Contractor shall provide to the Engineer a copy of the agreement to be entered into by Contractor with subcontractor. No subcontractor shall be permitted without a formal agreement between Contractor and subcontractor. This agreement shall clearly define the scope of work to be carried out by subcontractor and the terms of payment in clear & unambiguous manner.
	(c) On receipt of approval from Chief Engineer, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.
	(d) The Contractor shall intimate to the Engineer not less than 7 days in advance, the intended date of commencement of sub contractor's work.
	(e) Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of Railway, with prior intimation to Chief Engineer.
	(f) The Contractor shall indemnify railway against any claim of subcontractor.
	(g) The contractor shall release payment to the Sub-contractor(s) promptly and shall endeavour to resolve all issues amicably and speedily with the Sub-contractor(s), so that the execution of work is not affected in any manner whatsoever.
	<p>(h) In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the Sub-contractor.</p> <p><i>Note: - Work Experience Certificate to the subcontractor shall be issued only when the contractor's work is complete and contractor is entitled for the issuance of Work Experience Certificate. However, in the same contract, when the Chief Engineer, based on documents, is satisfied that the subcontractor has successfully carried out subletted work; without issuance of work experience certificate to sub-contractor at this stage, the Chief Engineer can, only once, consider the successfully completed subletted work for the fulfillment of eligibility for further subletting of work to the subcontractor in same contract. When the contractor's work is complete and contractor is entitled for the issuance of work experience certificate, the subcontractor shall be issued one Work Experience Certificate for the total scope of work executed by the subcontractor in the contract.</i></p>
	(i) The responsibility of successful completion of work by subcontractor shall lie with Contractor, subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract.
	(j) Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the contractor to remove the subcontractor from the work

	and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to engineer. No claim of contractor whatsoever on this account shall be entertained by the Railway and this shall be deemed as 'excepted matter' (matter not arbitrable).
	(k) The permitted subcontracting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the Railway and shall not relieve the Contractor of any responsibility under the Contract.
	(l) If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to subcontractor by a Govt. Organization or public listed company as defined in Note for item 10.1 Part-I of GCC, the same shall be considered for the purpose of fulfillment of credentials. As per Clause No. 7 Part-II of GCC-2022, with up to date correction slip).
33.0	Display Board: The Contractor shall be responsible for displaying the details of works i.e. name of work, approximate cost, expected date of completion, name and address of the Contractor and address of Engineer on a proper steel Board of size not less than 1m x 1m. As per Clause No. 34(5) Part-II of GGC-2022 with up to date correction slip.
34.0	<u>VARIATION IN EXTENT OF CONTRACT-</u> (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 up to 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 up to 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 up to 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 up to 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 agreement value. (i) Quantities operated up to 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; (ii) Quantities operated in excess of 100% but up to 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; (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

	<p>paid at 96% of the rate awarded for that item in that particular tender.</p> <p>(iv) In case of earthwork, 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.</p> <p>(v) In case of foundation work, no variation limit shall apply and the work shall be carried out by the Contractor on agreed rates irrespective of any variation.</p> <p>(vi) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SOR schedule 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). (As per Clause No. 42 (2)(i) Part-II GCC-2022, with up to date correction slip)</p>
34.1	<p><u>Rates for Extra Items of Works:</u></p> <p>(a) Standard Schedule of Rates (SSOR) Items: Any item of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted Bill(s) of Quantities but figures in the Standard Schedule of Rates (SSOR), shall be executed at the rates set forth in the "Standard Schedule of Rates (SSOR)" modified by the tender percentage as accepted in the contract for that chapter of Standard Schedule of Rates (SSOR). For item(s) not covered in this sub clause, the rate shall be decided as agreed upon between the Engineer and the Contractor before the execution of such items of work as per sub clause (b).</p> <p>(b) Other Items: For any item of work to be carried out by the Contractor but not included in the accepted Bill(s) of Quantities and also not covered under sub clause (a) above, the Contractor shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of works that the accepted Bill(s) of Quantities does not include rate or rates for such extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the Contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the Railway shall be entitled to execute the extra works by other means and the Contractor shall have no claim for loss or damage that may result from such Procedure.</p> <p>The assessment of rates for extra item(s) shall be arrived at based on the prevailing market rates of labour, machinery & materials and by taking guidance from the following documents in order of priority:</p> <ol style="list-style-type: none"> Analysis of Rates for "Unified Standard Schedule of Rates of Indian Railways (USSOR)" Analysis of Rates for "Delhi Schedule of Rates issued by CPWD (DSR)" Market Analysis <p>As per Clause No. 39. (1) Part-II GCC-2022, with up to date correction slip</p>
35.	<p>Extension of Time in Contracts</p> <p>(A) The Contractor shall indicate the period for which the work is likely to be delayed and shall seek extension of time as may be considered necessary under clause 17A (i) or/and 17A (ii) or/ and 17A (iii) above, as soon as the cause thereof shall arise and, in any case, not less than 15 days before the expiry of the date fixed for completion of the works. The Engineer shall consider the same and shall grant and communicate such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable, as if such extended period of time</p>

	<p>was originally provided in the original contract itself.</p> <p>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 (Authority:As per Clause 17 of GCC-2022, with up to date correction slip).</p>
	<p>(B) EXTENSION OF TIME WITH LIQUIDATED DAMAGE (LD): FOR DELAY DUE TO CONTRACTOR -</p> <p>The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17-A, of Part-II of GCC-2022, with up to date correction slip 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 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.</p>
	<p>Provided further, that if the Railway is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the Railway shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.</p> <p>NOTE:</p> <p>In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B.</p> <p>As per Clause No. 17(B) Part-II of GCC 2022 with up to date correction slip</p>
36.0	<p><u>Quarterly Statement of Claims:</u></p> <p>The Contractor shall prepare and furnish to the Engineer once in every quarter commencing from the month following the month of issue of Letter of Acceptance, an account giving full and detailed particulars of all claims for any additional expenses to which the Contractor may consider himself entitled to and of all extra or additional works ordered by the Engineer which he has executed during the preceding quarter and no claim for payment for such work will be considered which has not been included in such particulars. As per Clause No. 43(1) Part-II GCC-2022, with up to date correction slip</p>
37.0	<p><u>Settlement of disputes – Indian Railway Arbitration & Conciliation Rules</u></p>
37.1	<p><u>Conciliation of disputes:</u></p> <p>(i) This clause is applicable in the tender having advertised value less than or equal to Rs 50</p>

	<p>Crore.</p> <p>(ii) All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the "Chief Engineer" or "Divisional Railway Manager" through "Notice of Dispute" provided that no such notice shall be served later than 30 days after the date of issue of Completion Certificate by the Engineer. Chief Engineer or Divisional Railway Manager shall, within 30 days after receipt of the Contractor's "Notice of Dispute", notify the name of conciliator(s) to the Contractor.</p> <p>(iii) The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract.</p> <p>(iv) If the parties reach agreement on a settlement of the dispute, they shall draw up and sign a written settlement agreement duly signed by Engineer In-charge, Contractor and conciliator(s). When the parties sign the settlement agreement, it shall be final and binding on the parties.</p> <p>(v) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.</p> <p>(vi) The conciliation proceedings shall be terminated as per section 76 of "The Arbitration and conciliation Act, 1996</p> <p>(As per Clause No. 63 Part-II of GCC 2022, with up to date correction slip).</p>
37.2	<p><u>Matters Finally Determined by the Railway:</u></p> <p>All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the GM and the GM shall, within 120 days after receipt of the Contractor's representation, make and notify decisions on all matters referred to by the Contractor in writing provided that matters for which provision has been made in Clauses 7(j), 8, 18, 22(5), 39.1, 39.2, 40A, 43(2), 45(i)(a), 55, 55-A(5), 57, 57A, 61(1), 61(2), 62(1), 63(iv) and 63.2.1 of the Standard General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, shall be deemed as 'excepted matters' (matters not arbitrable) and decisions of the Railway authority, thereon shall be final and binding on the Contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of the Dispute Adjudication Board (DAB) and Arbitration.</p> <p>(As per Clause No. 63.1 Part-II of GCC-2022, with up to date correction slip.)</p>
37.2.1	<p>63.2 Dispute Adjudication Board (DAB): This clause is applicable in the tender having advertised value more than Rs 50 Crore.</p> <p>63.2.1 Any dispute/s if not settled with the Engineer, shall be referred to DAB.</p> <p>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.</p> <p>63.2.2 The appointment of DAB shall be effectuated by way of a tri-partite agreement among</p>

the Railway, Contractor and the respective DAB members. The terms of the remuneration of each member shall be as fixed by Ministry of Railways from time to time. Each party shall be responsible for paying one-half of this remuneration.

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

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

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

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

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

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

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

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

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

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

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

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

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

	to settle such disputes or differences through DAB and Arbitral Tribunal. (As per clause No. 63.2 of GCC 2022)
37.3	<u>DEMAND FOR ARBITRATION</u> Demand for arbitration shall be govern and deal as per clause No. 64 Part-II of GCC-2022, with up to date correction slip. Subject to the provisions of the Arbitration and Conciliation ACT 1996 up to latest amendment and the rules there under 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. (As per Clause No. 64(7) Part-II of GCC-2022, with up to date correction slip)
37.3.1	In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the Parties on any matter in question, dispute or difference on any account or as to the withholding by the Railway of any certificate to which the Contractor may claim to be entitled to, or if the Railway fails to make a decision within 120 days, then and in any such case, but except in any of the "excepted matters" referred to in Clause 63.1 of these Conditions, the Contractor, after 120 days but within 180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration. (As per clause 64.(1)(i)(a), Part- II of GCC 2022). (ACS-10)
37.3.2	Arbitration as a method of dispute resolution should not be routine ly or automatically included in procurement contracts/tenders, especially in large contracts. (As per clause 64. (1) (i) (b), Part-II of GCC 2022) (ACS-10)
37.3.3	As a norm, arbitration as a method of dispute solution may be restricted to disputes with a value less than Rs. 10 crores. This figure is with referenceto the value of the dispute (not the value of the contract, which may be much higher). (As per clause 64. (1) (i) (c), Part-II of GCC 2022) (ACS-10)
37.3.4	Inclusion of arbitration clauses covering disputes with a value exceeding Rs.10croreshould be based on careful application of mind and recording of reasons and with the approval of an officer not below the rank of Senior Administrative Grade (SAG) or the Accepting Authority of the tender whichever is higher. (As per clause 64.(1)(i)(d), Part-II of GCC 2022) (ACS-10)
37.3.5	The Arbitral Tribunal shall consist of a panel of three arbitrators. General Manager/Additional General Manager will appoint two arbitrators, one railway nominee and other from among the contractor's nominee. Contractor can recommend his nominee either from approved panel of Railways or from approved panel of Indian Council of Arbitration (ICA) within 30 days from the date of dispatch of approval of written and valid acceptance of demand for arbitration by the General Manager/Additional General Manager. (As per clause 64. (3)(a), Part-II of GCC 2022) (ACS-10)
37.3.6	If contractor wants to choose his nominee from Railway panel, the Railway will send a panel of at least four (4) names of retired Railway Officers empaneled to work as Arbitrator within 30 days from the day when a written and valid demand for arbitration is received by the General Manager/Additional General Manager. Contractor will be asked to suggest to General Manager/Additional General Manager at least 2 names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager/Additional General Manager shall appoint at least one out of them as the Contractor's nominee within 30 days from the receipt of the names of Contractor's nominees. The railway panel shall be provided free of cost to the contractor. (As per clause 64. (3)(a)(i), Part-II of GCC 2022) (ACS-10)

37.3.7	<p>If contractor wants to choose his nominee from Indian Council of Arbitration panel, Contractor will send at least 2 names of Arbitrators from the ICA Panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager/Additional General Manager shall appoint at least one out of them as the Contractor's nominee within 30 days from receipt of the names of Contractor's nominees. Nomination and appointment of arbitrators from ICA panel shall be as per the ICA Rules for Domestic Commercial Arbitration and amended from time to time. the</p> <p>Some general guidelines of ICA Rules for Domestic Commercial Arbitration are as under: -</p> <ol style="list-style-type: none"> i. Contractor may access the ICA's panel of arbitration through ICA's official webpage: https://icaindia.co.in/pdf/Engineers.pdf. ii. A formal request for nominations shall be submitted to ICA, accompanied by:- <ol style="list-style-type: none"> a. A brief Statement of Claim outlining the nature and quantum of the disputes. b. A copy of the relevant contract and any supporting documents. c. A copy of the notice intimating the other party of the initiation of arbitration proceedings, with proof of delivery (if any). iii. Ad-hoc appointment fees for the nomination and appointment of arbitrators as per the ICA Rules for Domestic Commercial Arbitration and revised from time to time and shall be submitted along with the request. <p><u>(As per clause 64. (3)(a)(ii), Part-II of GCC 2022)(ACS-10)</u></p>
37.3.8	<p>Two selected arbitrators are free to select presiding arbitrator (3 arbitrators) within thirty (30) days from the date of their appointment. The presiding arbitrator may be selected from approved panel of Railways or approved panel of Indian Council of Arbitration (as per mutual agreement) which will be approved by General Manager/Additional General Manager. General Manager/Additional General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of all the three arbitrators.</p> <p><u>(As per clause 64. (3)(b), Part-I of GCC 2022)(ACS-10)</u></p>
37.3.9	<p>If one or more of the arbitrators appointed as above refuses to act as arbitrator withdraws from his office as arbitrator, or vacates his/their office/offices on is/are unable or unwilling to perform his functions as arbitrator for any reason what so ever or dies or in the opinion of the General Manager/Additional General Manager fails to act without undue delay, the General Manager/Additional General Manager shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).</p> <p><u>(As per clause 64. (3) (c) (i), Part-II of GCC 2022) (ACS-10)</u></p>
37.3.10	<p>(i) Qualification of Railway Empaneled Arbitrator(s):</p> <ol style="list-style-type: none"> a. Retired Railway Officers not below SA Grade level, one year after his date of retirement. b. Age of arbitrator at the time of appointment shall be below 70 years. c. Persons not involved in any current vigilance/CBI cases or against whom disciplinary or prosecution proceedings are not in process. d. Persons who had not been imposed a major penalty or two or more minor penalties or against whom administrative action has not been taken three times or more or e. Persons who have not been imposed one minor Penalty and against whom two administrative actions have not been taken as a result of vigilance/CBI action while in service on Railways.

	<p>(ii) An arbitrator may be appointed notwithstanding the total number of arbitration cases in which he has been appointed in the past.</p> <p>(iii) While appointing arbitrator(s) under Sub-Clause 64.(3)(a), 64.(3)(a)(i), 64.(3)(a)(ii) & 64.(3)(b) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as Railway servant(s) expressed views on all or any of the matters under dispute or differences. A certification to this effect as per annexure shall be taken from Arbitrators also. The proceedings of the Arbitral tribunal or the XVI one award made by such Tribunal will, however, not be in valid merely for the reason that or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.</p> <p>(As per clause 64. (3)(c)(iii), Part-II of GCC 2022) (ACS-10)</p>
37.3.11	<p>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.</p> <p>(As per clause 64. (4), Part-II of GCC 2022) (ACS-10)</p>
37.3.12	<p>The cost of arbitration shall be borne by the respective parties. If all the three arbitrators are selected from the Railway Panel, the fee of the arbitrators shall be determined as per the rates fixed/revised by Railway Board from time to time and the shall be borne equally by both the parties, provided parties sign an agreement in the format given at Annexure XV (GCC) to these conditions after/ while referring these disputes to Arbitration. However, if any of the three arbitrators is selected from the Panel of Indian Council of Arbitration (ICA), the fee of the arbitrators shall be determined as per the rates fixed/revised by the Indian Council of Arbitration from time to time and the fee shall be borne equally by both the parties provided parties sign an agreement in the format given at Annexure XV (GCC) to the conditions after/while referring these disputes to Arbitration.</p> <p>(As per clause 64. (6), Part-II of GCC 2022) (ACS-10)</p>
(i)	<p>The provision of Clauses 63 and 64 of the General Conditions of contract will be applicable only for settlement of claims of disputes between the parties for values less than or equal to 20% of the original value of the contract agreement and when the claims and disputes are of value more than 20% of the original value of the contract agreement, provisions of Clauses 63 & 64 and other Clauses of the General Conditions of Contract will not be applicable and arbitration shall not be a remedy for settlement of such disputes.</p>
(ii)	<p>The contractor shall not be entitled to ask for reference to arbitration before the completion of the work assigned to him under this contract. The contractor shall seek reference to arbitration to settle the disputes only once within the ambit of condition (i) above.</p>
(iii)	<p>These special conditions (i) & (ii) above shall prevail over existing Clauses 63 and 64 of the "General Conditions of the Contract". (As per Chief Engineer's Circular No. 1 on Contract Policy circulated vide letter No. W118/0/Policy dated 11/06/2003)</p>
(iv)	<p>If there is any dispute arisen between the parties with respect to this agreement, then any application or suit shall be initiated only in the court with the local limits, falling under the jurisdiction of the North-Western Railway and both the parties shall be bound by this clause.</p>
(v)	<p>For settlement of disputes between one Government Departments and the other or between the Government Department and Public Sector undertaking the following special conditions shall be applicable. "In the event of any dispute or difference between the parties hereto, such dispute or condition shall be resolved amicably by mutual consultation through the good offices of empowered agencies of the Government. If such resolution is not possible, then the unresolved dispute or difference shall be referred to arbitration of an arbitrator to be nominated by Secretary, Department of Legal Affairs (Law Secretary) in terms of office Memorandum No.55/3/1/75/CF dated 19-12-75 issued by the Cabinet Secretariat</p>

	(Department of Cabinet Affairs) as modified from time to time. The arbitration and Conciliation Amended Act 1996 (amendment 2019), or the arbitration clause contained in the General Conditions of Contract shall not be applicable to the arbitration under this clause. The award of the Arbitrator shall be binding upon parties in the dispute, provided however; any party aggrieved by such award may make further reference for setting aside or revision of the award to Law Secretary whose decision shall bind the parties finally and conclusively”.
38.0	All the Provisions as illustrated in clause 54 to 60 of GCC 2022, related to ‘Labour’ shall have to be complied with, by the contractor.
	(i) Contractor is to abide by the provisions of various labour laws in terms of clause 54 and 55 of Indian Railways General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website ‘www.shramikkalyan.indianrailways.gov.in’. 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:
	<p>(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.</p> <p>(b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LOA’s issued in his favor.</p> <p>(c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LOA) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LOA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LOA filled by contractor within 7 days of receipt of such request.</p> <p>(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 shramikkalyanportal on monthly basis.</p> <p>(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.</p>
	(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.” (As per Clause No. 55(c) Part-II GCC-2022, with up to date correction slip)
39.0	Provisions of “The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996” and “The Building and Other Construction Workers’ Welfare Cess Act, 1996”: 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. (As per Clause No. 55(D) Part-II GCC-2022, with up to date correction slip)
40.0	Provision of Workmen’s Compensation Act: In every case in which by virtue of the provisions of Section 12 Sub-Section (1) of the Workmen's Compensation Act 1923, Railway is obliged to pay compensation to a workman directly or through petty Contractor or subcontractor employed by the Contractor in executing the work, Railway will recover from the Contractor the amount of the compensation so paid, and, without prejudice to the rights of Railway under Section 12 Subsection (2) of the said Act, Railway shall be at liberty to recover such amount or any part thereof from Contractor’s bills/Security Deposit or any other dues of Contractor with the Government of India. Railway shall not be bound to contest any claim made against it under Section 12 Sub Section (1) of the said Act except on the written request of the Contractor and upon his giving to Railway full security for all costs for which Railway might become liable in consequence of contesting such claim. (As per Clause No. 57 Part-II GCC-2022, with up to date correction slip)

41.0	<p>Restrictions on the Employment of Retired Engineers of Railway Services Within One Year of their Retirement:</p> <p>The Contractor shall not, if he is a retired Government Engineer of Gazetted rank, himself engage in or employ or associate a retired Government Engineer of Gazetted rank, who has not completed one year from the date of retirement, in connection with this contract in any manner whatsoever without obtaining prior permission of the President and if the Contractor is found to have contravened this provision it will constitute a breach of contract and administration will be entitled to terminate the contract and forfeit his Performance Guarantee as well as Security Deposit. (As per Clause No. 59.(9) Part-II GCC-2022, with up to date correction slip)</p>
42.0	<p>Accepted Programme of Work: The Contractor who has been awarded the work shall as soon as possible but not later than 30 days after the date of receipt of the acceptance letter in respect of contracts with initial completion period of two years or less or not later than 90 days for other contracts have to submit the detailed programme of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CPM. He shall also submit the details of organization (in terms of labour and supervisors), plant and machinery that he intends to utilize (from time to time) for execution of the work within stipulated date of completion. The programme of work amended as necessary by discussions with the Engineer, shall be treated as the agreed programme of the work for the purpose of this contract and the Contractor shall endeavor to fulfill this programme of work. The progress of work will be watched accordingly and the liquidated damages will be with reference to the overall completion date. Nothing stated herein shall preclude the Contractor in achieving earlier completion of item or whole of the works than indicated in the programme. In Contracts for works of New Line/Gauge Conversion/Doubling/Railway Electrification, finalized through Tenders having advertised value more than Rs.100crores, the Contractor shall submit a detailed time programme to the Engineer within 30 days after issue of LOA. The program shall include the physical and Financial Progress vis-à-vis program and forecast cash flow adopting Project Management Software such as Primavera/Sure Track/MS Project etc. The program must identify the milestones, interface requirements and program reporting elements. The Contractor shall supply, free of cost one set of authorized software to the Engineer and the soft copy of structured program for the project. This shall be updated every month. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress. Each programme shall include: The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage, Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, each of these stages for work by each Subcontractor, if any, the sequence and timing of inspections and tests specified in the Contract, and a supporting report which includes: a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and details showing the Contractor's reasonable estimate for the number of each class of Contractor's Personnel & Equipment, required on the Site for each major stage. Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Engineer shall be entitled to rely upon the programme when planning their activities. If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer within 15 days in accordance with this Sub-Clause. (As per Clause No. 19(3) Part-II of GCC-2022, with up to date correction slip).</p>
43.0	<p><u>Commencement of Works:</u></p> <p>The Contractor shall commence the works within 15 days after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay. The Contractor shall establish a quality control mechanism before execution of the work,</p> <p>As per Clause No. 19.(2) of Part-II GCC-2022, with up to date correction slip)</p>
	<p>(i) Contractor shall submit a QAP "Quality Assurance Plan" for the scope of work to be executed. The QAP shall be submitted within 15 days of the issue of LOA and which shall be approved by the Engineer In charge. The QAP shall extensively include the organization,</p>

	duties and responsibilities, procedures, inspections, documentation and quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications and Standards etc.
	(ii) Prior to the commencement of any construction activity, a method statement, proposed to be adopted for executing the Work shall be submitted to Engineer in Charge. The method statement shall include details of material acceptance, execution procedures, checks at various levels, quality parameters, equipment/ machineries, quality assurance, quality control measures, traffic management, inspection checklist, documentation and remedial works etc.
44.0	<u>Workmanship and Testing:</u> The whole of the works and/or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best and most approved quality of their respective kinds, agreeable to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions which the Contractors may from time to time receive from the Engineer. The materials may be subjected to tests by means of such machines, instruments and appliances as the Engineer may direct and wholly at the expense of the Contractor. As per Clause No. 27.(1) of Part-II GCC-2022, with up to date correction slip)
45.0	<p>Improvement of Quality in Constructions works – Regarding submission of invoices of materials, the provision of Clause 51 A of GCC is reproduced below :-</p> <p>(i) For a contract of more than one crore of rupees, the Contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this contract or relevant for verifying or ascertaining cost of execution of this contract (the decision of the Engineer on the question of relevancy of any documents, information or return being final and binding in the parties).The Contractor shall similarly produce vouchers etc., if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.</p> <p>(ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by a sub-contractor or any subsidiary or allied firm or company (as per Clause 7 of the Standard General Conditions of Contract), the Engineer shall have power to secure the books of such sub-contract or any subsidiary or allied firm or company, through the Contractor, and such books shall be open to his inspection.</p> <p>(iii) The obligation imposed by Sub Clause (i) & (ii) above is without prejudice to the obligations of the Contractor under any statute rules or orders binding on the Contractor. (Authority: Rly Bd.'s letter No.2021/CE-I/CT/SI/1 dated 04.03.2021) (As per Clause No. 51-A of Part-II GCC-2022, with up to date correction slip)</p>
46.0	<u>Post Payment Audit:</u> It is an agreed term of contract that the Railway reserves to itself the right to carry out a post-payment audit and/ or technical examination of the works and the Final Bill including all supporting vouchers, abstracts etc. and to make a claim on the Contractor for the refund of any excess amount paid to him till the release of security deposit

	or settlement of claims, whichever is later, if as a result of such examination any over-payment to him is discovered to have been made in respect of any works done or alleged to have been done by him under the contract. As per Clause No. 51.(2) of Part-II GCC-2022, with up to date correction slip)
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SAFETY PRECAUTIONS

1.0	<u>MEASURES TO BE ENSURED PRIOR TO START OF WORK</u>
1.1	The contractor shall not start any work without the presence of railway supervisors/representative at site.
1.2	The methodology in detail for execution of the work at site shall be approved by engineering in charge of the organization executing the work and copies of the same shall be available with contractor's supervisor, railway supervisor, SSE/P.Way/SSE (Works)/ ADEN/DEN/Sr. DEN of the section in whose jurisdiction the work falls.
1.3	Before permitting the execution of certain works like earthwork in formation, bridge work, supply of ballast, transportation of rails, sleepers and other material, track linking, platform/any other civil work close to the running track etc. for new/existing rail lines, gauge conversion, doubling, traffic facility work, ROB/RUB, open lines engineer-in-charge (ADEN/DEN/Sr. DEN) of the section shall ensure that he received the prior intimation/confirmation of the following aspects from Assistant Engineer/Assistant Officer/XEN In charge of the work of the executing agency i.e. Construction, S&T, Electrical, Mechanical, Rail Tel, RVNL etc.
1.4	Name and address of the contract assigned to execute the work.
(i)	Name of the Contractor's supervisor
(ii)	Name of the supervisor/assistant engineer/assistant officer of the construction organization/other organizations who are going to be site in charge/in charge of work site.
(iii)	List of the number(s) of individual vehicle(s)/ machineries, names and license particulars of the driver(s) proposed to be used by contractor.
(iv)	Information regarding location, duration and timings during which the vehicles/machinery are planned to be plied/worked.
(v)	The supervisors and operators of the contractor proposed to be deployed at work site which is close to the running track, shall be imparted training by the Railway trainer at contractor own cost about the safety measures to be adopted while working in the vicinity of running track. Further competency certificate to the individual supervisors/operator shall be issued as in Annexure- 'A' (attached below in para 9.0) by a railway officer not below the rank of Assistant level officer who is in charge of site. No supervisor/operator of the contractor shall work or allowed to work in the vicinity of running track that is not possession of valid competent certificate.
(vi)	Survey of site by supervisor of contractor and Railways to assess the precautions to be taken at site for working of trains and materials required for protection.
(vii)	Written advice to sectional ADEN/SE (P.Way) and SE(Works) about the detailed planning of work including protection of track and safety measures proposed to be adopted.
(viii)	A copy of the approved methodology (to be approved by engineer in charge) proposed to be adapted by the contractor with a view to ensure safety of trains passengers and workers.
(ix)	Assurance that the methods and arrangements are actually available at site before start of the work and the contractors supervisors and the workers have clearly understood the safety aspects and requirement to be adapted/followed while executing the work.
(x)	An assurance register has been kept at site duly signed by both Railway supervisor as well as by the contractor supervisor as a token of their having understood the safety precautions to be observed at site.
(xi)	No work shall which is to be done near running track shall commence unless permitted by sectional ADEN/DEN/Sr. DEN
(xii)	Supplementary site specific instructions, wherever considered necessary shall be issued by the

	Engineer in Charge
(xiii)	Check list given in Annexure-V of Compendium of instructions on Safety at Work Sites 31.03.2014 shall be used to ensure that all the requisite measures have been taken before start of work.
2.0	<u>PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TORUNNING TRACKS</u>
(i)	Normally, the road vehicles shall be run or machinery shall be worked so as not to come closer than 6.0m from center 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. Wooden pegs at interval not exceeding 75mts shall be provided along the line marking as permanent marks. The road vehicles shall ply or machinery shall work so as not to infringe the line of demarcation. Demarcation of the land shall be done as per Annexure II-A of Compendium of instructions on Safety at Work Sites 31.03.2014.
(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.
a.	In no case the road vehicle shall run or machinery shall work at distance less than 3.5m from center line of track.
b.	Demarcation of land shall be done by bright colored ribbon/nylon cord suspended on 120 cm high wooden/bamboo posts at distance of 3.5 m from center line of nearest running track. Sensors with horns shall be provided as per Annexure II-B of Compendium of instructions on Safety at Work Sites 31.03.2014.
c.	Presence of an authorized Railway's representative shall be ensured before plying of vehicle or working of machinery.
d.	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.
e.	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. Lookout man shall be deputed as per Annexure-III-A of Compendium of instructions on Safety at Work Sites 31.03.2014.
f.	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:
a.	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.
b.	Presence of a Railway's Supervisor shall be ensured at worksite.
c.	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.
3.0	<u>EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES</u> Any work close to or on running tracks shall be executed under the presence of a Railway's Supervisor/ representative only.
(i)	Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.
(a)	Contractor has deputed trained supervisors in required number at worksites duly certified by ADEN/In charge of the works.
(b)	Drivers of vehicle/operators of the machines have been briefed about the safety and precautions to be taken while moving / working close to traffic.
(c)	Contractor shall ply road vehicles/working of machinery only between sunset and sunrise. In case of emergency where it is necessary to work during night hours sufficient lighting shall be ensured in the complete work area for the safety of public and passengers. Also additional staff shall be posted as necessary for night working and taking safety precautions.
(d)	The contractor shall not change the approved vehicle/machinery and driver/operator for working at site. Contractor shall not induct any new vehicle/machinery and driver/operator without prior written approval of Assistant Engineer/Assistant officer and the list of such changes with numbers of individual vehicle, name and license particulars of the driver shall be given to ADEN/DEN/Sr. DEN of the section.
(e)	Contractor shall ensure that road vehicle/machinery ply/work in a way so that these do not infringe the line of demonstration.
(f)	Lookout men with required safety equipment shall be posted where necessary.
(g)	In unusual circumstances, where operator apprehends danger to track while working truck/machinery near running track, following action shall be taken.
a.	The contractor/supervisor/vehicle operator immediately advice the situation to railway official/officials of the organization executing the work and assist him/them in protecting the track.
b.	Protection shall be done as done for other emergencies
(h)	Individual vehicle/machinery shall not be left unattended at site of work. If it is unavoidable and becomes necessary to stable the road vehicle/machinery at site near the running track, these shall be properly secured against any possible roll off and always be manned even during non-working hours. In addition, the road vehicle / machinery should be stabled parallel to track only so that incases of failure of any securing arrangement, it may not roll towards the track.
(i)	All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimensions do not infringe. Necessary checks shall be exercised by site in charge from time to time.
(j)	While inspecting the worksite check list given in Annexure VI of Compendium of instructions on Safety at Work Sites 31.03.2014 shall be used to ensure that all the requisite measures have been taken during the execution of work.

(k)	During the hours of night, lamps of temporary indicators which are not of reflective type should be lit at sun-set and kept burning till sun rise, where trains run at night.
(ii)	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.
d)	Joint procedure order No. 17/2013 as mentioned in the Annexure-VII of compendium of instructions on safety at work site dated 31.03.2014 issued by PCE Office shall be followed for undertaking digging work in the vicinity of underground signaling, electrical and telecommunication cables.
(iii)	Precaution to be taken during execution of works requiring traffic blocks.
a)	Any work, which infringes the moving dimensions or causes discontinuity in the track any activity making the existing track unsafe for passage of trains etc. Shall be started only after the traffic block has been imposed, railway servant in charge of the work is present at the worksite, engineering signals are exhibited at specified distance and flagmen are posted with necessary equipment to man them etc.
b)	Before closing the work, the track shall be left with the proper track geometry so that the trains run safely and flagmen are kept in the night with safety and track protection equipment to patrol the stretch and take action to protect the track, if so warranted and inform the railway supervisors.
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.
(iv)	<u>Precaution to be taken during execution of works during night.</u> 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.
(v)	Precautions to be taken to ensure safety of workers while working close to running lines
a)	Any work close to or on running tracks shall be executed under the presence of a Railway's supervisor only.
b)	Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.
i)	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.
ii)	All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.
iii)	Suitable speed restriction shall be imposed or Traffic block shall be ensured as required.
iv)	The site shall be protected as per provisions of Para No. 806 & 807 of P.Way Manual as

	case may be. v) Necessary equipment for safety of trains during emergency shall be kept ready at site.
c)	A 'first aid kit' shall always be kept ready at site.
(vi)	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.
(vii)	Precaution to be taken before stacking materials alongside 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.
(viii)	Precaution for handling of departmental material trains- Instructions for working of material trains are contained in Chapter VIII of IRPWM which should be brought to the notice of the supervisors and other staff working on the material trains. In addition to this, following precautions should be taken:
(a)	Issue of 'fit to run' certificate. As per Para 848 before a material train is allowed to work, the complete rake should be examined by the Carriage and Wagon staff and a 'fit to run' certificate issued to the Guard.
(b)	As per Para 849 of IRPWM, a qualified Engineering official should be deputed on the train to ensure working of the material train as the Guard is not qualified to carry out such duties like Supervising of Loading and unloading of materials.
(c)	As per Para 845 of IRPWM, the material train should not be permitted to work during the period of poor visibility due to fog, storm or any other cause except with the permission of the ADEN/DEN. Working of the material trains carrying labour should not be permitted between sunset and sunrise except in an emergency.
(d)	While unloading rail panels by the side of the running track, placement of the panels, clear of the maximum moving dimensions should be ensured.
(e)	Unloading of rail panels should be done by a team of trained staff under the active supervision of competent Supervisor/Officer.
(f)	Before unloading of rail panels, site should be prepared by way of leveling/removing extra ballast, if any, from the crib and shoulder with the objective to ensure requisite lateral and vertical clearances so as to prevent slippage of rail panels due to vibration during the passage of trains.
(g)	Reasonably adequate block should be asked and provided for unloading of the material and the work should be done preferably in day light to avoid shortcut in haste which may infringe the safety requirements.
(ix)	<u>SAFETY ASPECTS TO BE OBSERVED WHILE WORKING IN OHE AREA</u>

a)	No electrical work close to running track shall be carried out without permission of railway representative.
b)	A minimum distance of 2m has to be maintained between live OHE wire and body part of worker or tools or metallic supports etc.
c)	No electric connection etc. can be tapped from OHE.
d)	Authorized OHE staff should invariably be present when the relaying work or any major work is carried out.
e)	Power block is correctly taken and 'permit to work' is issued.
f)	The structure bonds, track bonds, cross bonds, longitudinal rail bonds are not disturbed and
g)	If disconnected for the work, they are reconnected properly when the work is completed
h)	The track level is not raised beyond the permissible limit during the work.
4.0	<u>PROTECTION OF TRACK DURING EMERGENCY</u>
(i)	<p>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.</p> <p>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.</p> <p>Attempts shall also be made to send an advice to nearest Railway station about the incident immediately. Protection of the track shall be done as per Annexure-IV of the Compendium of instructions on Safety at Work Sites 31.03.2014</p>
(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)	Action to 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 that 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
5.0	<u>TRAINING TO SUPERVISORS AND OPERATORS OF CONTRACTOR</u>
	<p>The Supervisors and Operators of the contractor proposed to be deployed at wok 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-in charge 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 per Annexure-as given below 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.</p> <p>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. 500/- per man day shall be recovered from Contractor.</p>
6.0	<u>SPECIAL CONDITIONS FOR WORKING OF ROAD CRANES</u>
	<p>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: -</p> <ol style="list-style-type: none"> 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. The contractor shall ensure that a valid Certificate of Fitness is available before use of Road Cranes. Contractors should utilize the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories 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. 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

7.0	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 in Charge before taking final decision. In case contractor is found responsible for the mishap, recovery from him will be affected for only tangible direct losses.
8.0	For detailed instructions regarding safe working at works site, the compendium of instructions on safety at work site dated 31-03-2014 issued by PCE office shall be referred which is available in tender document.
9.0	<p style="text-align: right;"><u>Annexure-A</u></p> <p style="text-align: center;"><u>Competency Certificate</u></p> <p>Certified that ShriSupervisor/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.</p> <p>This certificate is valid only for the work mentioned in this certificate only.</p> <p>Signature and designation of the officer</p>

ESTABLISHING SITE OFFICE AND SITE LABORATORY

1.0	<p><u>SITE OFFICE:</u> -</p> <p>The Contractor shall establish the camp office at site 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 & laborers in or about the execution of any of these works as are careful and skilled in the various trades. The Camp office shall be completely equipped for office working with provision of sufficient T&Ps, Office Equipment, accessories including advance version of PCs, printer, Fax, mail, phone etc. and also with facilities like sitting, drinking water etc. The area of the office and facilities required must be sufficient enough to ensure effective office working at site office itself without any difficulties and issues. Suitable site on railway land, if conveniently available, may be allowed to the contractor for setting up the site office, site laboratory, either free of charge or on such terms and conditions that may be prescribed by Railways.</p>
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2.0	SITE LABORATORY: - The site laboratory shall be established and maintained by the contractor as for effective implementation of the QAP and approved method statements of particular activities, all the equipment shall be properly calibrated at all times. The other requirements like water tank, generator etc. shall also be maintained.																																																												
2.1	A well-qualified, competent and know ledged Laboratory supervisor shall be deputed at the site laboratory to conduct all the required tests, checks at the specified frequencies and keep proper record, documentation in soft as well as hard registers.																																																												
2.2	The equipment required for periodic quality checks and test to be conducted at laboratory and in field shall be maintained in the project. All the required machines, T&Ps, consumables, testing facilities shall be maintained in the site laboratory as required as per relevant Code, Manuals, RDSO guidelines, specification of USSOR, Contract Agreement etc. A brief list of the equipment to be kept at the laboratory are listed as under for guidance, however, the Engineer in charge is free to maintain any additional equipment, T&Ps as deemed necessary due to site specific requirements																																																												
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2.2.2	Equipment for Geo-Technical Engineering Field Laboratoryfor formation – Minimum equipment should be as per “COMPREHENSIVE GUIDELINES AND SPECIFICATIONS FOR RAILWAY FORMATION Specification No. RDSO/2020/GE: IRS-0004” with upto date correction slip.																																																											
3.0	RECORD KEEPING AND DOCUMENTATION - The following records are to be maintained by the contractor for the works as detailed below. In addition, Engineer-in charge is free to maintain any additional records as deemed necessary due to site specific requirements. These records with all pages serially numbered should have the basic information like name of work, agreement no., Agency, Location, etc. on their covers / first page.																																																											
	<table><tr><th>Sl.No.</th><th>NAME OF THE RECORD</th><th>TO BE MAINTAINED FOR</th></tr><tr><td>1</td><td>Site order book</td><td rowspan="5">All works.</td></tr><tr><td>2</td><td>Daily progress register</td></tr><tr><td>3</td><td>Hindrance register</td></tr><tr><td>4</td><td>Technical register</td></tr><tr><td>5</td><td>Material Passing register</td></tr><tr><td>6</td><td>Cement consumption register</td><td>all cement involving works</td></tr><tr><td>7</td><td>Reinforcement steel accountal register</td><td rowspan="2">All RCC/PSC works and MCC works with temperature reinforcement</td></tr><tr><td>8</td><td>Reinforcement steel consumption</td></tr><tr><td>9</td><td>Field tests for sand</td><td>all cement involving works</td></tr><tr><td>10</td><td>Field tests for C A</td><td>all concrete involving works</td></tr><tr><td>11</td><td>Field test for cement</td><td>all cement involving works</td></tr><tr><td>12</td><td>Field test for steel</td><td>all steel involving works</td></tr><tr><td>13</td><td>Slump test</td><td>all concrete involving works</td></tr><tr><td>14</td><td>Concrete cube testing register</td><td>all concrete involving works</td></tr><tr><td>15</td><td>Pile passing register</td><td>for buildings and structures with pile founds</td></tr><tr><td>16</td><td>Shuttering passing register</td><td>all concrete involving works</td></tr><tr><td>17</td><td>Permeability of concrete</td><td>major bridges</td></tr><tr><td>18</td><td>Stressing record of PSC girder</td><td>PSC girder bridges</td></tr><tr><td>19</td><td>Record of grouting of cable ducts</td><td>PSC girder bridges</td></tr><tr><td>20</td><td>Level books</td><td>Earthwork in formation/projects</td></tr></table>	Sl.No.	NAME OF THE RECORD	TO BE MAINTAINED FOR	1	Site order book	All works.	2	Daily progress register	3	Hindrance register	4	Technical register	5	Material Passing register	6	Cement consumption register	all cement involving works	7	Reinforcement steel accountal register	All RCC/PSC works and MCC works with temperature reinforcement	8	Reinforcement steel consumption	9	Field tests for sand	all cement involving works	10	Field tests for C A	all concrete involving works	11	Field test for cement	all cement involving works	12	Field test for steel	all steel involving works	13	Slump test	all concrete involving works	14	Concrete cube testing register	all concrete involving works	15	Pile passing register	for buildings and structures with pile founds	16	Shuttering passing register	all concrete involving works	17	Permeability of concrete	major bridges	18	Stressing record of PSC girder	PSC girder bridges	19	Record of grouting of cable ducts	PSC girder bridges	20	Level books	Earthwork in formation/projects	
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	21	Soil test reports for fill materials	
	22	Soil test reports for blanketing materials	
	23	Earthwork compaction register	
	24	CBR test reports	Earthwork in formation (for 25t+ axle Load only) and road works as per agreement
	25	Ballast Register	Ballast supply
	26	Stressing Register	PSC work
	27	Cable profile Register	
	28	Structural Steel Register	
	29	Rivet, HSFG check register	Steel Structure Work
	30	Camber register	
	31	Metalizing and painting Register	
	32	Inspection Note and Compliance register	
			All works
4.0	The tests required to be conducted outside the Site established laboratory shall be got done through NABL accredited lab, Central /state govt. approved or owned laboratory /Test house / Government Engineering college/Govt. Polytechnic college only. The contractor shall inform regarding the name, details and accreditation documents of the particular laboratory in writing and seek approval of the Engineer in charge of workor competent authority as per guideline/ code/ manual etc., well in advance. Engineer in charge shall accord approval of the particular laboratory lab, after ensuring testing equipment, records keeping, competency of staff etc. of the laboratory		

IMPORTANT CODAL PROVISIONS

1.0	Indian Railways Unified Specifications with latest correction slip are applicable for IRUSSOR items for Railway Formation Works, Bridge Works and P. Way Works.
2.0	CPWD Specifications (Vol. I, Vol. II) with latest correction slip is applicable for DSR items for execution of all civil engineering works related to Building works, Road works and Horticulture works etc.
3.0	Specifications of items are complementary to applicable Indian Railway's codes, manuals, specifications & guidelines including IS codes and other international standards. The provisions in codes listed in these specifications and specifications accompanying the contract documents so far as they are applicable shall be strictly followed. In case of any contradictions between these specifications and latest amended relevant codes, manuals, specification and guidelines, the later shall prevail to that extent of contradictions.
4.0	Specifications, guidelines & IS codes are available online. Few Railway links are as below - i) For bridge and Structure(Manual, Rule & Code) - https://indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,1,304,366,526,1592 ii) For IRUSSOR & DSR specifications– https://indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,1,304,366,526,2402 iii) For RDSO guideline, reports, specifications& drawings https://rdso.indianrailways.gov.in/view_section.jsp?lang=0&id=0,4 iv) For Indian Railway Act, Codes and Manuals https://indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,5,377
5.0	The Contractor shall, at least 15 (fifteen) days prior to the commencement of any construction activity, submit to Engineer- in charge for review the Method Statement proposed to be adopted for executing the Work as per Railway Manual, Code, Guideline, IS code etc., giving details of inspection checklist, quality parameters, equipment to be deployed, traffic management and measures for ensuring safety. Engineer- in charge shall complete the review and convey its comments, if any, to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed method statement from the Contractor. The Contractor shall revise the method statements by incorporating these comments or else will advise the Engineer- in charge reasons for not/partially including the same.
6.0	Training of Personnel Railways & Contractors Engineers (Applicable for Tenders costing above Rs.20 Cr.): To achieve good quality work, a good working knowledge and experience is required. Practical training in important field of work covering major items included in scope of work in the subject tender (such as concreting, steel fabrication, earthwork as per GE: IRS-0004 specification etc.) should be imparted by the contractor at his own cost through trainer duly approved by concerned Chief Engineer/C to all engineers i.e. Contractor's and Railways. What constitutes the major items of the work will be decided by the Engineer in Charge in consultation with the contractor. No extra payment will be made to the contractor on this account.
7.0	SPECIFICATIONS FOR SUPPLYING AND STACKING STONE BALLAST
7.1	CONDITION FOR SUBMISSION OF TENDER(Refer Railway Board and RDSO latest guidelines and special condition 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. Test report should be of stone ballast of intended source/quarry. These shall have to be in accordance with IS codes as under:

	<p>Aggregate abrasion value testIS: 2386 Part IV 1963. Aggregate impact value testIS: 2386 Part IV 1963 Water absorption test IS: 2386 Part III 1963.</p> <p>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 below otherwise their offer shall be summarily rejected. 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).</p> <p>(i) Government Engineering College. (ii) Government Polytechnic College. (iii) Engineering Workshop, Bhagat Ki Kothi, Jodhpur/Sabarmati, Ahmadabad / any other Railway Laboratory. (iv) Laboratory /Test house owned / approved by Central / State Government/NABL approved Laboratory.</p>
(b)	Undertaking that the tenderer/s shall supply the ballast supply at all times Conforming to the specifications for track ballast as specified by Railway. (applicable to the ballast tenders only)
7.2	SPECIFICATION FOR STONE BALLAST: -It should be as per "SPECIFICATIONS FOR TRACK BALLAST (IS/RDSO-GE/0001: 2023) with latest correction slip.
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 shall be machine crushed.
7.2.2	PHYSICAL PROPERTIES:
7.2.2.1	<p>Ballast sample should satisfy the following physical properties in accordance with IS: 2386 part-IV-1963(Reaffirmed in 2021), when tested as per the procedure given in Annexure-I & II of specifications for track ballast from RDSO Geo-Technical Engineering Directorate.</p> <p>Aggregate abrasion value 30% maximum. Aggregate impact value.....20% maximum.</p>
7.2.2.2	The water absorption tested as per IS: 2386 part-III-1963 (Reaffirmed in 2021)(when tested as per the procedure given in Annexure-III of RDSO Geo-Technical Engineering Directorate) should not be more than 1%.
7.3	The track ballast shall be procured confirming to specifications for Track Ballast-IS/RDSO-GE/0001:2023 issued by RDSO with amendments up to the date of opening of tender.

ANNEXURE-I

(Para 16.1(a) of General Instructions) & clause No. 14 (i), (ii) Part-I of GCC-2022, with up to date correction slip)

1.	Full name of the firm	
2.	Registered Head Office Address	
3.	Branch Office in India (If any)	
4.	Constitution of firm (whether Sole proprietorship firm/Partnership firm/ Limited Company/Joint Venture (JV)/ Registered Society/ Registered Trust /LLP/HUF etc.)	
5.	Bank account details of the firm i.e. Account No., name of bank and bank specific code number (MICR & IFSC) to facilitate electronic payment.	
6.	Detail of PAN of the firm	
7.	E Mail ID	

NOTES: -

1. Tender document has to be signed by such persons as may be legally competent to sign on behalf of the firm, company, association, JV,HUF, LLP, trust or society as the case may be.
2. **If tenderer is JV, then the Annexure-I shall be submitted by the Joint Venture only.**
3. **If the tenderer does not submit Annexure-I, their offer will summarily be rejected.**

Date:

Signature of Tenderer/s

With Seal

(Para16.1(b) of General Instruction &Reference – Clause 6.1 of ITT of GCC 2022 with up to date correction slip)

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

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

1. I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we certify that I/we the tenderer(s) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8. I/we understand that if the contents of the certificate submitted by us are found to be forged/false at any time during process for evaluation of tenders, it shall lead to forfeiture of the Bid Securityand may also lead to any other action provided in the contract including banning of business for a period of up totwo year. Further, I/we (*insert name of the tenderer*) **_____and all my/our constituents understand that my/our offer shall be summarily rejected.

9. I/we also understand that if the contents of the certificate submitted by us are found to be false/forged at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of Bid Security/Security Deposit and Performance guarantee and may also lead to any other action provided in the contract including banning of business for a period of up to two year.
10. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfill all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed)

SEAL AND SIGNATURE
OF THE TENDERER

Place:
Dated:

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

Note:- If tenderer is JV then the Annexure-II shall be submitted by the Joint Venture bidder only.

ANNEXURE-II(A)

(Para 16.1(b) of General Instruction & Reference - Clause 6.1 of ITT of GCC 2022 with up to date correction slip)

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

I/we (Name), attorney/ authorized signatory of the
(Constituent firm/ constituent partner) and member/ partner of the (Tendering
firm) hereby solemnly affirm and state as under:-

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

SEAL AND SIGNATURE
OF THE CONSTITUENT FIRM/ CONSTITUENT PARTNER

Place:

Dated:

Note: This annexure shall be submitted by each (and all) member(s) of Partnership firm/ Joint Venture (JV)/ Hindu Undivided Family (HUF)/ Limited Liability Partnership (LLP) etc.

“ANNEXURE -III”

Para 16.1(c)(i) of General Instructions & Clause No. 10.1(a) and explanation to clause 10 - Part-I of GCC-2022 with up to date correction slip.

Details of works of similar nature physically completed/substantially completed in all respect as per contract agreement during last seven years, ending last day of month previous to the one in which tender is invited.

NAME OF BIDDER/JV PARTNER: -

SN	Name of work	Name of organization for whom work physically completed/ substantially completed	Type of organization for whom work executed.	Contract Agreement No. & Date	Original value of contract agreement	Final value of contract as completed /substantially completed	Payment received under this contract till ending last day of month previous to the one in which tender is invited.	Time taken for completion of work		Principal feature of the work in brief
								Date of award of contract	Date of actual completion	
1	2	3	4	5	6	7	8	9	10	11

Dated: -

Signature of Tenderer/s
With seal

Note:-

- (i) Above detail should be given only for works which have been physically completed in all respects, for the similar nature work defined in clause 15.5 above.
- (ii) Certificate from Private individual for whom such works are executed shall not be considered for eligibility of tenderers.
- (iii) The tenderers should attach self-attested copy of certificate issued by the organizations for whom the work was carried out in the Performa as per Annexure-IV-A, IV-B, IV-C as applicable.
- (iv) In column 4 type of organization is to be mentioned viz. Central/ State Governments /Public Sector Undertaking/Public Funded Institutions/Municipal Bodies /Railways Siding owners /

Public listed company.

- (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10% of advertised value of the tender (for works without composite components).
- (vi) No technical and financial credentials are required for tenders having value up to Rs.50 lakhs.
- (vii) 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.
- (viii) 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.
- (ix) If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials. (Except for substantially completed works)
- (x) In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
- (xi) For col. no. 7, the value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work.
- (xii) In case, the Remaining Component(s) has/ have been defined in clause 15.5 above, the details of successfully completed works of similar nature (that defined for the remainingComponent), executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above Performa.
- (xiii) Attested copy of Completion Certificate of works mentioned in Para (c) above from (xiii) the Organizations with whom they worked as per Performa given in **Annexure-IVA or IV-B or IV-C** as applicable.
- (xiv) **Meaning of substantially completed:** - 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.

Annexure III- A

As per parano. 16.1(c) (ii) of General Instruction above, Clause No. 10.1b(ii), and explanation to clause 10 of Part-I of GCC-2022 with up to date correction slip.

FOR COMPOSITE TENDERS

(A tender having combination of two or more different nature works i.e. formation work, bridge work, building work, s & t work, OHE work etc.)

NAME OF BIDDER/JV PARTNER: -

SN	Name of work in which component work is executed.	Name of organization for whom work physically completed/ substantially completed.	Type of organization for whom work executed.	Contract Agreement No. & Date	Original value of contract agreement	Final value of contract as completed /substantially completed	Payment received under these components till ending last day of month previous to the one in which tender is invited.	Time taken for completion of work		Principal feature of the work in brief
								Date of award of contract	Date of actual completion	
1	2	3	4	5	6	7	8	9	10	11
Component A										
Component B										
Component C										

Dated:-

Signature of Tenderer/s
With Seal.

Note: -

- (i) Component wise details mentioned above for the similar nature work defined for the various components in clause 15.5 above, should be supported by completion certificate submitted under Annexure- IV-A, IV-B, IV-C. In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
- (ii) No technical and financial credentials are required for tenders having value up to Rs. 50 lakhs
- (iii) 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.

- (iv) If a work is physically completed/ substantially 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.
- (v) If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials. (Except for substantially completed works)
- (vi) In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
- (vii) For col. 5 - The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work.
- (viii) In case, the remaining Component(s) has/ have been defined in clause 15.5 above, the details of successfully completed works of similar nature (that defined for the remaining Component), executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above Performa.
- (ix) Attested copy of Completion Certificate of works mentioned in Para (c) above from the Organizations with whom they worked as per Performa given in Annexure-IV-A or IV-B or IV-C as applicable.

Note: Components to be filled as per SCC clause 15.5

ANNEXURE-IV(A)

(Para 16.1 (d) of General Instructions) & Clause No. 11(i), and explanation to clause 10 of Part-I of GCC-2022 with up to date correction slip.

COMPLETION CERTIFICATE

Name of Organization

Postal address,

Phone No..... Email ID..... Fax No..... Letter

No..... Date:-.....

1.	Name of work	
2.	Contract Agreement (C/A) No. and date	
3.	Name of Firm with address	
4.	Nature of entity (Sole Prop./Partnership firm/company/Joint Venture firm/Registered Society /registered Trust etc.)	
5. (i)	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(ii)	In case of Sole Proprietorship, the name of sole proprietor.	
6.	Original value of contract agreement.	
7.	Completion Cost of Work (till the last day of the month previous to the one in which present tender is invited)	
7.1	In case final payments have been made- Contract Cost in last approved variation statement plus PVC amount paid	
7.2	In case final bill is pending -	
(i)	The contract cost in last approved variation statement plus PVC amount paid	
(ii)	Cumulative amount paid up to last on-account bill including PVC amount and statutory deductions	
8.	Date of award of contract	
9.	Has the work physically been completed in all respect as per contract agreement?	(Yes / No)
10.(i)	If yes, then actual date of physical completion	
(ii)	Whether extension to DOC given with penalty or without penalty	
11.	Total payment made in above contract till the last day of the month previous to the one in which present tender is invited along with financial year –wise break-up	
12.	In case of composite work: Payment made for relevant distinct	

	component of the work, out of total payment made under Sr. No. 7 above. (till the last day of the month previous to the one in which present tender is invited)	
12.1	In case final payments for the component have been made- Cost of component in contract in last approved variation statement plus PVC amount paid	
12.2	In case final bill is pending -	
(i)	The Cost of component in contract in last approved variation statement plus PVC amount paid	
(ii)	Cumulative amount paid for the component up to last on account bill including PVC amount and statutory deductions	
13.	Performance of Contractor (Satisfactory/Unsatisfactory)	

I hereby certify that above mentioned work has been physically completed in all respect as per contract agreement. Performance of the contractor while executing the work had been satisfactory.

Date-.....

(Signature)
Name and Designation of officer
Mobile No. of officer Seal of officer

Note: -

- (i) Submission of false certificates by tenderer shall lead to, forfeiture of EMD (if applicable), and other action including penal action (Annexure-II).
- (ii) Copy of certificate duly self-attested shall be submitted along with tender document
- (iii) Payment made till the last day of the month previous to the one in which present tender is invited as indicated in above certificate (At Sr. No. 11/ Sr. No. 12) will be considered as value of completed work for the purpose of eligibility under special technical criteria.
- (iv) Above format is for guidance only. Any certificate containing information asked for shall be considered.
- (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
- (vi) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
- (vii) Only those works will be treated as composite works which consist of more than one distinct component of work such as Civil Eng. Works, S&T work, Electrical work, OHE work etc.

- and there is separate schedule for each such distinct components in the tender documents.
- (viii) No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs.
 - (ix) 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.
 - (x) 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
 - (xi) If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials. (Except for substantially completed works)
 - (xii) In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
 - (xiii) For Col. 7 & 12 -The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work/component.
 - (xiv) In case, the remaining Component(s) has/ have been defined in clause 15.5 above, the Attested copy of Completion Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above Performa.
 - (xv) **For bidders submitting credentials of work which is composite in nature, shall mandatorily bifurcate the components for verifying their technical eligibility in accordance to similar nature defined in the tender document.**

ANNEXURE-IV-(B)

(Para 16.1(d) of General Instructions) & Clause No. 11(i), and explanation to clause 10 of Part-I of GCC-2022 with up to date correction slip.

SUBSTANTIALLY COMPLETION CERTIFICATE

(Declaration below the table by certificate issuing authority is mandatory)

Name of Organization

Postal address,.....

Phone No..... Email ID..... Fax No..... Letter No..... Date:-.....

1.	Name of work	
2.	Contract Agreement (C/A) No. and date	
3.	Name of Firm with address	
4.	Nature of entity (Sole Prop./Partnership firm/company/Joint Venture firm/Registered Society /registered Trust etc.)	
5.	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(i)		
(ii)	In case of Sole Proprietorship, the name of sole proprietor.	
6.	Original value of contract agreement.	
	Value of last sanctioned	
7.	(i) Cost of work substantially Completed –(Bifurcation as below) . (Mandatory)	
7.1	Payments done so far - till the last day of the month previous to the one in which present tender is invited (i) Contractual (Mandatory) (ii) PVC (Mandatory)	
8.	Date of award of contract-	
9.	Has the work physically been completed 90% or more in all respect as per contract agreement?	(Yes / No)
10.	Whether extension to DOC given with penalty or without penalty	(Yes/No)
11.	Total payment made in above contract till the last day of the month previous to the one in which present tender is invited along with financial year –wise break-up	
12.	In case of composite work Payment made for relevant distinct component of the work, out of total payment made under Sr. No. 7 above.(till the last day of	

	the month previous to the one in which present tender is invited)	
12.1	Payments for the component have been made- Cost of component in contract in last approved variation statement plus PVC amount paid	
13.	Performance of Contractor (Satisfactory/Unsatisfactory)	

***I hereby certify that above mentioned work has been substantially completed (90% or more than contract including updated cost) in all respect as per contract agreement and no proceeding of termination of contract on contractor's default has been initiated.**

Date-.....

(Signature)

Name and Designation of officer

Mobile No. of officer Seal of officer

Note: -

- (i) Submission of false certificates by tenderer shall lead to, forfeiture of Bid security (if applicable), and other action including penal action (Annexure-II).
- (ii) Copy of certificate duly self-attested shall be submitted along with tender document
- (iii) Payment made till the last day of the month previous to the one in which present tender is invited as indicated in above certificate (At Sr. No. 11/ Sr. No. 12) will be considered as value of completed work for the purpose of eligibility under special technical criteria.
- (iv) Above format is for guidance only. Substantially completed work certificate containing information asked for shall be considered.
- (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
- (vi) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
- (vii) Only those works will be treated as composite works which consist of more than one distinct component of work such as Civil Engg. Works, S&T work, Electrical work, OHE work etc. and there is separate schedule for each such distinct component in the tender documents.
- (viii) No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs.
- (ix) 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.

- (x) If a part or a component of work is completed but the 90% intended scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials.
- (xi) In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
- (xii) For Col. 7 & 12 -The value of updated bill till the last day of the month previous to the one in which present tender is invited including PVC amount-if paid, shall be considered as the substantial completion cost of work/ component.
- (xiii) In case, the remaining Component(s) has/ have been defined in clause 15.5 above, the Attested copy of substantially Completed work Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above Performa.
- (xiv) **The credential certificate for substantially completed work should have been issued not prior to 60 days of date of invitation of present tender.**
- (xv) **For bidders submitting credentials of work which is composite in nature, shall mandatorily bifurcate the components for verifying their technical eligibility in accordance to similar nature defined in the tender document.**

ANNEXURE-IV-(C)

(Para 16.1 (d) of General Instructions) & Clause No. 11(i), and explanation to clause 10 of Part- I of GCC 2022 with up to date correction slip.

COMPLETION CERTIFICATE

(If the work is awarded by Public Listed Company)

Name of Concessionaire :-----

Address :-----

Contract details i.e. Phone No...:-----Fax-----e-mail Id.....

Letter No..... Date:-.....

1.1	Name of work /Project	
1.2	Name and Address of the Public Listed Company	
1.3	Number as incorporated/ registered in the National stock exchange or Bombay stock exchange	
1.4	Date of getting listed in NSE/BSE (document to be attached as per note (vi) below).	
1.5	Average Annual turnover of the public listed company in last three financial years excluding current financial year. (details to be attached as per proforma in annexure VIII as per note (vii) below)	
2.	Contract Agreement (C/A) No. and date	
3.	Name of Firm with address	
4.	Nature of entity (Sole Prop./Partnership firm/company /Joint Venture firm/Registered Society /registered Trust etc.)	
5.(i)	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(ii)	In case of Sole Proprietorship, the name of sole proprietor	
6.	Original value of contract agreement.	
7.	Completion Cost of Work(till the last day of the month previous to the one in which present tender is invited)	
7.1	In case final payments have been made- Contract Cost in last approved variation statement plus PVC amount paid	
7.2	In case final bill is pending -	
(i)	The contract cost in last approved variation statement plus PVC amount paid	
(ii)	Cumulative amount paid up to last on-account bill including PVC amount and statutory deductions	

8.	Date of award of contract	
9.	Has the work physically been completed in all respect as per contract agreement?	(Yes/No)
10.(i)	If yes, then actual date of physical completion.	
(ii)	Whether extension to DOC given with penalty or without penalty	
11.	Total payment made in above contract till the last day of the month previous to the one in which present tender is invited along with financial year –wise break-up	
12.	In case of composite work: Payment made for relevant distinct component of the work, out of total payment made under Sr. No. 7 above.(till the last day of the month previous to the one in which present tender is invited)	
12.1	In case final payments for the component have been made – Cost of component in contract in last approved variation statement plus PVC amount paid.	
12.2	In case final bill is pending -	
(i)	The Cost of component in contract in last approved variation statement plus PVC amount paid	
(ii)	Cumulative amount paid for the component up to last on account bill including PVC amount and statutory deductions	
13.	Performance of Contractor (Satisfactory/Unsatisfactory)	

I hereby certify that above mentioned work has been physically completed in all respect as per contract agreement. Performance of the contractor while executing the work had been satisfactory.

Signature & Name of Authorized Person
of the Concessionaire with Seal and
Mobile No. of Issuing Person

Note:-

Following documents regarding the Public listed company are required to be submitted along with the certificate **(Mandatory)**

1. Details of Average Annual turnover of the public listed company in last three financial years excluding current financial year (should be 500 Cr and above) issued by Chartered Accountant. These details need to be submitted as per the proforma of Annexure VIII.
2. The copy of the documents regarding listing in the National stock exchange or Bombay stock exchange with details of status of listing as on date of opening of tender, duly self-attested.
3. The copy of the document of incorporation/ registration of the Public listed company (should be at least 5 years prior to date of closing of tender), duly self-attested.
4. The copy of document regarding Person Authorized by the Public listed Company to issue such certificate, duly self-attested.

5. 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 a copy of final/last bill paid by the public listed company in support of above work experience certificate duly self-attested.
- (i) The certificate shall not be taken into consideration if any of the above conditions, prerequisites is not fulfilled or required supporting mandatory documents are found deficient.
 - (ii) Submission of false certificates by tenderer shall lead to, forfeiture of Bid security (if submitted as per para 5.1.2 above) and other action including penal action (Annexure-II).
 - (iii) Above format is for guidance only. Any certificate containing required information asked for shall be considered
 - (iv) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
 - (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
 - (vi) Only those works will be treated as composite works which consist of more than one distinct component such as Civil Engg. Works, S&T work, Electrical work, OHE work etc. and there is separate schedule for each such distinct components in the tender document
 - (vii) 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.
 - (viii) If a work is physically completed till the last day of the month previous to the one in which present tender is invited 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.
 - (ix) If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials. (Except for substantially completed works)
 - (x) In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
 - (xi) For Col 7 & 12 -The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work/ component.

- (xii) In case, the remaining Component(s) has/ have been defined in clause 15.5 above, the Attested copy of Completion Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above performa.
- (xiii) **For bidders submitting credentials of work which is composite in nature, shall mandatorily bifurcate the components for verifying their technical eligibility in accordance to similar nature defined in the tender document.**

ANNEXURE-V

(Para 16.1 (f) of General Instructions) & (Clause No.10.3 of Part-I of GCC-2022, with up to date correction slip)

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

(Mandatory for tenders more than Rs. 10 Cr value wherein eligibility criteria includes Bid Capacity also, to evaluate Bid Capacity of tenderer)

NAME OF BIDDER/JV PARTNER: -

Sr. No	Name & place of work	Organization for whom work is being carried out	Date of award of contract, Contract Agreement No. & Date	Original cost of work /Revised Cost	Date of Completion (Original/ Extended)	Payment Received till Date of invitation of present tender	Balance amount of the work to be executed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) (5)– (7)
1							
2							
3							
4							
						Total	

Date: -

(Signature of Chartered Accountant)

Name of CA: _____

Registration No: _____

UDIN Number _____

(Seal)

Signature of Tenderer/s with seal

NOTE to Annexure - V :-

- (a) This statement should be submitted duly verified by Chartered Accountant and it shall bear UDIN number also.
- (b) In case of no works in hand, a 'NIL' statement should be furnished duly verified by chartered Accountant.
- (c) In case of JV firm, the details of works with each member of JV is required to be submitted duly verified by Chartered Accountant.
- (d) In case, the tenderer/s failed to submit the above statement along with offer or if the submitted statement is without verification of chartered accountant or **without UDIN number, their/his offer shall be considered as incomplete and will be rejected summarily.**
- (e) 'B' is the Value of existing commitments and balance amount of ongoing works with the tenderer as per the prescribed Performa 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.

ANNEXURE-VI

(Para 16.1 (h) of General Instructions)& Clause No.11(iii) Annex.I of Part-I of GCC-2022, with up to date correction slip.

LIST OF PLANTS & MACHINERY AVAILABLE ON HAND AND PROPOSED TO BE INDUCTED (OWN AND HIRED TO BE GIVEN SEPARATELY) FOR SUBJECT WORK

Sr. No	Particulars of Plants/Machinery	No. of Unit	Kind and make	Capacity	Age & Conditions	Owned by firm	Proposed to be purchased	
							Date of placing order	Likely date of receipt
1								
2								
3								
4								
5								
6								
7								

Note: -

- (a) Indicate clearly, whether (i) Owned by firm, or (ii) To be purchased by firm giving date of placing order and likely date of receipt.
- (b) Optimum Plants and Machineries required to be deployed during execution of work.
 - (i) Earthwork in formation of New Line / Doubling/ Gauge Conversion Project: Poclain, JCB, Vibratory Roller, Grader, Dumpers, Tractors, Water tank etc.
 - (ii) Concreting work for bridge work: Concrete pump, Transit mixer as per requirement, Batching plant of suitable capacity, JCB, Needle vibrator 60/40mm etc.

Signature of Tenderer/s

Dated:.....

ANNEXURE-VII

(Para 16.1 (i) of General Instructions) & Clause No.11 (iii) Annexure-I of Part-I of GCC-2022, with up to date correction slip.

**LIST OF PERSONNEL ORGANIZATION AVAILABLE ON HAND
AND PROPOSED TO BE ENGAGED FOR THE SUBJECT WORK**

Sr. No.	Name & Designation	Qualification	Professional experience	Remarks
1.	2.	3.	4.	5.
1				
2				
3				
4				
5				
6				
7				
8				
9				

Signature of Tenderer/s

Dated:

ANNEXURE-VIII

(Para 16.1(k) of General Instructions & Reference-Para 10.2 & 17.15.2 of Tender Form (Second Sheet) of Annexure I of ITT of GCC 2022 with up to date correction slip.

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

NAME OF BIDDER/JV PARTNER:

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

1. The average annual contractual turnover shall be calculated as an average of “total contractual payments” in the previous three financial years. However, in case balance sheet of the previous year is yet to be prepared/audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years in respect of the bidder or all members constituting the bidder.
3. Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant. Supporting audited balance sheet of all relevant years shall be uploaded mandatorily with the bid otherwise turnover of the particular year will not be considered.
4. Any certificate issued by statutory auditor/ CA to include Unique Document Identification Number (UDIN).

SEAL AND SIGNATURE OF THE BIDDER

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

(Signature of Chartered Accountant)

Name of CA: _____

Registration No: _____

UDIN Number _____

(Seal)

ANNEXURE-IX

(Para 16.2 (a)(a), 16.2.2 (a) of General Instructions)

AFFIDAVIT

(For sole proprietorship firm / Sole proprietorship firm participating as member of JV)

I..... (Indicate Name of Sole prop) S/o Age.....Sole Proprietor (Full address of Sole prop) of M/s..... (Indicate Name of Proprietary concern) situated at (Full address of Sole prop firm) do hereby solemnly affirm & declare as under:-

1. The firm working in the name & style of M/saddress.....(Indicate name – sole Proprietary firm) is a Sole proprietary concern, and

2. I.....(Name) am , who is signing this affidavit , is Sole proprietor of this concern.

Deponent

Signature and Seal

VERIFICATION

I, the above named deponent do hereby solemnly affirm & verify that the contents of my above affidavit are true & correct. Nothing has been concealed and no part of it is false.

Deponent

Signature and Seal

Place:-

Date:-

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in Force in that State at the time when such AFFIDAVIT is being executed. Affidavit shall be affirmed before the Notary Public.

(Para 18.7 of General Instructions) & Clause No. 17.6 of Annex.I Part-I of GCC-2022, with up to date correction slip)

MEMORANDUM OF UNDERSTANDING FOR JV

(The Memorandum of Understanding shall be submitted in following format on the non-judicial stamp of Rs.500/- duly notarized by Notary Public)

NOW THIS Memorandum of Understanding is executed at (Name of Place) on this date (DD/MM/YY) between M/s (Name of first constituent and address) as the first party represented by Shri and M/s (Name of 2nd constituent and address) represented by Shri As the second party and so on 3rd, 4th & 5th subsequent parties. (The expression and words of first and second and other shall mean and include their heir's successors, assigns, nominees, execution, administrators and legal representatives respectively).

WHEREAS all the parties are engaged mainly in the business of execution of Civil Engineering and general contracts for various Government Departments and Organizations.

AND WHEREAS the parties herein above mentioned are desirous of entering into a joint venture for carrying out Civil Engineering and/or contract works in connection with Tender No. (Name of work) "As mutually decided between members of Joint Venture Agreement.

1.	That we M/s (JV firm) on behalf of all members of this joint venture agreement agreed that M/s will be "Lead Partner" of this Joint Venture.
2.	That under this MOU, the work will be done jointly by M/s The first party and M/s the second and so on in the name and style of (Name)(Joint venture firm).
3.	That we JV firm M/s on behalf of all the members of JV firm shall be legally liable, severally and jointly responsible/ liable for the satisfactory/ successful execution/ completion of the works including maintenance period in all respects and in accordance with terms and conditions of the contract.
4.	That we M/s JV firm On behalf of all the members of the JV firm to which the contract is awarded, shall be jointly and severally liable to the Employer (Railways) for execution of the project in accordance with General and Special Conditions of the Contract. The JV members 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.
5.	M/s (Name of Lead Firm) of JV firm shall be the lead member of the JV firm who shall have a majority % share of interest in the JV firm. The other (One/Two) members shall have following share: - M/s (Name of Second Firm) have % and M/s (Name of Third Firm if any) have % share of interest in the JV Firm.
6.	That this JV 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.
7.	That we all the Joint Venture members authorize lead member M/S on behalf of the JV firm to

	<p>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/ correspondence with respect to the contract would be sent to this authorized member(Lead member) (Address) of the JV firm.</p> <p>In case the offer is submitted by the person other than those who is appointed as above and there is difference between the name of the person authorized as above and the person who digitally submitted the offer then our offer shall be deemed to be summarily rejected.</p>
8.	That no member of the JV 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 employer (Railways) in respect of the said tender/contract.
9.	That we all the members of the JV certify that we have not been black listed or debarred by Railways or any other Ministry/Department /PSU (Public Sector Undertaking) of the Govt. of India/ State Govt. from participation in tenders/contract in the past either in our individual capacity or as a member of the JV firm or partnership firm in which they were members/partners.. I/ We are aware that concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.
10.	That this Joint Venture MOU shall in all respect be governed by and interpreted in accordance with Indian Laws.
	<p>Now the parties have joined hands to form this MOU on this date (DD/MM/YY) with reference to and in confirmation of their discussions and understanding brought on record on date..... (DD /MM /YY).</p> <p>In witness thereof all/both the above named parties have set their respective hands on this MOU on the day, month and year first above mentioned, in the presence of the following witnesses:-</p> <ol style="list-style-type: none"> 1. First party (authorized signatory) 2. Second party (authorized signatory) 3. Third party (if any) (authorized signatory) <p>With Seal of parties Witnesses with name & full address:- 1.....</p> <p>2.....</p> <p>Date.....</p> <p>Place.....</p> <p><u>NOTE:</u> - Should MOU be in more than one separate page, each page shall be Signed by the authorized signatory.</p> <p>In para no 7 above the Authorized member of the JV shall be as per clause no.18.13 of tender document (Clause No.17.12 of GCC2022)</p>

Annexure-XI

(Para 16.2.4(ii) of General Instructions) & Clause No. 17.14.1 (ii) of Annex. I Part-I GCC 2022 with up to date correction slip.

“LETTER OF CONSENT”

(To be submitted by Partnership Firm participating as member of JV)

We the following partners of M/s (Indicate name of firm)
1).....(2).....(3).....(4).....(
5).....(6).....having its office at
.....hereby give our consent on behalf of M/s..... (Indicate name of
firm) in favour of Mr. (Indicate name of Partner), whose specimen
signature are appended below, for entering into Joint Venture Agreement with
M/s..... (Indicate name of other firm's) having office at
..... in connection with T. No Name of work
..... to sign & execute the MOU, JV agreement and all
other required documents pertaining to above said tender on behalf of firm.

We have read the contents of this letter of consent & accept the same and we hereby agree to
and ratify all acts, deeds & things of them or any documents executed by the said partner in the scope of
this letter of consent on behalf of firm.

This letter of consent is made at on

Name & Signature of Partner/s (Signature of Sh.)

DATE.....

1.....
2.....
3.....
4.....
5.....
6.....

Place:-.....

Seal of the Firm

Note:- The stamp duty of Rs. 500/- or shall be governed by the provision of the Law relating to stamp in
force in that State at the time.

Annexure-XII

(Para 16.2.2, 16.2.3, 16.2.5 & 16.2.7 of General Instructions) & clause No. 17.14 and second sheet of Annex I Part-I of GCC-2022, with up to date correction slip

POWER OF ATTORNEY

(To be submitted by Private/Limited Companies, Society/Trust, Sole Proprietor or HUF participating as member of JV)

BE IT KNOWN to all that I (Indicate name of Director/Sole Prop.) at the Company/Proprietary firm/HUF/Society/Trust (Indicate Name of Company / Sole Proprietary firm/HUF/Society/Trust) having its office at do hereby for and on behalf of the said Company/Proprietary firm/HUF/Society/trust appoint Sh.....S/o Shriage..... (Indicate Name of Nominee with full address) of the Company/Prop. Firm/HUF/Society/trust

as our Attorney, whose specimen signature are appended below to execute the MOU/ JV Agreement & all other required documents with M/s (Indicate Name of other Co. /Prop. firm)..... Situated at in connection with the following tender invited by North Western Railway:-
“T.No.....Name of work.....”

We/ I have read the content of this Special Power of Attorney & accept the same, and we/ I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

In witness where of I..... (Indicate name of Director/ Sole Prop/ Karta.) Of M/s..... (Indicate name of Co. / Prop. Firm/HUF) the above named Director / Proprietor has executed this Power of Attorney.

For M/s.....

(Sign. of Shri.....)

(Sign & Seal)

Place.....

Date:-.....

The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(For sole proprietor firm/HUF as member of JV- Not required if MOU/JV agreement is signed by the proprietor of the sole proprietor firm/ karta of HUF himself)

Annexure-XIII

(Para 16.2(ii)(c) of General Instructions) & clause No.18.10(ii), 15 Annex. I Part-I of GCC-2022, with up to date correction slip.

POWER OF ATTORNEY

(For Partnership Firms only)

BE IT KNOWN to all that we (1) (2).....
(3).....(4).....(5)..... all the partners of the
firm..... having its registered office at do hereby, for and on
behalf of the said firm appoint Shri..... (Name & designation) Special Attorney of the said firm
and authorize the said Shri..... (name), whose specimen signature are appended below, to do
all or any of the following acts deeds and/or things on behalf of the said firm and to represent the firm in respect for
the tender No (Name of work) invited by North
Western Railway.

1. To appear before office of North Western Railway related to the process of tendering for the above said tender.
2. To procure/download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender. In case the offer is submitted by the person other than those who is appointed as above and there is difference between the name of the person authorized as above and the person who digitally submitted the offer then our offer shall be deemed to be summarily rejected.
4. To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway.
5. To sign the agreement and other relevant documents & receive payment on behalf of firm.
6. To co-ordinate measurement through contractor's authorized engineer, witness measurement, sign measurement books on behalf of firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

We/ I have read the content of this Special Power of Attorney & accept the same and We/I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

Executants Partner

(Signature of Sri.....)

(Name & signature)

DATE:-

1.....

2.....

3.....

Place :-.....

4.....

Seal of Firm

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

Annexure-XIV

(Para 16.2(ii)(a) of General Instructions) & clause No. 15 Annex- I Part-I of GCC-2022, with up to date correction slip.

POWER OF ATTORNEY

(For Sole Proprietor Firm only)

BE IT KNOWN to all that I Sole Proprietor of the firm having its registered office at do hereby, for and on behalf of the said firm appoint Shri..... (Name & designation with full address) Special Attorney of the said firm and authorize the said Shri..... (name) whose specimen signature are appended below, to do all or any of the following acts deeds and/or things on behalf of the said firm and to represent the firm in respect for the tender No..... (Name of work)..... invited by North Western Railway.

1. To appear before office of North Western Railway related to the process of tendering for the above said tender.
2. To procure/download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway.
5. To sign the agreement and other relevant documents & receive payment on behalf of firm,
6. To co-ordinate measurement through contractor's authorized engineer, witness measurement, sign measurement books on behalf of firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to Arbitration Tribunal.

I have read the content of this Special Power of Attorney & accept the same and I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

(Sign. with name of Power Attorney Holder)

(Name & sign. of Sole Proprietor)

Dated

Place

(Seal of Firm)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized. (Not required if tender is uploaded by Proprietor himself)

(Para 16.2 (ii)(d) of General Instructions) & clause No. 14(e) and 15 of Part-I of GCC-2022, with up to date correction slip.

POWER OF ATTORNEY
(For Private/Limited companies only)

BE IT KNOWN To all that (Name of firm) having its registered office at do hereby, for and on behalf of the firm appoint Shri..... (Name & designation) Special Attorney of the said firm and authorize the said Shri..... (name) whose specimen signatures are appended below, to do all or any of the following acts deeds and/or things on behalf of the said firm and to represent the firm in respect for the tender No..... (Name of work)..... invited by North Western Railway

1. To appear before office of North Western Railway related to the process of tendering for the above said tender.
2. To download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway.
5. To sign the agreement and other relevant documents & receive payment on behalf of Company
6. To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of Company.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

We have read the content of this Special Power of Attorney & accept the same and we hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

(Signature of Shri)
Authorized signatory of the firm

Dated.....

Place

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

MODEL FORM OF BANK GUARANTEE BOND FOR PG

To,

FA & CAO/CONSTRUCTION,
North Western Railway,
Jaipur (Raj.)

1. In consideration of the President of India acting through (indicate designation of concerned CE/Dy. CE) (hereinafter called “the Government”) having agreed to exempt – (Name & address) ----- (hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement dated ----- made between ----- and ----- for ----- (hereinafter called “the said Agreement”), of Performance Guarantee for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs.----- (Rupees ----- only) we, ----- (hereinafter referred to as “the Bank” at the request of ----- (contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs. ----- against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We ----- (indicate the name of the bank) and our local branch at Jaipur i.e. ----- (name, address and branch code of local branch at Jaipur) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said contractor(s) of any of the terms of conditions contained in the said Agreement or by reason of the contractor(s) failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. -----
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier (s) in any suite or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s)/supplier(s) shall have no claim against us for making such payment.
4. We..... (Indicate the name of bank) and our local branch at Jaipur i.e. (name, address and branch code of local branch at Jaipur) further agreed with the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance/of the said Agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till ----- (office/Department) Ministry of----- certifies that the terms and conditions of the said

Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on in writing on or before the ----- we shall be discharged from all liability under this guarantee thereafter.

5. We..... (Indicate the name of bank) and our local branch at Jaipur i.e.(name, address and branch code of local branch at Jaipur) further agree with the government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor(s) from time to time or to post opens for any time or from time to time any of the powers exercisable by the Government against the said, Contractor(s) and to further or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or commission on the part of the Government or any indulgence by the Government to the said Contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6.

7.

Dated the..... day of 2026

For (indicate the name of bank) and our local branch at Jaipur i.e. (Name, address and branch code of local branch at Jaipur).

ANNEXURE-XVII

(Para 16.2.5(c) of General Instructions & Clause No. 17.14.3 (i) of Annex.I Part-I of GCC-2022, with up to date correction slip)

SPECIMEN BOARD'S RESOLUTION OF A PRIVATE/LIMITED COMPANY FORENTERING INTO JV WITH OTHER ENTITIES

Extract from the minutes of meeting of Board of Directors of the company held on(Date) at the office of the company situated at
(Address of the company).

RESOLVED THAT (Name of the company) have decided to participate for the said tender for the work of (Name of the work) in joint venture with M/s..... (Name of the other Firm/Firms or company/companies with addresses) in name and style of the JV firm(Name of the Joint Venture firm).

FURTHER RESOLVED THAT Shri (Name and designation of authorized person of the company) is hereby authorized to execute & sign all necessary documents for submission of tender documents, JV Agreement and any documents in connection with present tender on behalf of company etc. For the above mentioned work on behalf of the company.

Signed by Managing Director/

Director/ Company Secretary Of the Company

Note:-

1. Stipulations in the above specimen Board's Resolution are for guidance only. Companies can incorporate other stipulation /stipulations relevant with the tender and formation of JV, if required.
2. The above Annexure should be executed on the Letter Head of the company.

Annexure-XVIII

Clause No. 16.2.4 of General Instructions & Clause No. 17.14.1 of Annex.I Part-I of GCC-2022, with up to date correction slip.

POWER OF ATTORNEY

(For Partnership Firms participating as a member of JV only)

We the following partners of M/s (Indicate name of firm)
(1).....(2).....
(3).....(4).....
(5).....(6).....having its office at
.....hereby give our consent on behalf of M/s..... (Indicate name of
firm) in favour of Mr (Indicate name of Partner), whose specimen
signature are appended below, for entering into Joint Venture Agreement with
M/s..... (Indicate name of other firm's) having
office at in connection with T. No Name of work
..... to sign & execute the MOU, JV agreement and all other required documents
pertaining to above said tender.

We have read the content of this Special Power of Attorney & accept the same and we hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

Executants Partner

(Signature of Sri.....)

(Name & signature)

Date

1.....

2.....

Place

3.....

4.....

(Seal of Firm)

(Seal of Firm)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

ANNEXURE-XIX

Para no. 16.1(g) of General Instructions & Clause No. 10.3 Annex. I Part-I of GCC-2022, with up to date correction slip

It is to certify that construction works executed and payment received through construction works of M/s..... (Name of firm) in any one of the previous three financial years or the current financial year (up to date of inviting tender), as extracted from Balance sheet/ certificate issued by the employer/ client, Form 16 , Form 26AS etc. are as under :-

Sr. No	Financial year	Work executed And Payment received through construction works.
1.	Current year (Say A)	
2.	A-1	
3.	A-2	
4.	A-3	

Yours sincerely,

Date: ...

(Name & Sign. Of Chartered Accountant

Registration No:-

E-Mail:-

UDIN number-

Note:-

- (a) In case of JV firm details of construction works executed and payment received by each member of JV is required to be submitted.
- (b) In case, the tenderer/s failed to submit the above statement duly verified from chartered accountant (for tenders valuing more than 10 Cr) along with offer, their/his offer shall be considered as incomplete and will be rejected summarily.
- (c) Any certificate issued by statutory Auditor/CA to include Unique Document identification Number (UDIN) Mandatory.
- (d) Bidder shall also submit supporting documents from which details extracted i.e. balance sheet/ certificate issued by the employer/ client, Form 16, Form 26AS etc.

Para No. 16.2(ii) (e) of General Instructions & Clause No. 14(ii) (f) and 15 of Annex.I Part-I of GCC-2022, with up to date correction slip

POWER-OF-ATTORNEY

(For LLP Firm incorporated under LLP Act)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/s (Name of LLP & LLPIN number) is a LLP Firm registered under the LLP Act, 2008, and having its registered office at (hereinafter called the 'LLP').

AND WHEREAS by its resolution No passed in the meeting held on of the Partners of the LLP (LLP name) have decided to participate in the tender No. invited by Northwestern Railway for the work namely “.....”

I.....(name and designation) the authorized representative of M/s (name of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms..... (designation)..... (address)..... & Mr./ Ms./Mr./Ms..... (designation)..... (address)..... who is/are presently holding the above mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as “Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for and on behalf of M/s (name of LLP & LLPIN number) in respect of the aforesaid tender invited by the North-Western Railway .

1. To appear before office of North Western Railway related to the process of tendering for the above said tender.
2. To download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway.
5. To sign the agreement and other relevant documents & receive payment on behalf of Firm.
6. To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of Firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof. The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Western Railway.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Sh.....

WITNESSES:

Signature.....

Name:

Address :.....

Signatures of authorized representative
& Seal of LLP

Name of (Executants).....

Designation :.....

Signature Name :.....

Address :.....

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) NameSignature.....

(2) Name.....Signature.....

Executed and Signed before me on this.....day of At
..... (place).

(Seal and signature of Notary Public)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized. Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per resolution passed by Partners of the LLP

Annexure – XXI

Para No. 16.2 (ii) (f) of General Instructions & Clause No. 14 (ii) (g) and 15 of Annex.I Part-I of GCC-2022, with up to date correction slip.

POWER-OF-ATTORNEY

(For Registered Society & Registered Trust)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/s (Name of Registered Society / Registered Trust) is a Registered Society / Registered Trust registered under the Act (Name of the act vide which registered), and having its registered office at (hereinafter called the 'Registered Society / Registered Trust').

AND WHEREAS by its resolution No. passed in the meeting held on of the Executive Member of the Registered Society / Registered Trust the Registered Society / Registered Trust (Registered Society / Registered Trust name) have decided to participate in the tender No. invited by North-Western Railway for the work namely “.....”

I (name and designation) the authorized representative of M/s (name of Registered Society / Registered Trust) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms. (designation) (address) & Mr./Ms. (designation) (address) who is/are presently holding the above mentioned position in the Registered Society / Registered Trust as our true and lawful attorney (hereinafter referred to as “Attorney”) of the Registered Society / Registered Trust to jointly or severally exercise all or any of the following powers for and on behalf of M/s (name of Registered Society / Registered Trust) in respect of the aforesaid tender Invited by the North-Western Railway :

1.	To appear before office of North Western Railway related to the process of tendering for the above said tender.
2.	To download the tender documents for the above said tender.
3.	To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4.	To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway
5.	To sign the agreement and all other required documents & receive payment.
6.	To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of Registered Trust/Society.
7.	To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration

The Registered Society / Registered Trust agrees and undertakes that in the event of any change in the constitution of the **Registered Society / Registered Trust**, the rights and obligations of the **Registered Society / Registered Trust** shall continue to be in full force without any effect thereof.

The Registered Society / Registered Trust undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of North Western Railway.

AND the Registered Society / Registered Trust hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the **Registered Society / Registered Trust** and the Registered Society / Registered Trust

hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri.....(name and designation), on this..... day of 20...., in presence of:

WITNESSES:

Signature Name:

Address:

Signatures of authorized representative

& Seal of Registered Society / Registered Trust

Name of authorized Rep.

(Executants):.....

Designation:.....

Signature Name:

Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name.....Signature.....

(2) Name.....Signature.....

Executed and Signed before me on this.....day of At (place).

(Seal and signature of Notary Public)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized-

Annexure-XXII

Information and particulars in terms of Para 11(a) (b)& (c) of General Instructions and clause No. 16 of Annexure-I Part-I of GCC-2022, with up to date correction slip

Name of the Firm.....

- (a) Information and particulars regarding employed retired Railway Engineer (s)/ Officer(s) of the Gazetted rank.

Sr. No.	Name of retired Gazette Officer / Engineer with Designation	ate of Retirement	Details of Permission obtained (wherever applicable)
1.			
2.			

- (b) Information and particulars regarding retired Railway Engineer (s)/ Officer(s) of the Gazetted rank being Director in the company.

Sr. No.	Name of retired Gazette Officer / Engineer with Designation	Date of Retirement	Details of Permission obtained (wherever applicable)
1.			
2.			

- (c) Information and particulars regarding retired Railway Engineer (s)/ Officer(s) of the Gazetted rank being one of the partner/member in the partnership Firm/ Joint Venture/ Registered Society/ Registered Firm/ LLP etc.

Sr. No.	Name of retired Gazette Officer / Engineer with Designation	Date of Retirement	Details of Permission obtained (wherever applicable)
1.			
2.			

- (d) Information and particulars in terms of Para 11(c) of General instructions regarding Relative(s) employed in gazette capacity on North Western Railway.

Sr. No.	Name of the relative who is employed in gazette capacity on North Western Railway with Designation	Relation
1.		
2.		

Note:-

- Details as per the above format shall be furnished by the tenderer. The format should not be left blank. **In case of there being no such retired Gazetted Railway Officer/ Engineer/relative , Nil to be furnished in the format.**
- In case abovedetails are not submitted in terms of Para 11(a), (b) and (c) by the tenderer, their offer shall be summarily rejected.

3. Also submit the document of permission from the President of India or any officer, duly authorized by him in this behalf, in case (i) where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender (ii) where such Engineer or officer is a partner or director as the case, in partnership firm or an incorporated company.
4. If tenderer is JV then the Annexure-XXII shall be submitted by the Joint Venture bidder.

Signature of the tenderer.....

Name.....

Annexure-XXIII

Para no.16.2.6 of General Instructions & Clause No. 17.14.4 of GCC 2022 with upto date correction slip.

Partner's Resolution of LLP Firm for entering into Joint Venture

(To be printed on LLP Firm's letter head)

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE PARTNERS OF (LLP Name) having LLPIN..... of 20) (hereinafter referred to as LLP) HELD ON (Date)..... AT (Address).....

WHEREAS the Partners have been described about NIT No..... issued by North-Western Railway for the work namely ".....". Partners discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the LLP..... (LLP name) shall participate in the above tender in Joint Venture and for the purpose the LLP shall enter into and execute joint venture agreement, with M/s..... & M/s(name of other constituent(s) of joint venture).

Resolved further that the LLP/Partners authorize(s), Mr./Ms.....& Mr./Ms..... (name and designation) of the LLP, to jointly or severally, sign joint venture agreement, and to sign such other documents and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.

Resolved further that LLP/Partners authorize(s) Mr./Ms..... (name and designation) of the LLP to execute Power of Attorney in terms of this resolution in favour of Mr./Ms..... Mr./Ms..... the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the LLP.

For the Organization,

(Seal of LLP & Signature of authorized person)

Name of authorized person:

Place:.....

Dated:.....

Designation:.....

Executed and Signed before me on this.....day of At (Place).

(Seal and signature of Notary Public)

Para no.16.2.6 of General Instructions & Clause No. 17.14.4 of GCC 2022 with upto date correction slip.

**POWER-OF-ATTORNEY BY ALLP Firm (incorporated under LLP Act) for
entering into JOINT VENTURE AGREEMENT**

(to be executed non judicial stamp paper of appropriate value as per law of state concerned Non
Judicial stamp paper should be purchased in the name of the LLP)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS
M/s..... (name of LLP &
LLPIN number) is a LLP registered under the LLP Act, 2008, and having its registered office at
..... (Hereinafter called the 'LLP'). AND WHEREAS by its resolution
No..... passed in the meeting held on..... of the Partners of the LLP,
the LLP..... (LLP name) has decided to participate in the tender No.
issued by North-Western Railway for the work namely
“..... ” in Joint Venture and for the purpose the LLP shall
enter into and execute joint venture agreement with M/s.....&
M/s..... (name of other constituent(s) of joint venture) AND
THAT M/s..... (name of the lead member of joint
venture) shall act as the lead member of above mentioned joint venture.

I (name and designation) the authorized
representative of M/s..... (name of LLP) duly
authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate,
appoint and authorize Mr./Ms..... (designation)
.....(address) & Mr./ Ms..... Mr./ Ms.
.....(designation)..... (address) who is/are presently holding the above
mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as
“Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for
and on behalf of M/s (Name of LLP & LLPIN number)
in connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, draft of which has been approved by the LLP, on behalf of the LLP with above named constituents for participating in the aforesaid bid of the NorthWestern Railway on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof.

The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of North-Western Railway.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by
Shri.....(name and designation), on this..... day of
..... 20... ,

in presence of:

WITNESSES:

Signature Name:

Address:

Signatures of authorized representative & Seal
of LLP:

Name of authorized representative: Designation:

Signature Name:

Address:

Specimen Signatures of Attorney Holder in token of acceptance:

(1) NameSignature.....

(2) NameSignature.....

Executed and Signed before me on this.....day of At
.....(place).

(Seal and signature of Notary Public)

Note:-The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized. Required even if tender documents are submitted by the authorized/ power of attorney holder of the LLP firm himself.

ANNEXURE-XXVI

Para no. 16.2(ii)(b) & 16.2.3 of General Instructions & Clause 14(ii) (b) and 17 of GCC 2022 with upto date correction slip.

CERTIFICATE

(For HUF (Hindu Undivided Family / for JV having HUF as member)

I..... (Indicate Name of Karta) S/o (Full address of HUF)
Karta of M/s (Indicate Name of HUF) situated at (Full address of HUF) do hereby solemnly affirm & declare as under:-

1. That I, who is submitting the tender on behalf of the HUF is in the position of Karta of the HUF, working in the name & style of (Indicate Name – HUF) at

2. That, I (Indicate Name of Karta) has the authority, power and consent given by other members to act on behalf of..... (name of HUF).

S.No.	Name of Coparceners	Name of Father	Address
1.			
2.			
3.			
4.			
5.			

Deponent
Signature and Seal

VERIFICATION

I, the above named deponent do hereby solemnly affirm & verify that the contents of my above affidavit are true & correct. Nothing has been concealed and no part of it is false.

Deponent

Signature and Seal

Place:-

Date:-

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in Force in that State at the time when such AFFIDAVIT is being executed. Affidavit shall be affirmed before the Notary Public.

Annexure-XXVII

Para no. 16.2(ii)(b), 16.2.1 of General Instructions & Clause 14 (ii) (b) of GCC 2022 with upto date correction slip.

POWER OF ATTORNEY

(For HUF / Hindu Undivided Family)

BE IT KNOWN to all that we (1) (2)
(3) (4) (5) all the
members of the HUF having its registered office at do hereby,
for and on behalf of the said firm appoint Shri (Name & designation)
Special Attorney of the said HUF and authorize the said Shri (name),
whose specimen signature are appended below, to do all or any of the following acts deeds
and/or things on behalf of the said firm and to represent the firm in respect for the tender
No. (Name of work) invited by
North Western Railway.

1.	To appear before office of North Western Railway related to the process of tendering for the above said tender.
2.	To procure/download the tender documents for the above said tender.
3.	To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender. In case the offer is submitted by the person other than those who is appointed as above and there is difference between the name of the person authorized as above and the person who digitally submitted the offer then our offer shall be deemed to be summarily rejected.
4.	To attend meetings and submit clarifications including negotiations, if any, called by North Western Railway.
5.	To sign the agreement and other relevant documents & receive payment on behalf of firm,
6.	To co-ordinate measurement through contractor's authorized engineer, witness measurement, sign measurement books on behalf of firm.
7.	To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

We/ I have read the content of this Special Power of Attorney & accept the same and We/I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

Members of the HUF

(Signature of Sri.....)

(Name & signature)

DATE

1.....

2.....

Place

3.....

4.....

Seal of Firm

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized. (Not required if tender documents are uploaded by Karta himself).

Annexure-XXVIII

(Explanation for clause 10 – eligibility criteria, of the GCC 2022)

DECLARATION BY NEWLY FORMED PARTNERSHIP FIRM/ LLP FIRM

(Mandatory if tenderer is Newly Formed Partnership Firm/ LLP Firm)

I..... S/o Shri , the authorized signatory of partnership firm/ LLP Firm M/s do hereby solemnly affirm and declare as under :-

1.	That, we are the newly formed partnership firm/ LLP Firm in the name and style of M/s Registered with registrar of firm vide RegistrationNo..... dated.....
2.	In this newly formed Partnership Firm/ LLP Firm, we are No. of partners. The details of the previous proprietary firm or previous dissolved partnership firm/ LLP Firm or previous splitted partnership firm (s) / LLP Firm wherein any of the partners of the present firm was a proprietor / Partner and proposed to use credentials obtained in such previous proprietary firm (s)/Partnership firm(s) / LLP Firm is as under :-

S.N.	Name of person in the newly formed partnership firm	Details of Previous proprietary/ Partnership Firm/ LLP Firm	Share in newly formed partnership firm	Share in previous partnership firm/ LLP Firm	Remarks
1					
2					

3. That, following relevant documents are Annexed with bid –
- Details of previous Proprietary firm / Partnership Firm/ LLP firm as per annexure I
 - A copy of previous partnership Firm (Notarized or duly registered with the Registrar) & Certificate as per proforma given of Annexure –IX for previous Proprietary firm (duly executed on stamp paper and notarized).
 - Copy of previous LLP agreement and certificate of incorporation.
 - Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)
 - Proof of surrender of previous PAN no (in case of dissolution of previous partnership firm, LLP firm or proprietary firm)
 - Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para 16.1 (c) (d), (f), (g), (k) above.

Declaration by the Tenderer

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our partnership firm/ LLP firm and have/ has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

Name and Signature of Tenderer along with Seal

Note :-

1. In case of newly formed partnership firm, the credentials of individual partners from previous proprietary 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 $0.3 \times 0.2 \times \text{value of the work done in the previous entity}$. 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.
2. 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 proprietary firm without leaving partnership firm of A&B partners.
3. 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.
4. In a partnership firm "AB" of A&B partners, in case A also works as proprietary firm "P" or partner in some other partnership firm "AX", credentials of A in proprietary 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.
5. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.

Annexure-XXIX

(Explanation for clause 10 – eligibility criteria, of the GCC 2022)

DECLARATION BY AN EXISTING PARTNERSHIP FIRM/ LLP FIRM

(Mandatory if tenderer is an Existing Partnership Firm/ LLP Firm)

(Fill the relevant para (1.1, 1.2 & 1.3) and strike off the para which is not relevant under Partnership Firm)

I S/o Shri....., the authorized signatory of Partnership Firm/ LLP Firm M/s do hereby solemnly affirm and declare as under :

1.1 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., since..... (MM/YY), having GST Registration No....., PAN/TAN No There has been no change in the Partner(s) of our firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited.

OR

1.2 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., Since..... (MM/YY), having GST Registration No....., PAN / TAN No. Following of our partner(s) has/have quit the Partnership firm/ LLP Firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under :

S. No.	Name of quitting Partner(s)	Share of Partner(s) who has/have quitted.	Date of quitting (MM/YY)

AND / OR

1.3 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., since..... (MM/YY), having GST Registration No....., PAN/TAN No Following partner(s) has/have joined our Partnership Firm/ LLP Firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under :-

S. No.	Name of Joining Partner(s)	Share of Joining Partners (s)	
		In the present firm	In the previous firm from where he/they has/have quit and joined the present firm

In case of Para 1.2 and 1.3, following documents as applicable are required to be submitted along with bid:-

- (1) Details of previous Proprietary firm / Partnership Firm/ LLP firm as per annexure I.
- (2) A copy of previous partnership Firm (Notarized or duly registered with the Registrar) & Certificate as per proforma given of Annexure –IX for previous Proprietary firm (duly executed on stamp paper and notarized).
- (3) Copy of previous LLP agreement and certificate of incorporation.
- (4) Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)
- (5) Proof of surrender of previous PAN no (in case of dissolution of previous

- partnership firm, LLP firm or proprietary firm)
- (6) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para 16.1(c), (d), (f), (g), (k) above.

Declaration by the Tenderer

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our partnership firm/ LLP firm and have/ has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

**Name and Signature of Tenderer
Alongwith seal.**

1. 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.
2. In case of existing partnership firm if any other partner(s) joins 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.
3. 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 proprietary firm without leaving partnership firm of A&B partners.
4. 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.
5. 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.
6. In a partnership firm "AB" of A&B partners, in case A also works as proprietary firm "P" or partner in some other partnership firm "AX", credentials of A in proprietary 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.
7. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.
8. If partner(s) quits it should be clearly given whether they are taking away their share or not.

Annexure -XXX

(Explanation for clause 10 – eligibility criteria, of the GCC 2022)

**DECLARATION REGARDING CONSTITUTION OF EXISTING/ NEW COMPANY/This
annexure is mandatory, if the company has been merged in last 07 years**
(Fill the relevant para (1.1, 1.2 & 1.3) and strike off the para which is not relevant)

1.1) I S/o Shri, the authorized signatory of the Company M/s do hereby solemnly affirm and declare as under : That, we are an existing Company working in the name and style of Registration No....., PAN/TAN No There has been no change in the constitution of our Company during last 07 (seven) years ending last day of the month previous to the one in which tender is invited.

OR

1.2) That, we are an existing Company working in the name and style of Registration No....., PAN / TAN No. Following Company (ies) merged in the Company during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under:

S.No.	Name of merging company(ies)	Share of company(ies) who has/have merged.	Date of merger (MM/YY)

In case of Para 1.2, following documents as applicable are required to be submitted along with bid:-

- (1) Details of company getting merged as per Annexure-I
- (2) Copy of Memorandum of Association/ Articles of Association of the Company getting merged
- (3) Copy of certificate of incorporation of previous company getting Merged.
- (4) Resolution by the Board of Directors for the Merger of the company(s) with the tenderer
- (5) Proof of surrender of previous PAN no
- (6) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such Company(s) joining the new/ existing Company, as per para 16.1 (c), (d), (f), (g), (k) above.

Declaration by the Tenderer

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our company(ies) and have/has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

Name and Signature of Tenderer
Alongwith seal.

Notes:-1) In case company A is merged with company B, then company B would get the credentials of company A also.

NORTH-WESTERN RAILWAY

CONTRACT AGREEMENT OF REMAINING COMPONENT OF THE WORKS

CONTRACT AGREEMENT NO. -----DATED-----

ARTICLE OF AGREEMENT made on this day in the year... .. between the(the tenderer), having its office at ----- -- ----- submitting offer for the tender no.....for the work hereinafter called the ‘Main Contractor’ of the first and part and ----- Name of Sub Contractor ----- hereinafter called the ‘**Sub Contractor**’ of the second part having its office at with **GSTIN** First part, second part collectively hereinafter called the ‘Parties’.

WHEREAS the contractor has agreed with the Railway for performance of the works----- ---- set forth in for the componentdetailed in schedulefor the total cost of Rs.....of the tender schedule of the tender no..... The Standard General Condition of Contract corrected up to latest correction slips and the Specifications of the -----Railway corrected up to latest correction slips and the Specifications of the ----- Railway, corrected up to latest correction slips and the Special Condition and Specifications, if any, and in conformity with the Drawings here-into annexed and whereas the performance of the said works is an act in which the public are interested.

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

All the communication in relation to the Contract Agreement would only be between Party hereto of first part and second part. No claim of Contractor, whatsoever on this account shall be entertained by the Railway and this shall be deemed as ‘excepted matter’ (matter not arbitrable).The permitted subcontracting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the Railway and shall not relieve the Contractor of any responsibility under the Contract. The Contractor shall indemnify Railway against any claim of subcontractor. The Contractor shall endeavor to resolve all matters and payments amicably and speedily with the subcontractor

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

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

The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of Railway, with prior intimation to Chief Engineer.

For and on behalf of the Contractor
Name of Authorized Signatory

Witness of the Signature

1.....
2.....
Address :.....

Signature of Sub Contractor

Name of Authorized Signatory

Witnesses of the Signature

1.....
2.....
Address:.....

(Seal and signature of Notary Public)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Agreement is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(Annexure –VIA Para 5 of the Instructions to Tenderers of GCC 2022)

(Bid Security)

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

Name of the Bank: -----

President of India,

Acting through.....
.....Railway,

Beneficiary:.....Railway

Date:.....

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

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

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

AND

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

1. KNOW ALL MEN that by these present that I/We the undersigned ***[Insert name(s) of authorized representatives of the Bank]***, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay to the Railway full amount in the sum of [Insert required Value of Bid Security] as above stated.

2. The Bank undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Bank shall be final, conclusive and binding, absolute and unequivocal on the Bank notwithstanding any disputes raised/ pending

before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Bidder or Bank.

3. The Bank shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the Bidder and without the Railway being required to show grounds or give reasons for its demand of the amount so demanded.

4. The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Bidder.

5. The Bank agrees that no change, addition, modifications to the terms of the Bid document or to any documents, which have been or may be made between the Railway and the Bidder, will in any way absolve the Bank from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification made by Railway at any time.

6. This guarantee will remain valid and effective from.....[insert date of issue]till***/insert date, which should be minimum 90 days beyond the expiry of validity of Bid/***. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.

7. The Bank Guarantee is unconditional and irrevocable.

8. The expressions Bank and Railway herein before used shall include their respective successors and assigns.

9. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the Railway. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.

10. The Bank hereby confirms that it is on the SFMS (Structured Financial Messaging System) and shall invariably send the advice of this Bank Guarantee to the following bank details –

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

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

Date

Place.....

Bank's Seal and authorized signature(s)

[Name in Block letters]

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

[P/Attorney] No.....

Witness:

1. Signature, Name & Address & Seal

2 Signature, Name& address & Seal Bank's Seal

[P/Attorney]No.

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

B.New Annexure-XVII, Part-II of GCC-2022 shall be read as under: -

ANNEXURE-XXXIII
Reference Para 16.(4)

Insurance Surety Bond for Performance Security

Name of the issuer of surety bond:

President of India,
Acting through.....

Railway.
Date:

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

WHERE AS, In consideration of the President of India acting through.....
(Designation & address of contract signing authority)..... Railway..... (Here in after called "The Railway") accepted the bid of M/S XXXXX here in after called the contractor, for the work of XXX" under invitation forbids No XXXX Dated XXXXX, Vide Letter of Acceptance No.....

AND

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

SB

No:

Date:

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

1. KNOW ALL MEN by these present that I/We, the undersigned [Insert name(s) of authorized representatives of the Surety], being fully authorized to sign and incur obligations for and on behalf of the Surety, confirm that the Surety, hereby, unconditionally and irrevocably Bond to pay the Railway the full amount in the sum of XXXX (Rupees XXXX Only) as above stated.

2. The Surety undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Surety shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/pending before any Court, tribunal, arbitration or any authority or any threatened litigation by the Bidder or Bank.

3. On payment of any amount less than afore mentioned full amount, as per demand of the Railway, the Bond shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Railway.

4. The Surety shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the contractor and without the Railway being required to show grounds or give reasons for its demand or the amount demanded.

5. The Surety Bond shall be unconditional and irrevocable.

6. The Bond hereinbefore shall not be affected by any change in the constitution of the Surety or in the constitution of the Contractor. 7.

7. The Surety agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the Railway and the Contractor, will in any way release us from the liability under this Bond; and the Surety, hereby, waives any requirement for notice of any such change, addition or modification to the Surety.

8. This Bond is valid and effective from the date of its issue, which is date of [insert issue). The Bond and our obligations under it will expire on XXXX (Expiry Date). All demands for payment under the Bond must be received by us on or before that date.

9. The Surety agrees that the Railways right to demand payment of aforementioned full amount in one instance or demand payments in parts totaling up to the aforementioned full amount in several be valid until either the instances will afore mentioned full amount is paid to the Railway or the Bond is released by Railway before the Expiry date,

10. The Surety agrees that its obligation to pay any amount demanded by the Railway before the expiry of this Bond will continue until the amount demanded has been paid in full.

11. The expressions Surety and Railway hereinbefore used shall include their respective successors, administrators and assigns.

12. The Surety hereby undertakes not to revoke the Bond during its currency, except with the previous consent in writing of the Railway. This Bond is subject to the Uniform Rules for Demand Bonds, ICC Publication No. 758.

13. We, the Surety Insurer, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfillment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, tribunal, arbitrator or any other authority.

14. The Bond shall be in addition and without prejudice any other security Bond (s) of the contractor in favour of the Railway available with the Railway. The Surety, under this Bond, shall be deemed as Principal Debtor of the Railway.

Notwithstanding anything to the contrary contained in these presents,

a) Our liability under this Surety Bond shall not exceed XXXX (Rupees XXXXX Only).

b) This Surety Bond shall be valid up to XXXX (being the date of expiry);

c) Unless the bank is served a written claim or demand on or before XXXX [date of expiry] all rights under this Bond shall be forfeited and the Surety shall be relieved and discharged from all liabilities under this Bond irrespective of whether or not the original Surety bond is returned to the Surety.

Dated the day of 20.....

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

Place.....

Bank's Seal and authorized signature(s) [Name in Block letters]

.....

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

Witness

[P/Attorney] No.....

1.

2.

(Authority R.B.letter No.2022/CE-I/CT/GCC-2022/POLICY/Pt.Idated09.01.2025 issued ACS No. 9)

END OF SPECIAL CONDITIONS OF CONTRACT (Ver.11.4) FOR IREPS

SPECIAL CONDITIONS OF CONTRACT (TECHNICAL- ELECTRICAL)

A. FOR ELECTRICAL GENERAL WORKS :

1. The work shall be carried out in accordance with the approved specification/drawing and other relevant standard of electrical General works as specified in tender by Engineer.
2. Work shall be carried out strictly as per IE rules and wherever applicable equipments should comply with latest Indian Standards, Statutory Regulations and Labour Acts etc.
3. Energy efficient equipment shall be used as prescribed in energy Conservation Building Code-2007 of BEE and star ratings of BEE wherever applicable. Contractor shall arrange inspection of major electrical assets / equipments at his own expenditure as per railway requirement.
4. The work shall be carried out in best workmanship like manner and any defect in the work due to changes in the design etc. as pointed out by Railway authority shall be carried out by the contractor.
5. In case of any dispute regarding the lay out and any other technical matter, the decision of Dy.CEE/C/NWR/Jaipur will be final and binding on the contractor.
6. Basic Quantities and component of material required making up a unit of work for items mentioned in the explanatory notes are indicated for guidance purpose only. It is the sole responsibility of the contractor to supply the system as per design and therefore he shall work out the exact quantities of component required for completing the work and satisfactory operation of the system.
7. The equipment and work shall perform in continuous operation in a manner acceptable to the Purchaser's Representative who will interpret the meaning of the specifications and drawings and shall have the right to reject or accept any equipment or work, which in their assessment is not complete to meet the requirements of this specification and/or applicable Codes and Standards.
8. Any item specially mentioned or not in the scope of work as per approved design, drawing & specification, but required to complete the work shall be deemed to be in the scope.
9. Full details of the system being offered by including technical particulars, system characteristics may be fully furnished in the offer giving supporting calculation and diagram.
10. The work shall conform to all provisions of the relevant Government Legislation, Regulations and Bye- laws of the Central/Local Authorities and of any State Electricity Boards/Companies to whose system the installation is proposed to be connected. The Contractor shall arrange to give all necessary notices required under the said Acts, Regulations and/ or Bye- laws.
11. The contractor should ensure that during the execution of work, either he himself is present at the site or his responsible engineer should always remain present at site Co- ordination shall be maintained with this office for day to day planning and execution of the work, which is to be completed within the targeted period.
12. The reference list for make of products is enclosed as Annexure-II.

B. INSPECTION OF MATERIAL:

1. All equipments, materials, fittings and components are required to be procured from RDSO/CORE's approved supplier's and will be subject to inspection by the RDSO/RITES or by authorised representative of Dy. Chief Electrical Engineer /Cont./JP at the manufacturer's factory before dispatch and no material shall be dispatched from the manufacturer's factory until these are inspected and/or approved. The material may also be inspected by the purchaser/his representatives again at the Contractor's depot. Purchaser/his representative shall have the right to be present during all stages of manufacture, and shall be afforded free of charge, all reasonable facilities for inspection and testing so as to satisfy himself that the materials are in accordance with the specifications, approved drawings and designs. (Note-As per Railway Board Letter No:2000/RS(G)/379/2 dtd.06.09.2017 , Railway Board has decided to enhance the minimum value limit of the purchase order to be pre-inspected by third party i.e. M/s RITES/RDSO from Rs.1.5 Lakh to Rs.5.0 Lakhs.). Policy regarding inspection of material should be as per Railway Board Letter No: 2000/RS(G)/379/2 dtd.06.09.2017 and contractor should arrange third party inspection (RDSO/RITES whichever is applied) as required by railway from time to time. Cost of all such inspections should be borne by contractor.
2. All erection work will be subject to inspection by the Purchaser or his representative to ensure that the work is done in accordance with the specification and approved drawings.
3. For inspection of the material as desired by Railway, Railway's representative/ agency/unit will visit to manufacturer's premises to conduct the tests, if necessary. Contractor shall provide all necessary assistance in carrying out tests and inspection at his own cost.
4. Pre commissioning tests if needed on various equipment may be carried out jointly by the contractor.

5. Contractor shall submit design & drawing of different circuits / system & get approval before starting of work & submit copies of each approved drawings including soft copies if any.
6. The factory inspection/lab test of any of the item in the schedule/part of any job or assembly in schedule can be conducted on the desire of Railway.
7. The factory inspection sample testing/lab test will be conducted as per specification/ Drawing of the item and other relevant standards as per the discretion of Railways.
8. It will be responsibility of the contractor to take clarification from Railways in case of any doubt in specification/ drawing before fabrication / assembly / delivery of any of the item in the schedule/part of any job or assembly in schedule.
9. At the time of submission of drawings/sample, contractor has to submit relevant documents regarding the certification & specifications and technical catalogues reflecting all the technical parameters of the item.
10. Only the ISI/BEE or any other relevant mark/label or any certificate produced in support, may not be enough to approve the sample, further verifications/ factory inspection/lab test may be carried out as per the discretion of Railways.
11. The tests on any of the item in the schedule/part of any job or assembly in schedule will be performed in an NAL/Govt. Lab. or manufacturer's premises as desired by Railways.
12. **THE COST OF FACTORY INSPECTION/ LAB TESTS / DOCUMENTATIONS WILL BE BORNE BY THE CONTRACTOR.**
13. In case of any kind of confusion/conflict/dispute, the decision of Railways will be final and binding on the contractor.

C. MATERIAL ACCOUNTING & SECURITY:

1. The tenderer shall be responsible to see that the materials such as cable/Contact wire/Catenary wire or any other material supplied by the Administration are utilized for the sole purpose for, which they have been issued to him, failing which, he is liable to be dealt with according to law for any misuse of these commodities by himself, his agents or workmen etc.
2. Contractor shall give in writing the details of item(s) including serial number and quantity of work schedule to concerned Rly. site Engineer for receiving the material. The concerned Railway Site Engineer will inspect the material and its related mandatory documents as per contract agreement and material is to be entered in the Ledger (Tally Book) assigned for this particular work if found in order as per contract.
3. Once the material is handed over to the contractor, the contractor shall be responsible for the security of material irrespective of the fact that the material is kept in Railway premises. The contractor shall make adequate arrangements at site as deemed necessary for guarding the same from the thefts and any sort of damage by outsiders or his labour.
4. The Contractor will indemnify all the Stores handed over to him and will execute the Indemnity Bond for this purpose on standard Performa given along with these documents in **Annexure-I**. Execution of the Indemnity Bond will precede handing over any material to the Contractor.
5. Released materials shall be handed over to Consignee in systematic manner. Proper care should be taken while releasing & transporting the material **at General Stores, or at a place as demanded by the Railways.**
6. **Reconciliation of materials:**
 - a) The following procedure shall be adopted for the final reconciliation of the various equipments, materials, fittings and conductors supplied by the purchaser.
 - b) All the materials supplied by the purchaser shall be correctly accounted for and quantities reconciled after completion of the work by the contractor. On completion of work, all surplus materials supplied by the Purchaser together with the ones found defective or that have become defective or broken on account of defective materials and/or workmanship shall be returned to him by the Contractor.
 - c) Other equipments, fittings and components: The Purchaser will supply the requirement of the various other equipments, components or fittings listed as per Rly. scope of supply mentioned in schedule items itself. If there are any shortage during, final reconciliation, their cost will be recovered by the purchaser from the contractor at the prices inclusive of all charges as specified in Note below:
NOTE: If there are any shortage during final reconciliation, their cost will be recovered by the Purchaser from the contractor at the book rate or the last purchase rate or the prevailing market rate whichever is higher plus 5% on account of initial freight, 2% on account of initial incidental charges together with supervision charges @ 12 ½% of the total cost inclusive of material freight and incidental charges, freight between the Purchaser's source of supply and the contractor's depot or rail head shall be to the contractor's account.

D. DEALING WITH COMPOSITE WORK :

Conditions for main contractor or associate electrical contractor for electrical work. (Only for composite work) as below:-

Valid Electrical Contractor license is required for other than OEM or their Authorized Agency for all Electrical works. The verified / attested copy of the competency certificate of each inspector authorized to execute the electrical work is required to be submitted to the Electrical work In-charge before starting of the electrical work.

For Subletting of contract: Relevant clause of GCC-2022 with up to date correction slip or latest and standard tender document will be applicable.

1. If the tenderer engaged associate electrical contractor, he / they is / are required to submit legally enforceable agreement duly signed with the associated electrical contractor before signing of the contractor agreement with Railway in the form of MOU as per given **Performa-I** with tender document. MOU must be on the non-judicial stamp paper duly notarized of Rs.500/- or as per the stamp Act of the concerned State.
2. The main tenderer shall be responsible for acts of commission and omission of the associate electrical contractor. The entire electrical work is to be executed by the associate electrical contractor only and no change shall be allowed in associated electrical contractor during currency of the contract. However in case of any force majeure, competent authority may permit another eligible associate electrical contractor.
3. Electrical portion of works shall be supervised, test checked, billed / paid after recording of measurements in separate MB by electrical site Engineer / officer as decided by the Dy. Chief Electrical Engineer (Const.).

E. SPECIAL INSTRUCTIONS FOR COMPLIANCE OF MAINTENANCE PERIOD:

1. After the equipments, system/sub-systems have been installed and commissioned, the contractor shall be responsible for proper maintenance & supervision, free of cost, of the equipment's, system/sub-systems till a period as prescribed by Railway, from the date of commissioning as per final completion report issued by Engineer. In the free maintenance period, contractor will provide all the spares required for such maintenance free of cost. This free maintenance period will include:-
 - (a) Maintenance and upkeep of all equipment,
 - (b) Attending to break-downs immediately,
 - (c) Periodical preventive maintenance,
 - (d) Repair/replacement of defective parts,
 - (e) Operating the existing system satisfactorily.
2. For this purpose, contractor shall prepare a maintenance plan and make available the services of maintenance Engineer and Staff who will maintain and supervise the system.
3. During this free maintenance period, if any deficiency/fault is noticed in the functioning as a result of any defect in design or manufacture, the same will be rectified by the contractor at his own cost. During such rectification if any faulty equipment/modules/ cards/system/ subsystem/part either in hardware or in software or any other form, need replacement or repair, they shall be provided by the contractor free of cost from the set of equipment or modules that the contractor should bring to the site of installation in addition to all the materials to be supplied against this contract.
4. **Defective equipments to be changed :** Not with standing the issue of Provisional Acceptance Certificate and partial or full use of any equipment, if the completed equipment or any portion thereof before it finally taken over at the end of the guarantee period be found to be or to have become defective in course of usage by the Railway due to faulty material, design or workmanship, or otherwise fails to fulfill the requirement of the contract and/or its purpose, the purchaser shall normally give the contractor prompt notice setting
5. forth the particulars of each defects or failure and the contractor shall forthwith make the defects good or modify or replace the equipment, as may be directed by the purchaser's Engineer, at his own cost in all respects to make comply satisfactorily with the said requirements. Should the contractor fail to do within a reasonable time the service of the said notice upon him or should time not permit of service of such notice, the purchaser may repair or reject and replace the whole or part of such defective equipment as the case may be, at the cost of the contractor. The contractor's full liability under this clause shall be satisfied by the payment to the purchaser of the extra total cost, if any, of

such replacement delivered and erected as provided for in the original contract, such extra cost being the ascertained difference between the price paid by the purchaser under the provisions above mentioned for such replacement and the contractor's price for the plant so replaced, plus the sum, if any, paid by the purchaser to the contractor in respect of such defective equipment. Should the purchaser not so replace the rejected equipment within a reasonable time, the contractor's liability under this clause shall be satisfied by the repayment by the contractor of all money paid by the purchaser to him in respect of such rejected equipment. Rejected/defective materials shall be returned to the contractor to the extent possible.

Note : Provisions of this para will apply only in respect of the equipments and components supplied by the contractor or his sub-contractor.

F. SPECIAL INSTRUCTION FOR COMPLIANCE OF WARRANTY:

1. The contractor shall warranty that all materials & equipment's to be supplied and installed as per this tender shall be free from defects and faults in design, material, workmanship and manufacture and shall be of the highest quality and consistent with the established and generally accepted standard for materials of the type ordered and in full conformity with the contract specifications.
2. The contractor shall give warranty / provide maintenance for satisfactory working of all the equipment's & installation, erected & commissioned by him in this tender, for a period of **ONE YEAR from the date of commissioning**.
3. During the period of Warranty, the contractor shall keep available experienced & skilled engineer & technician and necessary equipment to attend to any defective installation. The Contractor shall bear the cost of all modifications, additions or substitutions that may be considered necessary due to faulty material, decision regarding this shall rest with the Divisional Electrical Engineer (Const)/ Dy. Chief Electrical Engineer-(Const) JP .
4. During the period of Warranty, the contractor shall be liable for the replacement of any equipment & any parts which may be found defective, whether such equipment be of his own manufactured or those of his sub-contractor, whether defect arising from faulty design, material, workmanship or negligence in any manner on the part of the Contractor, at his (Contractor's) own expenses. In case of defect of similar type detected in contractor's equipment & components during the warranty period, the contractor shall replace complete lot of the items irrespective of the fact that whether all such items have failed or not. The Contractor shall bear the cost of repair carried out on his behalf by the Purchaser at site due to urgent requirement. In such a case, the Contractor shall be informed in advance of the repair proposed to be carried out by the Purchaser.
5. If it becomes necessary for the contractor to replace or renew any defective portion/s of the system under this clause, the provisions of this clause shall apply to the portion of equipment/component/system so replaced for further period of 12 months from the date of such replacement or renewal or until the end of the warranty period whichever may be later. If any defect is not remedied within reasonable time, the Railway may proceed to do the work at contractor's risk and expense, but without prejudice to any other rights, which the Railway may have against the contractor in respect of such defects.
6. The repaired or renewed part shall be delivered and erected on site free of charge to the purchaser.
7. The Railway shall have right for acceptance, rejection of materials at site if the same are not in accordance with the specifications.
8. The terms and conditions of this contract shall also be governed with IRGCC-2020 or latest of Railways.

G. Track Crossing Work:

1. Contractor will arrange Shut down / power block / permit to work and Traffic block (If required) from concerned Electricity & Railway Authority as per requirement for which no extra payment will be made.
2. Contractor will responsible to clear Shut down / power block / permit to work and Traffic block (If required) within specified time by Electricity & Railway Authority, otherwise he will born penalty imposed by Electricity & Railway Authority.
3. Contractor will repair/replace any defect in OH/UG work created by him during execution of work his own cost.
4. Contractor should have all related tools, safety & testing equipments during working at site i.e. earthing chain, safety belts, helmet, earth tester, meggar etc. Energize the line/cable after getting energizing permission from concerned Electricity Authority & instruction of Rly. site Engineer. Submit original copy to Rly. office.
5. First aid box must available every time at site during working.

H. Safety measures:

- (1) The contractor shall take all precautionary measures in order to ensure the protection of his own personnel moving or working on the Railway premises, but shall then confirm to the rules and regulations of the Railway. If and when, in the course of the work there is likely to be any danger to persons in the employment of the contractor due to running traffic while working in the Railway siding and premises, the contractor shall provide necessary protection i.e. Flagmen, Flag etc. required in block working. Competency for the above shall, however be given by the Railway authorities. The purchaser shall remain indemnified by the contractor in the event of any accident occurring in the normal course of work, arising out of the failure of the contractor or his men to exercise reasonable precaution at all places of work.
- (2) Blasting of rock for foundation work shall be done only after due notice is given to the purchaser and time/s and date/s for blasting operations agreed to, by the Purchaser .Blasting, if required to be done in the vicinity of the tack, shall not be undertaken until the Purchaser's flagmen on duty take necessary steps to protect trains and the track is adequately protected by the Contractor against damage by blasted rock. The Contractor shall follow detailed instructions applicable in this regards.
- (3) During stringing operations every care shall be taken to prevent conductors hanging low over tracks on which traffic block has not been given. All conductors shall be pulled out before traffic block is cleared so that such conductors do not infringe with moving traffic.
- (4) Ladder trolleys shall be used with caution. They shall not be put on tracks until the flagmen are on duty to protect the trolleys and the purchaser's representative authorizes in writing for the trolleys to be put on the tracks. Ladder trolleys shall be promptly removed on instructions from the purchaser's representative and well in advance of trains. No claims shall rest on the purchaser in the event of a ladder trolley being run over by train. The flagmen for the above job will be provided by the contractor.
- (5) While working within station limits, specially on passenger platforms, the contractor shall ensure that at all times sufficient space is left for free movement of passenger traffic. He must cover and/or barricade the excavations carried out in such areas and continue to maintain these till the work is completed, with a view to avoid any accident to public or to Railway staff.
- (6) The work must be carried out most carefully without any infringement of the Indian Railway Act or the General and Subsidiary Rules in force on the Railway in such a way that they do not hinder Railway Operation or affect the proper functioning or damage any Railway equipment, structure or rolling stock except as agreed to by the purchaser, provided that all damage and disfiguration caused by the contractor to any Railway property must be made good by the contractor at his own cost failing which cost of such repairs shall be recovered from the contractor.
- (7) If safety of track or track drainage etc. is affected as a consequence of works undertaken by the contractor, the contractor shall take immediate steps to restore normal conditions. In case of delay, the purchaser shall, after giving due notice to the contractor in writing, take necessary steps and recover the costs from the contractor.
- (8) More ever, if any time the works to be carried out directly concern the safety of trains, the contractor's staff must comply fully with Railway regulations given to him by the authorized Railway staff. The contractor's employees and workers may for no reason operate an installation concerning train safety or train movement. They shall notify the authorized representative of the purchaser who will take all necessary steps in this regard.
- (9) The contractor shall be responsible for safe custody of all equipments till provisional acceptance.
- (10) The contractor shall ensure that un-authorized, careless or inadvertent operation of switch gear, which may result in accident to staff and/or damage to equipment, does not occur.
- (11) The contractor shall abide by all instructions issued by the purchaser from time to time in connection with protection/safety of track/Railway installations/personnel as well as quality control. The contractor should not leave the excavated pits unfilled overnight. Due to any reason if it becomes necessary to leave the pit unfilled overnight, it should be filled back effectively with sand bags to the satisfaction of the purchaser's representative.

I. PRICES AND PAYMENT:

1. SCOPE:

This Para deals with prices to be paid for supply and/or erection of various items of work or for supplies and other amounts payable in accordance with accepted schedules of prices and rates and terms and conditions of payment mentioned herein. This is a works contract. The total prices for the completed items of work are the actual prices payable to the Contractor as per the terms and conditions of the contract.

2. SCHEDULE OF PRICES:

- a) The unit prices of various items of work shall be included in schedule. All unit prices shall be FIRM irrespective of minor variations in basic quantities and use of alternative types of various components and fittings approved by the Purchaser. Minor changes in basic designs shall not affect unit prices. All unit prices shall be in RUPEES. The prices shall be for materials and erection and will be payable and for execution of work in accordance with specification and approved drawings and designs. The contractor shall carefully note the items of materials, equipment's, fittings and components which will be supplied by the contractor.

b) UNIT PRICES FOR MATERIALS AND ERECTION:

The prices in schedule shall be inclusive of loss and wastage in transit & erection. The prices shall inclusive of all incidental charges for transporting, loading, unloading and handling of materials, arranging dispatch by rail/road direct from manufacturer's factory and completing all necessary formalities in this respect, such as submission of forwarding notes, arranging placement of wagons, collection of Railway receipts, all insurance premium, banker's charges for bank guarantee, indemnity bonds, inclusive of cost of stamps etc. The prices shall be inclusive of GST, if any payable on supplies and insurance premium under the emergency Risks (Goods) Insurance Act in force. The unit prices shall include cost of works and adjustments necessary to be done by the Contractor during or after the test carried out by the Purchaser as per Schedule, unit prices shall be only in rupees and in part thereof rounded off to nearest one rupee. No reimbursement on account of octroi duty will be entertained by the purchaser

The unit prices for erection indicated in the schedule are inclusive of cost of erection and material testing to be done by the Contractor to the extent indicated in the Explanatory Note given in the tender papers and also cover all cost of administration of the contract, insurance premium, banker's charges for guarantees, cost of stamps, cost of storage, loading and unloading and handling of materials and for any road transport which the Contractor may use for carrying materials between his depot/s and site of work. The unit price includes cost of works and adjustments necessary to be done by the Contractor during or after the tests carried out.

Unit prices indicated in schedule also includes for cost of coal, fuel, oil, watch & ward etc, for erection work.

c) QUANTITIES:

The approximate estimated quantities of various items or work are included in Schedule. But contractor has to assess the quantity as per site condition / approved drawings.

d) NEW ITEMS OF WORK:

If during the execution of the work, the contractor is called upon to carry out any new items of work not included in Schedule, the contractor shall execute such works at such prices as may be actually agreed with Purchaser before commencement after obtaining the competent authority's approval and sanction.

3. INVOICING:

- a) The contractor shall submit his invoicing procedure for approval by the purchaser within two months from the date of receipt of letter of acceptance of tender. Separate invoices shall be submitted for different type of payments mentioned above. All invoices shall be submitted with original supporting documents or certified true copies of supporting documents wherever these are acceptable to the purchaser's engineer. Where copies of original documents are required in support of several invoices, true certified copies of the original documents may be forwarded to the purchaser's engineer, with his consent.
- b) Invoices shall be submitted only on the basis of agreed principles and prices, quantities and measurement of works completed shall be approved by the purchaser's engineer prior to the submission of invoices. For this purpose the Schedule of quantities and measurements submitted by the contractor for approval of the purchaser's engineer may be only up to the extent of work completed except in the case of payment on provisional acceptance.

4. PAYMENT TERMS:

No advance payment will be made and no part payment will be made for supply of materials prior to execution of the work.

4.1 PROGRESS PAYMENT FOR SUPPLY:

- a) **70% of supply on receipt of material.**
- b) **20% of cost of material on successful erection.**
- c) **Balance 10% on cost of material on successful commissioning of work.**

4.2 PAYMENT ON PROVISIONAL ACCEPTANCE/COMMISSIONING:

On completion of the entire work/commissioning of particular section, the contractor will receive balance payment as under:

Balance 10% of price for supply and erection of each item in the schedule will be paid to the contractor after successful commissioning of particular section.

iv) MEASUREMENTS:

- a) Payments for field work shall be made in accordance with approved designs and drawings and measured in relevant units, except where provided for otherwise. In case the dimensions of the work are more than those shown in approved designs and drawings, the contractor will not be entitled to any extra payment, unless dimensions were increased on account of physical impossibility of carrying out the work in accordance with approved drawings and designs. In case the dimensions of the work are less than those shown in the approved designs and drawings and the work is accepted without being rejected, payment will be made as per work actually done.
- b) The measurement will be made generally in accordance with standard engineering practice conforming with the Explanatory notes for Schedule.
- c) **Measurement of works by contractor's authorized representative.**

v) RECOVERIES FROM THE CONTRACTORS:

All recoveries for materials supplied and services rendered by the Purchaser to the Contractor and other refunds due from the Contractor shall, unless otherwise specified, ordinarily be made by deductions from payments due to the Contractor covering the value of supply and erection during the progress payment for erection and from payment on provisional acceptance/commissioning of the work.

5. Price Variation clause(PVC):-

PVC Clause not applicable for electrical tenders contract, though already mentioned in concern Para of this tender documents.

Annexure-I

INDEMNITY BOND

(The memorandum of understanding shall be submitted in following format on the non judicial stamp of Rs. 500/- duly notarized)

Indemnity Bond for safe custody of Railway materials to be supplied to M/s. _____
_____ under Tender no. _____

We, M/s. _____ (hereinafter called the Contractor) do hereby undertake that we shall hold in our custody for and on behalf of the President of India acting in the premises through the General Manager, North Western Railway or for him all Railway materials which have been handed over to us against the contract for Tender no. _____ dt. _____ for the work of “ _____ ” by the Railway for the purpose of execution of the said contract until such time the materials are duly installed and/or erected or otherwise handed over to the Railway.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as installed and/or erected equipment to the Railway or as directed otherwise and shall indemnify the Railway against any loss, damage or deterioration whatsoever in respect of the said materials. The said materials shall at all-time be opened to Inspection by any Officer authorized by the General Manager, North Western Railway or his nominee.

Should any loss, damage or deterioration of materials occur or surplus materials disposed of and a refund becomes due, the Railway shall be entitled to recover from us the full cost and compensation determined in terms of the contract for such loss or damage, if any, along with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time thereafter becomes due to us under the said or any other contract.

In the event of any loss or damage as aforesaid the assessment of such loss or damage and the assessment of the compensation therefore would be made by the President of India acting through the General Manager, North Western Railway or his authorized nominee shall be final and bind upon us.

Signed at _____
on this day of _____
Signature of Witness: _____
for& on behalf of _____
M/s. _____

Name of Witness in

BLOCK LETTERS

ADDRESS:

PROFORMA-I

**CERTIFICATE FOR ASSOCIATE ELECTRICAL AGENCY WHICH THE MAIN
CONTRACTOR PROPOSED TO ASSOCIATE**

1. This is certified that we have not deviated from the technical specifications and commercial provisions provided in the tender.
2. The price bid is unconditional.
3. This is certified that we have engaged
M/s.....

As Electrical contractor of approved class as detailed below.....

- (i) Name of contractor
 - (ii) Address
 - (iii) Class of registration
 - (iv) Experience of similar nature of work.....
- (Certificates to be attached)
- (v) Validity of registration.....
 - (vi) License No. with validity

CONSENT LETTER

I hereby give my consent to work as electrical contractor till the completion of work. I will be responsible for necessary action to hand over the installation and for rectification of defects and repair during the maintenance period. I will execute the work as per Railway Specifications and additional Conditions of the Contract. I will also engage suitable Engineer/s for the work as per condition of the contract. I further certify that above particulars pertaining to me are correct.

REFERENCE LIST FOR MAKE OF PRODUCTS

	Item	Relevant Standards/ specifications (Latest Ver.)	Reference Makes
	Power Transformer	<i>IS: 2026/1977 -2011 (Part- 1 to 10) and IS: 1180/1989 & IS: 2026/1977 for upto 100 KVA, 11 kV outdoor type transformer.</i>	Crompton Greaves, NGEF, Kirloskar, BHEL, Bharat Bijlee, Alsthom (Areva), ABB, Siemens, GEC or Similar.
	11 kV/HT Vacuum Circuit Breaker, SF-6/11kV gas filled Circuit Breaker	<i>IS: 3427/1997</i>	GEC, Siemens, Crompton Greave, Alsthom(Areva), Jyoti, ABB, BHEL, LAURITZ KNUDSEN, Schneider or Similar.
	ACB(11kV)	<i>IS: 13118/1991</i>	Siemens, LAURITZ KNUDSEN, Crompton Greave, Schneider, Jyoti, GEC, ABB, Legrand or Similar.
	PSS/CSS with HT/LT switch gear, transformer and connected accessories	<i>IS:11171/1985 for dry type Power transformer</i>	ABB, Siemens, LAURITZ KNUDSEN, Crompton Greave, BHEL, GEC, Kirloskar, Alsthom(Areva), Schneider or Similar.
	MCCBs, MCBs, ELCBS/ RCCBs, RCBO, DB, ICTPN, TP, HRC fuse, Changing over switch, Switch Fuse Unit	<i>IS: 8828/1996 for MCB IS: 13947(Part-1)/1993 & part 5/Sec1/2004 for MCCB IS: 12640/2008(Part-1) for RCCB & (Part-2) for RCBO. IS: 13703/1993 for LV HRC fuse IS: 13947(Part-3)/1993 for SFU</i>	LAURITZ KNUDSEN, Crompton Greave, Siemens, Legrand, Jyoti, GEC, BCH, Schneider, ABB or Similar.
	XLPE Cable 11/33kV grade	<i>IS:7098(Part-2)/2011</i>	Asian, NICCO, Universal, RPG, CCI, Fort Gloster, INCAB or Similar.
	PVC/XLPE Power Cables up to 1.1kV grade	<i>IS: 694/2010 for PVC cable, IS: 1554(Part-1&2)/1988 for heavy duty PVC cable, IS:7098(Part-1)/1988 for XLPE cable</i>	CCI, Universal Cable, RPG, NICCO, Asian, Fort Gloster, Finolex, INCAB or Similar.
	Instrument Voltmeter, Ammeter, PF meter	<i>IS:1248/2003 for Analog, IS:13875/2008 for digital</i>	Automatic Electric, Meco, Industrial Meter, Motwani, Toshniwal, LAURITZ

			KNUDSEN, Siemens or Similar.
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11kV Cable End Termination & Jointing kits	<i>IS: 13573/1992 Part-1,2&3/2011</i>	Raychem, M-Seal, Xicon brand of CCI, 3M, Densons(Yamuna) or Similar.
Relays	<i>IS: 3231(Part-0&1)/1986 (Part-2&3)/1987</i>	Siemens, LAURITZ KNUDSEN, Alsthom, ABB, BHEL, Jyoti, GE or Similar.

Luminaries, MH, HPSV, T-5 fittings, CFL & related accessories	<i>IS: 9974(Part-1)/1981 for HPSV IS:15111/2002 for CFL</i>	Phillips, Crompton, Bajaj, GE, Osram, Wipro or Similar.
PVC insulated Elect. Wires Sheathed/ unsheathed, PVC flexible LT cable, multicore, single core, Flat cable for submersible pumps	<i>IS: 694/2010 for PVC cable</i>	Finolex, Asian, FortGloster, CCI, NICCO, Universal, RPG, INCABor Similar.
Current Transformer	<i>IS: 2705/1992</i>	Automatic Electric, CGL, MECO, Siemens, LAURITZ KNUDSEN, Schneider or Similar.
On line UPS, Servo Stabilizer, Inverter, CVT	<i>IS:13314/1992 for Inverter IS:11260/1985 for voltage Stabilizer</i>	AEI, BHEL, Hind Rectifier, LAURITZ KNUDSEN, NGEF, Siemens, Autometer, Pyramid, APC, Luminous, Microtech, TATA Libert or Similar.
Rotary Switches. Selector Switches	<i>Relevant IS</i>	Kaycee, LAURITZ KNUDSEN, GE, ABB, Siemens, or Similar.
Exhaust fan/Air Circulator/ Bracket & Pedestal fans/Ceiling fan	<i>IS: 374/1979 for ceiling fan IS: 2312/1967 for Exhaust fan</i>	Crompton, GEC, Usha, Philips, Bajaj, Polar, Orient or Similar.
Galvanized High Mast Tower / Tubular pole/ Octagonal pole for	<i>IS:875(Part-3)/1987 for High mast Structure, BSTN-10025/1993 for High Mast Shaft,</i>	Bajaj, Philips, GE, CGL or Similar.

	general purpose lighting	<i>IS:2026 for other component IS: 2629/1985, BSEN ISO-1461 for Galvanization</i>	
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18	Electronic Energy Meter	IS:13779/1999 IEC:62053-21	LAURITZ KNUDSEN, IMP, HPL, Secure, ABB, Enercon or Similar.
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	Central Air Conditioning Plants & Package type plant	<i>IS: 8148/2003 for package type. IS: 1391/1992 for Room Air Conditioners.</i>	Voltas, Blue Star, Carrier, Hitachi, O General, Mitsubishi or Similar.
	Capacitors- PF correction for Electrical General Services	<i>IS:13340/1993 IS:13341/1992</i>	ABB, BHEL, Unistar, WS Insulators, LAURITZ KNUDSEN, Hind Rectifier, Voltas, Siemens, Schneider, or Similar.

	DG Sets- Portable	<i>IS: 13364(Part-1)/1992 for Alternator IS:10001/1981 for Diesel Engine</i>	Birla Yamaha, CGL, Shriram Honda or Similar.
	DG Engine	<i>IS:13364/1992 For Alternator</i>	Cummins, Kirloskar, Wartsila, Caterpillar, Ashok Leyland or Similar.
	Alternator for DG set	<i>IS:4722/2001 IS:4728/1975</i>	KEC, CGL, Stamford, Kirloskar-Green or Similar.
	Induction Motor	<i>IS:325/1996 IS:12615/2011</i>	Bharat Bijlee, BHEL, CGL, GE, Jyoti, Kirloskar, Siemens, ABB, ASHIKA, NGEF, Alsthom or Similar.
	LT Switchgear & control gears- Contactors & motor starters, Energy Efficient Soft Starter panel/ Earthing Switch, Single phase preventer	<i>IS:13947(Part1)/1993 IS:13947(Part4)/1993 IS:13947 (Part-5)/2004</i>	ABB, CGL, Jyoti, LAURITZ KNUDSEN, NGEF, Siemens, Legrand, BCH, Standard, GEC, BHEL, Schneider or Similar.
	Pumps- Submersible	<i>IS: 8034/2002 for submersible pumpsets IS: 9283/1995 for motors of submersible</i>	Calama, CGL, Jyoti, Kirloskar, KSB or Similar.

		<i>pumpsets</i> <i>IS: 14220/1994 for open well</i> <i>submersible pumpsets</i>	
	Timers- electronic solid state	<i>IEC: 60947(2004)</i>	ABB, BHEL, GE, Jyoti, LAURITZ KNUDSEN, BCH, Siemens, Legrand or Similar.
	Water Coolers	<i>IS: 1475 Part-1/2001</i> <i>IS:1475/2005</i>	Blue Star, Kelvinator, Shriram, Voltas or Similar.

	Electrical accessories (Piano switch, Plugs & sockets, ceiling rose, Angle holder, holders, Modular switch and socket)	<i>IS: 3854/1997 for switches</i> <i>IS: 1293/2005 for plugs& sockets</i> <i>IS: 371/1999 for ceiling rose</i> <i>IS: 1258/2005 for lamp holder Bakelite</i>	SSK(Top line), Anchor (Penta-or-net), Precision(Prime), CONA(Nice-Indian), Legrand, ABB or Similar.
	Bell Buzzer	<i>IS:2268/1994 or latest</i>	CONA, MAX, Anchor, SSK or Similar.

	Electronic fan regulator	<i>IS:11037/1984</i>	Anchor, Usha, ERIK, Leader or Similar.
	Solar cell/Module system	<i>IS: 12834/1989</i> <i>IEC 61215/2005</i> <i>IEC 60904-2006</i>	TATA BP, BEL, BHEL, REIL, MOSER BEAR, CEL or Similar.
	Solar Lighting system	<i>RDSO/PE/SPEC/PS/0093-2008, Rev. 'O' – Amendment 'I'</i>	-----
	GI/MS Pipe	<i>IS: 1239(Part-1)/1990</i>	TATA, Jindal, Prakash,Surya or Similar.

	Geysers	<i>IS:2082/1993</i>	Bajaj, Usha, Crompton,Recold, Venus or Similar.
	Lifts & Escalators	<i>IS-14665/2000 for Lift</i> <i>RDSO/2013/EM/SPEC/0016 Rev (0) for Lift (Elevator)</i> <i>RDSO/PE/SPEC/TL/0095-2008 Rev (0) for Escalator</i>	OTIS, ThyssenKrupp, Shindler, KONE, Mitsubishi or Similar.
	LEDs	<i>IS: 16101-2012,IS: 16102-2012 Part-1,2 IS: 16103-2012</i>	NICHIA, OSRAM, SEOULSEMICONDUCTOR , PHILLIPS LUMILEDS,

			LEDNIUM or Similar.
	Solar Water Heaters	<i>RDSO/PE/SPEC/PS/0094-2008 Rev '0'</i>	As per MNRE approved sources.
	Solar Distilled Water Plants	<i>Relevant IS</i>	As per MNRE approved sources.
	Energy savers used for lighting loads	<i>RDSO/PE/SPEC/PS/0083-2008 Rev. '0'</i>	As per MNRE approved sources.
	Air Cooling Plants	<i>Relevant IS for its concern equipments</i>	Voltas, Blue Star, Carrier or Similar.
	Battery Charger for other than battery room for Train Lighting	<i>IS:2026/2011-power transformer IS:3895/1966 IS:3136/1965 IS:4540/1968</i>	Hind Rectifier, Usha Rectifier, Suresh Electrical, Pyramid, Automatic Electric, Trinity Elect., Universal Ind. Products, Venus Engg., RS Power or Similar.

	Battery Charger for battery room	<i>As per RDSO specification having re-generation facility</i>	Amar Raja, Exide, RS Power or Similar.
	PVC Conduit pipe & Casing capping for electrical wiring	<i>IS:9537/2000</i>	Precision, A.K.G., Polycab, Finolex, Prestoplast or Similar.
	Aluminium Ladders	<i>IS:4571/1977</i>	Sumer, Beatfire or Similar.
	LT Panels	<i>IS: 2147-1952 IS:2675-1966</i>	
	Air Curtain	<i>Relevant IS</i>	Aircon, ALMONARD, Technocrate, Thermadyne, Mitzwak or Similar.

ELECTRICAL SCHEDULE OF RATES AND QUANTITIES

Tender No:- ELCJP/NDT-DOHM/GC/T10-R/25

Name of Work :- Left over miscellaneous electrical work under GC work in NDT-DOHM section, Doubling work in All-CNA section and New BG Line work in BI-NMH section, NDT-NDT Town section and PUHT-MEC section.

S. No.	Description of item	Unit	Qty.	Rate (in Rs.)	Amount (in Rs.)
1	2	3	4	5	6
(A) Electrical General Work:					
1	Supply, install, test & commission of APFC Panel 50KVAR. As per specification.	Nos.	30	73827.00	2214810.00
2	Supply, installation, testing and commissioning of load bank panel board with 1 X 100Amp. MCCB in the incoming and 4 X 63 Amp. MCCB in the outgoing. As per specification.	Nos.	8	69850.00	558800.00
3	Design, manufacture of wall / hanging / floor mounting type LED illuminated sign / direction boards in half elliptical / Parabolic / Triangular shape. As per specification.	Sqft.	1800	2126.00	3826800.00
4	Display, installation of wall / hanging / floor mounting type LED illuminated sign / direction boards in half elliptical / Parabolic/ Triangular shape. As per specification.	Sqft.	1800	212.00	381600.00
5	Supply, Installation, testing & Commissioning of Station name in 3D letters as in a frame in Hindi and English matters. (Unit each word Height in inches). As per specification.	Inch	12000	191.00	2292000.00
6	Supply and testing of 3-phase, 440V, 50Hz, 5hp submersible bore well pump of head approx. 120M & discharge 1.66LPS, 3-Star & above and suitable control panel with starter (MCB, Ammeter, voltmeter, water level indicator, single phase preventer etc. for upto 5hp, 3-phase pump including connection . As per specification.	Nos.	6	41967.00	251802.00
7	Installation, testing and commissioning of 5hp bore well pump. As per specification.	Nos.	6	3793.00	22758.00

8	Supply, installation, testing & commissioning of LED fitting having input-16Watt, 48V AC supply & IP-67 protection under the pit line with suitable fixing arrangement. (Fittings shall be power LED based with prismatic diffuser, inbuilt electronic driver, made out of fire retardant material suitable for outdoor application). Fixture with white powder coating suitable for mounting. As per specification.	Nos.	30	4891.00	146730.00
9	Supply, installation, testing and commissioning of 2KVA, single phase, natural air cooled, copper wound step down transformer 230/40-72V outdoor type. As per specification.	Nos.	8	7989.00	63912.00
10	Supply, fabrication, testing & commissioning of Junction Box for through Cables with 01No. SP MCB, 6-32A, "B" series, 10KA in outgoing. As per specification.	Nos.	30	352.00	10560.00
11	Supply & fixing of Inverter type LED tubelight fitting/batten PC 20W (Indoor type) as per RDSO specification RDSO-EEM0LKO(GUID) /1/2020. As per specification.	Nos.	625	731.00	456875.00
12	Supply & fixing of Inverter type 36W LED street light fitting (Outdoor type) as per RDSO specification RDSO-EEM0LKO(GUID)/1/2020. As per specification.	Nos.	440	7126.00	3135440.00
13	Supply, installation & commissioning roof mounted HVLS fan 12 feet dia with all accessories and suitable C channel with anchor fastners and necessary civil job as per site requirement with 03years warranty maintenance. As per specification.	Nos.	1	192292.00	192292.00
14	Supply, installation, testing and commissioning of control panel housing suitable timer control circuit for automatic ON & OFF of the 25/16/11 mtr. Mast lights at a pre-set time. As per specification.	Nos.	4	13248.00	52992.00
15	Supply, installation, testing, commissioning of LED Aviation light luminaries equivalent to Model No. of Bajaj BGAV 302. As per specification.	Nos.	4	4446.00	17784.00
16	Supply, erection, testing and commissioning of 16 M high mast shaft totally hot dip galvanized and suitable for wind velocity as per IS-875 part-3. The mast shaft shall be in two finished section it shall also include all accessories for 16M high mast.	Nos.	4	205465.00	821860.00
17	Design and casting of suitable foundation with M-20 concrete for the 16mtr high mast having the safe soil bearing capacity at site as 10T/sqmtr at 2 meter depth including supply of foundation bolts manufactured from special steel along with nuts, washers and anchor plates and templates and as per specification enclosed.	Nos.	4	20748.00	82992.00

18	Supply and fixing of 150/160W or above LED Flood light comprising Die cast aluminium housing with toughened glass complete with Electronic driver, Luminaries has the System lumen efficacy of 100Lumen/Watt. As per specification.	Nos.	32	19960.00	638720.00
19	Supply, Installation, testing & commissioning hybrid type Solar Street Light Fitting 30W. As per specification.	Nos.	120	25000.00	3000000.00
20	Supply & erection of 12.8Mtr. Long lattice tower made of 65 x 65 x 5mm MS angle with 50 x 6mm MS flat for bracing including excavation of pit 1.50 x 1.50 x 2.10M in ground. As per specification.	Nos.	20	41285.00	825700.00
21	Supply of material and stringing of ACSR Dog conductor size 6/1/4.72 Note:- Cost shall be quoted for per metre of conductor. As per specification.	Mtrs.	4500	65.00	292500.00
22	Supply, erection, testing and commissioning of 11/33 KV Disc/Pin insulator on SP/DP/Tower. As per specification.	Nos.	60	348.00	20880.00
23	Supply, installation and erection of stay rod complete As per specification.	Nos.	20	585.00	11700.00
24	Supply, installation, testing & commissioning of phase change over Distribution board with 01 No. 63A TPN MCB as Incoming and 1No. 63A SPN (DP) MCB as outgoing with 01 No., 4 pole, 63 Amp. phase change over switch (Selector switch) with multi LED indication lamps & bypass arrangement. As per specification.	Nos.	24	5447.00	130728.00
25	Laying, testing, commissioning & transportation of 11/33KV HT cable in Air/Pole/Pipe/ Trench etc. Note- Cable will be supplied by Rly. from main depot. As per specification.	Mtrs.	500	80.00	40000.00
26	Drilling of horizontal bore below Railway track/ Road by pushing method for laying of HDPE/RCC/DWC pipe of various size up to 200mm dia. As per Specification.	Mtrs.	400	1601.00	640400.00
27	Supply and laying of HDPE pipe conforming to IS 4984:1995, 160 mm dia, under road/ground/ floor/ railway track or as per site requirement in already excavated trench. As per specification.	Mtrs.	500	853.00	426500.00
28	Provision of Maintenance free Earthing. As per specification.	Nos.	50	20752.00	1037600.00
29	Supply & fixing of GI pipe having internal dia 150mm medium duty. As per specification.	Mtrs.	24	607.00	14568.00
30	Supply, erection, testing & commissioning of outdoor type cable end boxes suitable for 33 KV 'E' 3 core 300 Sq.mm XLPE. As per specification. As per specification.	Nos.	8	13636.00	109088.00

31	Excavation & refilling of trench size 0.5m wide x 1.2 m deep as per specification. Trench work may be on kuchha/pucca land and all type of soil as per site requirement and without protective layer of bricks. Surface of trench shall be made good in all respect and upto satisfaction of site engineer. As per specification.	Mtrs.	400	122.00	48800.00
32	Excavation & refilling of trench size 0.5m wide x 1.2 m deep in hard rock (where blasting is prohibited) for laying of HDPE/SPUN/CI pipe etc. for under ground cable crossing as per specification and upto satisfaction of site engineer. As per specification.	Mtrs.	200	357.00	71400.00
33	Supply, installation, testing and commissioning of Warm white LED strip Light. As per specification.	Mtrs.	280	2452.00	686560.00
34	Supply, installation, testing and commissioning of Gate Light (LED Type) equivalent to Bajaj Model No. 160614. As per specification.	Nos.	60	6633.00	397980.00

(B) Hybrid type Solar power plant of 10KW at 16Nos. Locations:

1	Supply of solar panels minimum 540 watts or above, mono crystalline / mono per half cut, suitable for minimum 10kWp solar system (unit Each = per watt) Warranty - The PV Modules shall be replacement warranted for minimum of 10years against all material/ manufacturing defects and workmanship. Performance warranty will be up to 25 years. As per Specification.	Each	160000	27.00	4320000.00
2	Supply of hybrid inverter (suitable for 10kWp solar system and lithium-ion battery pack) with in-built safety features as per technical specification. Any reputed make, Warranty - minimum 5years. As per Specification.	Nos.	16	163243.00	2611888.00
3	Supply & installation of Galvanised iron solar structure suitable for 10kWp solar panel installation. As per Specification.	Job	16	93948.00	1503168.00
4	Supply and fixing of Unarmoured Single Core 4 Sqmm tinned copper for DC cable supply. As per Specification.	Mtrs.	3200	41.00	131200.00
5	Supply and fixing of PVC conduit/casing capping (as per instruction of site supervisor) and its accessories, size 25mm, thickness 1.6 mm as per IS 9537 Part-III.	Mtrs.	480	31.00	14880.00
6	Supply & fixing of DCDB including fuses, contactors etc. suitable for 10 kWp. As per Specification.	Nos.	16	2302.00	36832.00
7	Supply and fixing of MC 4 connectors suitable for solar panels. As per Specification.	Nos.	320	50.00	16000.00
8	Installation, Commissioning and testing of 10kWp Solar power panels, inverter complete system with all accessories. As per Specification.	Job	16	39891.00	638256.00

9	Supply and fixing of MCCB 63Amp, 4-Pole, 36kA with enclosure. As per Specification.	Nos.	16	5209.00	83344.00
10	Supply & installation of lithium-ion batteries pack for minimum 10 kWh capacity, operating voltage of 12 to 48DC, in the range of 100-300AH, Warranty - minimum 5years. As per Specification.	Set	16	226433.00	3622928.00
11	Supply & fixing of Earthing with 2.0meter long copper bonded rod with chemical. As per Specification.	Nos.	48	3630.00	174240.00
12	Supply & fixing of copper bonded lightening arrestor. As per Specification.	Nos.	16	1627.00	26032.00
13	Supply & fixing of solar meter suitable for 10 kWp Solar power plant. As per Specification.	Nos.	32	6977.00	223264.00
14	Supply & fixing of Net meter suitable for 10 kWp Solar power plant (CTR Type) with agreement work and all other testing charges for metering etc. as per SEB guidelines. As per Specification.	Nos.	16	9964.00	159424.00
15	Supply & fixing of metering CT100/5A. As per Specification.	Nos.	48	1319.00	63312.00
16	Supply & fixing of ACDB for 10kWp Solar Power Plant. As per Specification.	Nos.	16	2958.00	47328.00
17	Supply and fixing of MIP meter box with Bakelite sheet & size of 3feet x 2feet. As per Specification.	Nos.	16	6599.00	105584.00

(C) Integrated Solar Roof Top shed by ATUM type of 50KW at 02Nos. Locations:

1	Supply, installation, testing and commissioning of integrated Solar Roof Top shed by ATUM type or similar solar modules with necessary accessories along with on grid inverter and provision of Net metering, strengthening of supporting structure as per site requirement. As per Specification.	KWp	100	76377.00	7637700.00
	Total (in Rupees) :				44338511.00

NOTE : RITES Inspection/Third party inspection (TPI) will be carried out of Items/materials having total value more than Rs. 5Lakhs before supply at manufacturer's premises & all costs of inspection shall be borne by the contractor.

Technical specifications

Tender No:- ELCJP/NDT-DOHM/GC/T10-R/25

Name of work: Left over miscellaneous electrical work under GC work in NDT-DOHM section, Doubling work in All-CNA section and New BG Line work in BI-NMH section, NDT-NDT Town section and PUHT-MEC section.

(For S. No. 1)

(i) The contractor shall have to design, manufacturing, supply, install, testing, erection and commissioning of APFC panel **50kVAR** with the shifting/termination/connection of existing supply from existing point to new point with complete lugs and glands etc. The contractor shall have to make CC foundation (1:3:6) & trenching work under the guidance of site engineer. **The APFC panel shall be fabricated CRCA sheet steel 1.6mm.**

(ii) The APFC panel shall be of totally enclosed cubical type with **IP-42** protection, floor mounted, dust and vermin proof, louvers for proper ventilation. To prevent a dust proof joint, polyurethane foam gasket shall be provided on the inner side of the door of the panels. MS channel of approximate size **75x50mm** is to be provided for support. It should also be provided with bottom opening for removal of gland plates etc. Knock out/ glands / gland plates as applicable shall be provided in the panel for incoming cable. Adequate space inside the board shall be provided for bus bar & cable alley to accommodate the incoming in a proper manner. Minimum two-earth terminals shall be provided. The APFC panel should be suitable for three phase 4 wire 415V 50 Cycles AC. **The drawing of panel should be submitted for approval before fabrication.**

(iii) The panel (7 tank process powder coating) should be treated with powder coating (60 microns) with suitable paint shade **RAL 7035** or similar. **GI coating** of suitable grade for hardware (nut, bolt, washer, hinges etc.).

(iv) **Bus Bar:** Three phase & Neutral **Aluminium** bus bar (**1 Sqmm / 0.8A**) similar to E91 grade of Hindalco make with colour PVC tape or sleeves and bus bar insulators as per requirement. Size of bus bar – **20x10mm.**

(v): The enclosure shall be of suitable size for housing the following items in the panel -

(a) **APFC Relay** - Digital type **12 Stage 3 CT APFC relay microprocessor controlled** with power factor display, automatic capacitor switching single alarm, multi LED indication for capacitor ON/OFF position, C/K selection feature and Auto/Manual control.

(b) **Incoming MCCB** - MCCB 100amps, 4Pole, Breaking capacity at 415V AC, 50Hz, 36kA, $I_{cs}=100\%I_{cu}$, thermal release, adjustable over load setting: $0.8 - 1.0 \times I_n$, adjustable short circuit setting: $5-10 \times I_n$, conforms to IS/IEC 60947-2 similar to cat no: CSE1NN125ATM4P100 of C&S make.

(c) **Capacitor Duty contactor** - The capacitor switching contactors **should be higher rating than the capacitor ratings.** It should be 3P, 415V AC, 50Hz & conforms to IS 13947-4-1 AC-6b or latest.

(d) **Auto/Manual selector switch:-** Auto/Manual selector switch for optional operation.

(e) **Various Instruments -**

(i) Digital Volt meter 0–500V, size 96x96 mm

(ii) Volt meter selector switch 16A,

(iii) Digital Ampere meter 0–100 Amps. CT operated size 96x96 mm.

(iv) Current transformer 100/5 Amp. Ratio

(v) Ampere meter selector switch 16A

(vi) RYB, Multi LED indication lamps

(vii) MCB 3P, 6-32 Amps 'D' series, 10kA

- (f) Multistrand **copper** cable - Internal power wiring shall be done with **16 sqmm** control wiring shall be done with **2.5 sqmm** size multistrand copper flexible cable with copper lugs.
- (g) **Power Capacitors:** The capacitors shall be of **heavy duty metallised poly propylene** type. The capacitors shall be provided (1kVAR – 01, 2kVAR – 01, 3kVAR – 01, 4 kVAR – 01, 5kVAR – 03, 7.5kVAR – 02, 10kVAR – 01) of reputed make.
- (h) Caution board in English/Hindi of Metallic type shall be provided.

NOTE:- Drawing & BOM of APFC Panel will be approved from railway before fabrication. APFC panel shall be got made by CPRI approved firms and inspection of panel will be done at manufacture's site before dispatch.

(For S. No. 2)

Supply, installation, testing and commissioning of LT Panel conforming to IS 8623, IEC 60439. to be mounted on the floor/wall/pillar (as per site requirement) with reg bolts/ clamps comprising of the following :-

The board should be treated with rust protection such as degreasing phosphating and painted with two coats of oxide primer and final two coats of stove enamel paint of light grey colour.

System of supply:-

(i) 415volts 3-Ph, 50-cycles AC.

1 No.100 Amps.4 pole MCCB 35/36KA microprocessor based (adjustable setting) with O/C, S/C and E/F protections. (Ics=100%Icu)

(ii) 1Set. Cable Alley 2X4 way

(iii) 1 No. Digital Meter module for Volt meter and Ampere meter in incoming and 01 No. Ampere meter at each outgoing of suitable capacity.

(iv) 4Nos. 63Amps. 4-pole MCCB 35/36KA microprocessor based (adjustable setting) with O/C, S/C and E/F protections. (Ics=100%Icu)

(v) CABLE As required GLANDS.

(vi) The board shall be Wall/floor mounted and fixed properly with Reg Bolts etc.

Busbar : One set of three phase 4 Nos. **Electrolytic tinned copper busbar** of suitable capacity will be provided. The busbar shall be mounted on non-hygroscopic epoxy moulded insulators and bakelite sheet. The busbar shall confirm to relevant ISS and coloured PVC insulated tape shall be provided to the bus-bar. Neutral busbar will be equal size of the main busbar rating of copper. GI Earth BUS-BAR shall also provided in full length of LT Panel.

NOTE:-Drawing & BOM of APFC Panel will be approved from railway before fabrication. LT panel shall be got made by CPRI approved firms and inspection of panel will be done at manufacture's site before dispatch.

(For S. No. 3, 4 & 5)

- a) The contractor shall have to Design, manufacture of wall/hanging/floor mounting type LED illuminated sign / direction boards in half elliptical/Parabolic/Triangular shape. The display sheet shall be of unbreakable 040 translucent polycarbonate sheet of 2 mm thickness. The text / graphics matter visibility shall not be less than 160 deg. The approved colour text and graphics shall be printed / router cut on monomeric calendared vinyl of 70 um thickness and shall be firmly pasted on display sheets. The mounting arrangement shall be hanging, wall mounting, ceiling mounting, pole mounting or floor mounting and as per site requirement by Railway.

The signage shall have the integral mounting arrangements with sturdy structural frame and ACP cladding on the back side of the signage to avoid rusting and entry of dust. The LED board shall have uniform illumination with 4-8 W / Sqft and with brightness more than ambient light. Suitable size end cap of 1.5 mm thick SS 304 should be provided. The work shall be carry out as per complete satisfaction of site engineers.

(b)The contractor shall have to Display, installation of wall / hanging /floor mounting type LED illuminated sign / direction boards in half elliptical\Parabolic/Triangular shape. The display sheet shall be of unbreakable 040 translucent polycarbonate sheet of 2 mm thickness. The text / graphics matter visibility shall not be less than 160 deg. The approved colour text and graphics shall be printed / router cut on monomeric calendared vinyl of 70 um thickness and shall be firmly pasted on display sheets.

The mounting arrangement shall be hanging, wall mounting, ceiling mounting, pole mounting or floor mounting and as per site requirement. The signage shall have the integral mounting arrangements with sturdy structural frame and ACP cladding on the back side of the signage to avoid rusting and entry of dust. The LED board shall have uniform illumination with 4-8 W / Sqft and with brightness more than ambient light. Suitable size end cap of 1.5 mm thick SS 304 should be provided. The work shall be carry out as per complete satisfaction of site engineers.

(c)The contractor shall have to Supply, installation testing commissioning of 3D letters as in a frame in Hindi & English matters. The base of the individual letted will be precoated antirust metal.The face of the letter will be covered with 3 mm thick 0-40 imported acrylic sheet raising of each letters with 75mm flat aluminium sheet as per approved color pattern. LEDs are provided inside the letters should be powered by Samsung or similar 12V water proof 1.51,1.77 Module, EU RoHS compliant with lens shape type- circular, luminous flux -137 lm 20 module pack, Power supply of the LEDs are Rain proof IP-43 Low carbon ,RoHS 1217 700 AMP using moisture proof IP-67 power supply box .Using MS iron rectangular tube & angle for frame and stand. The material has unit of Height inches, Each letter height shall be 4ft = 48inches. Letters for each station name will be advised by concerned site engineer as per club quantity sheet. The work shall be carry out as per complete satisfaction of site engineers.

Note : All LED Signageboard shall be as per technical specifications given in RB Letter No. 2023/SD-II/22/07/02 dtd.15/05/2023 or latest.

(For S. No. 6)

The contractor shall have to supply and test and Commission of vertical bore well submersible pump set with 3 core x 6 square mm size of flat submersible copper cable, pump control panel with starter (MCB/ Main switch, ammeter, voltmeter and water level indicator, single phase preventer), 16 square mm size PVC rope and 50 & 31.75 mm (1.25 inch) DiaHDPE pipes suitable for 8 & 6 Kg pressure respectively. The pump shall be suitable for three phase 440 V AC 50 Hz for NS-1b & single phase 230 Volts AC, 50 Hz.

Capacity	5 HP
Head approximate	120 meters
Discharge approximate	1.66 LPS

Type of Pump/Source	Submersible Bore well
Type of Duty	Continuous

Head & discharge of pump should be as above mentioned range as per site requirements under guidance of site engineer. Pump shall be of 3 star or above rated approved by BEE. Head and discharge given are at Maximum efficiency point.

(For S. No. 7)

The contractor shall have to install (lowering) & commissioning of new pump set complete in all respect in the bore well as per instruction of site engineer.

(For S. No. 8)

The contractor shall have to design, fabrication, Supply, installation, testing and commissioning of LED based pit lighting complete including power supply units and step down transformer complete in all respect.

1	Required illumination	100 – 150 Lux
2	Input Voltage	48V AC +/- 10%
3	Input Power	16 Watt (Minimum)
4	Power Factor	> 0.95
5	LED Matrix	12 LEDs Matrix
6	Approx. Light output	1300-1400 lumen.
7	LED Driver	High bright driver system
8	Source	PWM constant current
9	Protection	Reverse Polarity and Short Circuit.
10	Material & Insulation of Driver	Fire Retardant material.
11	Diffuser	P12, Prismatic Polycarbonate & toughened glass.
12	Tj (Junction temperature)	Less than 90 degree centigrade of each LED after continuous operation of 12 hrs.
13	Luminaire Type	The Luminaire should have features with suitable mechanical strength, proper heat dissipation, suitable mounting and locking arrangement etc.
14	The whole Luminaire fixture shall be provided with high impact resistance i.e. IK-10.	
15	The whole Luminaries fixture shall be IP-67.	

The fitting shall be installed in such a way that covers entire length of the washing line in equal distance. Fitting shall be installed in existing pocket of the washing line by required minor civil work.

Make and model/sample of LED Light fitting will be prior approved before supply.

(For S. No. 9)

The Contractor shall have to supply, erection, testing and commissioning of power transformer with copper winding, 02KVA capacity, input Voltage: 230V (AC) single Phase, Frequency- 50Hz, Output Voltage: 40-72V with 04/05step, IP-66 protection, Voltmeter & Ampere meter with selector switch, 10kA with suitable rating SP "C" series MCB input & Output side. The mounting arrangement of step down transformer shall be proper or as per decided by the site engineer. The transformer shall be erect in such location to avoid the voltage drop at the tail end of circuit. The portable transformer shall be of standard make. The above transformer will be installed in Pit line with proper safety measures.

(For S. No. 10)

The contractor shall have to design, fabrication, Supply, installation, testing and commissioning of dust & vermin proof, water proof, outdoor type junction box for wall mounting of approximate size 300x250x150mm made by 18SWG MS sheet with water tightening material, powder coated, grey/white colour, insulating material and locking arrangement also.

The following arrangement shall be made in the junction box:-

- (1) Insulating Material: Tufnell or Hylem sheet.
- (2) Aluminium Bus bar: 25x3mm size of suitable length.
- (3) SP MCB: 6-32A, "B" series, 10KA fix in outgoing cable for light controlling.
- (4) Other Material: Nut, bolt & washer (Spring & Flat).
- (5) Bus bar shall have holes as required for terminating & extend the main cable.

Note: Sample of Junction box shall be approved before fabrication.

(S.No. 11 & 12)

The contractor shall have to supply, installation, testing and commissioning of inverter type 20W LED Tube light fitting (Indoor Type) and 36W LED Street light fitting (Outdoor Type) as per RDSO specification RDSO-EEM0LKO(GUID)/1/2020 with following Major technical parameters :

- i) LED of the fitting should be LM-79 & LM-80 certified.
- ii) The capacity of the battery should meet at least 4Hrs. backup.
- iii) Minimum 25% backup lumen to be maintained when the luminaire working on its inbuilt battery (As compare to lumen output when working on normal power supply).
- iv) Minimum life of the fitting should be 13000 burning Hrs. and its battery should have minimum 500 Charging – Discharging life cycle.
- v) LED fitting must have auto cut facility after battery fully charged.
- vi) The fitting should have voltage surge protection up to 4KV.
- vii) Capable to switch to battery automatically in case of power failure.
- viii) Operating voltage of the fitting should be between 140V to 250V.
- ix) Type of battery inside fitting is Li-ion.
- x) Fitting lumen efficacy should be 100 lumen/watt or above.
- xi) Fitting driver efficiency should be more than 85%.
- xii) The outdoor type LED fitting should have ingress protection rating of IP-66 or above.
- xiii) The warranty of LED fitting should be 5Years from date of supply.

Note:

- 1) The sample of LED fitting with all requisite technical papers has to be prior approved before supply.
- 2) The indoor type LED fitting should be equivalent to Model No. Pride Plus Inverter 20W V1 of Havells make.
- 3) The outdoor type LED fitting should be equivalent to Model No. HLSLD-ML04-36-CWL-INV of Halonix make.

(For S. No. 13)

The Contractor shall have to Supply, installation, testing and commissioning of High volume low speed fan of 6Nos. of AERO blades having diameter of 12 feet and maximum speed of 86-100 RPM (Frequency control) with all accessories, complete in all respect as per Railway requirement.	
Technical Specifications:-	
Fan Diameter	12 feet
Motor capacity	0.75 to 1.1kW
Airflow	117000-125000 CFM
Approximate working area	6800 Sq. Ft.
Aero Blades	6 nos.
Maximum speed	53 RPM (Frequency Control)
Noise	45 DB Max.
Operating voltage	415V, 3Ph, 50Hz
Motor and Gear box	Maintenance free, synthetic long drain lubricating oil, CE certified
Protection level	IP55
Frequency Control system	Electronic components, built in protective module.
Fan blades driving hub	Material high strength Aircraft grade Aluminium Alloy, Static and Dynamic balanced No metal fatigue fracture caused by the die-casting chassis with 10 years warranty.
Fan blades	Extruded Aircraft grade Aluminium alloy with safety ring.
Main frame	Structural steel powder coated.
Fasteners	Highest strength 12.9

Note: Make with Model No. and other technical details shall be approved before supply.

(For S. No. 14, 15, 16 & 17)

High Mast and accessories:

The scope of this specification covers the manufacture, transport, installation, testing and commissioning of the complete lighting system, using raising and lowering type of High mast towers, including the civil foundation works.

The contractor shall arrange inspection & testing of the High Light mast including all the accessories at the manufacturer's premises. High light mast should be of reputed make.

REFERENCE STANDARDS:

Code and practice for design loads for structures : TR. No.- 7 1996 of ILE UK;

Wind Loading : IS 875 Part- III of 1987

Construction Steel : BS EN 10025: 1993 OR
Equivalent

Welding : BS 5135/AWS

Galvanising : BS EN ISO 1461/IS 2629

MAST SHAFT

The Mast shaft shall be of continuously tapered, fabricated from special steel plates having minimum yield strength of 355 N / sq mm, cut and folded to form a polygonal cross section, **Icosagon (20 sides)**, fillet welded presenting a good and pleasing appearance and shall be based on proven In-Tension design to give an assured performance, and reliable service. The mast height shall be **16 meters** and shall be in **two sections** with only one longitudinal seam weld and without any circumferential weld. It shall have minimum diameters of **150mm at the top** and **410 mm at the bottom**. Minimum plate thickness of bottom section shall be **4mm** and other section **3mm**. The PCD of the mast flange shall be **min.490mm** and diameter of the base flange as **min. 570 mm**.

The mast shall be fabricated from special steel plates, cut and folded to form a polygonal section as stated above and shall be telescopically jointed and welded. The procedural weld geometry and the workmanship shall be exhaustively tested on the completed welds. Mast shall be delivered to site in **two sections** only. Each section shall be fabricated out of individual plates duly folded and welded. There shall be only one longitudinal seam weld per section. Sections fabricated out of multiple plates or with more than one weld shall not be accepted. There shall not be any other internal or external welds in the mast sections. At site the sections shall be jointed together by slip-stressed-fit method. No site welding or bolted joint shall be done the mast. The minimum overlap distance shall be **1.5 times** the diameter at penetration.

The mast shall be provided with fully penetrated flange, which shall be free from any lamination or incursion. The welded connection of the base flange shall be fully developed to the strength of the entire section.

The base flange shall be provided with supplementary gussets between the bolt-holes to ensure elimination of helical stress concentration. For the environmental protection of the mast, the entire fabricated mast shall be **hot dip galvanized**, internally and externally, having a uniform thickness of **85 microns** for the bottom and **65 microns** for the top sections. The mast

sections shall be galvanized by **single dipping method**. Sections galvanized by double/multiple dipping methods shall not be accepted.

Manufacturer should have Wind Tunnel Test and this should be submitted.

DOOR OPENING:

An adequate door opening shall be provided at the base of the mast and the opening shall be such that it permits clear access to equipments like winches, cables, plugs and sockets etc. and also facilitate easy removal of the winch. The door opening shall be complete with a close fitting, vandal resistant, weatherproof door, provided with a heavy-duty double internal lock with special paddle key. The door opening shall be carefully designed and reinforced with welded steel section, so that the mast section at the base shall be unaffected and undue bucking of the cut portion is prevented. Size of door opening **shall not be more than 1100x280mm** to avoid bucking of the mast section under heavy wind condition.

DYNAMIC LOADING FOR THE MAST: The mast structure shall be suitable to sustain an assumed maximum reaction arising from a wind speed (**three second gust**), and shall be measured at a height of **10 meters above** ground level. The design life of the mast shall be a minimum of **25years**.

FABRICATION OF LANTERN CARRIAGE

A fabricated lantern carriage shall be provided for fixing and holding the flood light fittings and control gearboxes. The lantern carriage shall be of special design and shall be of **steel tube construction**, the tubes acting as conduits for wires, with holes fully protected by grommets. The lantern carriage shall be so designed and fabricated to hold the required number of flood light fittings and the control gearboxes and also have a perfect self-balance. The lantern carriage shall be fabricated in two halves and joined by bolted flanges with stainless steel bolts and nyloc type stainless steel nuts to enable easy installation or removal from the erected mast. The inner lining of the carriage shall be providing with protective PVC arrangement, so that no damage is caused to the surface of the mast during the raising and lowering operation of the carriage. The entire lantern carriage shall be **hot dip galvanized** after fabrication.

JUNCTION BOX

Weather proof junction box, made of cast Aluminium shall be provided on the carriage assembly as required, from which the interconnections to the designed number of the flood light luminaries and associated control gears fixed on the carriage, shall be made.

RAISING AND LOWERING MECHANISM

For the installation and maintenance of the luminaries and lamps, it will be necessary to lower and raise the lantern carriage assembly. To enable this, a suitable winch arrangement shall be provided, with the winch fixed at the base of the mast and the specially designed head frame assembly at the top.

WINCH

The winch shall be of completely self sustaining type, without the need for brake shoe, springs or clutches. Each driving spindle of the winch shall be positively locked when not in use, by gravity activated PAWLS. Individual drum also should be operated for fine adjustment of lantern carriage. The capacity, operating speed, safe working load, recommended lubrication and serial number of the winch shall be clearly marked on each winch.

The gear ratio of the winch shall be **53:1**. However, the minimum-working load shall be not less than **750kg**. The winch shall be self-lubricating type by means of an oil bath and the oil shall be readily available grades of reputed producers.

Torque limiter should be provided.

The winch drums shall be grooved to ensure perfect seat for stable and tidy rope lay, with no chances of rope slippage. The rope termination in the winch shall be such that distortion or twisting is eliminated and at least 5 to 6 turns of rope remains on the drum even when the lantern carriage is fully lowered and rested on the rest pads. It should be possible to operate the winch manually by a suitable handle and /or by an integral power tool. Operation of the winch with manual handle shall be independent of the power tool. Winches with manually operation through the power tools shaft shall not be accepted. Individual drum operation of the winch shall be possible.

The winch shall be type tested in presence of a reputed institution and the test certificates shall be furnished before supply of materials. A test certificate shall be furnished by the contractor from the original equipment manufacturer, for each winch in support of the maximum load operated by the winch.

HEADFRAME

The head frame which is to be designed as a capping unit of the mast, shall be of welded steel construction, galvanized both internally and externally after assembly. The top pulley shall be of appropriate diameter, large enough to accommodate the stainless steel wire ropes and the multi-core electrical cable. The pulley block shall be made of non-corrodible material, and shall be of die-cast Aluminium Alloy (LM-6). Pulley made of synthetic materials such as plastic or PVC is not acceptable. Self-lubricating bearings and stainless steel shaft shall be provided to facilitate smooth and maintenance free operation for a long period.

The pulley assembly shall be fully protected by a canopy galvanized internally and externally. Close fitting guides and sleeves shall be provided to ensure that the ropes and cables do not dislodge from their respective positions in the grooves. The head frame shall be provided with guides and stops with PVC buffer for docking the lantern carriage.

STAINLESS STEEL WIRE ROPES

The suspension system shall essentially be without any intermediate joint and shall consist of only non-corrodible stainless steel of **AISI 316** or better grade. The stainless steel wire ropes shall be of **7/19** construction, the central core being of the same material. The overall diameter of the rope shall not be less than **6mm**. The breaking load of each rope shall not be less than **2350kg** giving a factor of safety of over **5** for the system at full load as per the TR-7 referred to in the beginning of this specification. The end constructions of rope to the winch drum shall be fitted with thimble. The thimbles shall be secured on ropes by compression splices. **Three continuous lengths** of stainless steel wire ropes shall be used in the system and no intermediate joints are acceptable in view of the required safety. No intermediate joints/terminations, either bolted or else, shall be provided on the wire ropes between winch and lantern carriage.

ELECTRICAL SYSTEM, CABLE AND CABLE CONNECTIONS

The electrical connections from the bottom to the top shall be made by special trailing cable. The cable shall be EPR insulated and PCP sheathed to get flexibility and endurance. Size of the cable shall be minimum 5 core 2.5sqmm copper. A DP MCB with 3 pin metal clad socket to plug the supply cable for luminaries shall be mounted on PVC rigid board of suitable size provided in the base compartment of the mast to terminate the incoming cable power supply cable. The cable shall be of reputed make. At the top there shall be weatherproof junction box to terminate the trailing cable. Connections from the top junction box to the individual luminaries shall be made by using 3 core 2.5sqmm flexible PVC cables of reputed make. The system shall have in-built facilities for testing the luminaries while in lowered position.

Also, suitable provision shall be made at the base compartment of the mast to facilitate the operation of internally mounted, electrically operated power tool for raising and lowering of the lantern carriage assembly. The trailing cables of the lantern carriage rings shall be terminated by means of specially designed, metal clad, multi-pin plug and socket provided in the base compartment to enable easy disconnection when required.

POWER TOOL FOR THE WINCH

A suitable high powered, electrically driven, internally mounted power tool, with manual over ride shall be supplied for the raising and lowering of the lantern carriage for maintenance purpose. The speed for the power tool shall be to suit the system. The power tool shall be single speed provided with motor of the required rating.

The power tool shall be supplied complete with a suitable control switch so that the operation of the mast can be done at a safe distance. The capacity and speed of the electric motor used in the power tool shall be suitable for the lifting of the design load installed on the lantern carriage. The power tool mounting shall be so designed that it will be not only self supporting but also aligns the power tool perfectly with respect to the winch spindle during the operations. Also, a handle for the manual operation of the winches in case of problem with the electrically operated tool, shall be provided and shall incorporate a torque limiting device.

There shall be separate torque-limiting device to protect the wire ropes from over stretching. It shall be mechanical with suitable load adjusting device. The torque limiter shall trip the load when it exceeds the adjusted limits. There shall be suitable provision for warning the operator once the load is tripped off. The torque limiter is a requirement as per the relevant standards in view of the overall safety of the system. Each mast shall have its own power tool motor.

FOUNDATION&FOUNDATIONBOLTS

Foundation bolt of diameter not less than **30mm** and length **850mm** shall be manufactured from special steel with exposed portion **hot dip galvanised** and with galvanised washers and nuts complete with anchor plate of suitable size and template.

Design and casting of suitable foundation with **M 25** concrete for the 16 meters (as per the item of schedule) high mast having the safe soil bearing capacity at site as **10T/sqmtr.at2meter depth** including supply of foundation bolts manufactured from special steel along with nuts, washers and anchor plates and templates suitable for high mast, of the manufacturer. It shall according to manufacturer's drawing. Nuts & bolts of foundation shall also be as per manufacturer's drawing.

LIGHTNING FINIAL

One number heavy-duty hot dip galvanised lightning finial shall be provided for each mast. The lightning finial shall be minimum **1.2M** in length and shall be provided at the centre of the head frame. It shall be bolted solidly to the head frame to get a direct conducting path to the earth through the mast. The lightning finial shall not be provided on the lantern carriage under any circumstances in view of safety of the system.

EARTHING TERMINALS:

Suitable earth terminal using 12mm diameter stainless steel bolts shall be provided at a convenient location on the base of the mast for lightning and electrical earthing of the mast.

SWITCHING OF INSTALLATION:

The switching ON & OFF of the luminaries by suitable **electronic timer** for automatic operation. The switch also incorporates electronic over current trip and latch mechanism. The contractor shall have to provide suitable capacity 4 poles RCCB & "B" series MCB etc.

AVIATION OBSTRUCTION LIGHTS: Suitable aviation obstruction LED lights similar to model no. BGAV 302 of Bajaj make, comprising of Aluminum housing with polycarbonate enclosure reliable design and reputed manufacturer shall be provided on top of each mast.

ASSEMBLING & FIXING:

The contractor shall have to assembling, fixing & connection of light fittings on the high mast tower. The fittings shall be securely fixed with suitable clamp, nut, bolt etc as per the site requirement with size 3x1.5 sq mm PVC insulated, multi strand cable of copper conductor.

INCOMING POWER CABLE:

4x1.5sqmm copper conductor armoured cable for motor supply shall be provided from feeder pillar to the base compartment of the high mast. Cable shall be taken to the base compartment of the high mast through the provision made in the foundation. Power cable of suitable size up to the feeder pillar from supply point shall be provided by the contractor. All copper cables required are included in the cost of the tender.

NOTE: Contractor shall arrange inspection of High Mast tower at manufacturer's works before dispatch.

<u>TECHNICAL DATA SHEET FOR 16 MTR HIGH MAST AND COMPONENTS</u>			
	HIGH MAST SHAFT		
	Height of mast (Mtrs.)		16 Mtrs.
	Make		Bajaj/philips/GE/CGL or similar reputed make
	Material Construction		Grade S355 JO as per BS-EN10025:1993 or equivalent
	Thickness (in mm)		Bottom section: 4mm & other sections: 3mm
	Cross section of Mast		Icosagon 20 sides
	Length of individual sections		Two sections
	Top & Base diameter		Top diameter min. 150 mm
		:	Bottom diameter min. 410 mm
	PCD of mast flange		Min. 490mm
	Diameter of base flange		Min. 570mm

	Metal protection treatment for Mast Section		Hot dip galvanized
	Thickness of galvanization		85 microns for the bottom and 65 microns for the top section
	Size of opening and door at base		Not more than 1100 x 280mm
	DYNAMIC LOADING AS PREVAILING AT SITE		
	Max. basic wind speed		As per IS 875 part-3
	Max. gust speed time		3 Second
	Height above ground level these two factors are measured		10 mtrs.
	Factor of safety for wind load		1.25
	Factor of safety for other load		1.15
	Design life of the mast	:	Minimum 25 years
	FOUNDATION DETAILS		
	Type of foundation		Open raft shallow footing
	Size of foundation		As per design
	Designed load bearing capacity		10T per sq m at 2 M depth
	Design safety factor		> 2.0
	Number of foundation bolts		8 Nos.
	Type of foundation bolts		High yield tensile Cold Rolled pitched threads (600 N/sq mm)
	Bolt diameter & length		Min. 30 mm & 850mm
	Grade		EN-8
	LANTERN CARRIAGE		
	Material for construction		Class B-MS-Tube
	Diameter of carriage ring (mm)		600 mm
	Construction		Steel tubular ring type suitable as per design
	Number of joints		2
	Buffer arrangement between Carriage and Masts		PVC sleeve provided between carriage & mast
	Number of fittings		12 Nos.

	Type of fittings/fixture		Suitable for LED luminaires
	WINCH		
	Type of winch		Double drum type
	Gear Ratio		53 : 1
	Capacity		750 kgs
	Operating speed		Approx. 2.0 – 2.5m/min
	Method of operation		Manual / motor
	Lubrication arrangement		Permanent oil bath
	Type of lubricant		SAE 140 /90
	STAINLESS STEEL WIRE ROPE		
	Grade		AISI 316
	Diameter (mm)		6 mm
	Construction		7 / 19
	Centre core material		Stainless Steel core
	Number of ropes		3 continuous ropes
	Thimble & Talurit		SS Thimble, Copper Talurit, S.S. Bull dog grip
	Braking load capacity		2350 Kg
	Factor safety		>5 for full system load
	CABLE		
	Type		5-core / 3-core PVC insulated copper cable
	Conductor size		2.5 sq mm (minimum)
	POWER TOOL (OPTIONAL)		

	Model		Internal type
	Input		415V (Three phase)
	HP		1.5 H.P
	Number of speeds		Single speed

(For S. No. 18)

Supply and fixing of 150/160W or above LED Flood light comprising Die cast aluminum housing with toughened glass complete with Electronic driver, Luminaries has the System lumen efficacy of 120 lumen/Watt, IP-66, LED Type: SMD, Colour temperature 5700K to 7000K, CRI ≥ 80 . Beam Angle ≥ 120 degree, Driver Efficiency $\geq 85\%$, Minimum Power Factor 0.9, THD $\leq 15\%$, Minimum Driver Surge Protection 10KV(External), Lamp shell: Polycarbonate, Compliance to EMC Test, Luminaries shall be specially designed with suitable lamp housing and control gears for LED flood lights 150/160W. Certificate: BIS Registration, Minimum Warranty 3 years through Gem and 5years other than Gem. Applicable Standards: IS: 10322, LM-80, LM-79. The luminaries shall be tested as per Indian standards and test reports shall be submitted along with the materials. The luminaries shall be suitable for installation on high masts.

The luminaire shall be fulfill as per latest Railway specifications and manufacturer submit LED fitting certificate as desired by railway. **Make and model/sample of LED Light fitting will be prior approved before supply.**

(S. No. 19)

The contractor shall have to supply, installation, testing and commissioning of hybrid type (All in one integrated) solar street light fitting 30W (Outdoor Type) with following Major technical parameters:

- | | |
|-------|---|
| i) | Solar PV Panel – Mono crystalline PV Panel (60Wp). |
| ii) | Solar Battery – 12.8V, 24Ah Lithium ferrous phosphate battery with BMS (BIS approved). |
| iii) | Lumen output – Nominal 4500 with tolerance $\pm 10\%$. |
| iv) | LED Street light – 30W with high lumen efficacy > 150 Lm/W. |
| v) | Colour temperature – 5700 – 6500K. |
| vi) | CRI > 70 . |
| vii) | Maintenance of Lumen output – 50000 Hours. |
| viii) | Weather proof IP-65/66& IK-08 Protection. |
| ix) | Charge Controller – MPPT Integral charge controller (Inbuilt to the street light). |
| x) | Dimming – 33% PIR 30Sec. |
| xi) | Protections – Short circuit, reverse polarity, reverse discharge of battery, overcharge/deep discharge, No load/open load/overload, Dusk to dawn etc. |
| xii) | Working temperature - -10 to 55degree centigrade. |

- xiii) Vital parameter test report from NABL accredited lab.
- xiv) Indications – Battery low voltage, Battery charging, Battery full charge, Load short circuit etc.
- xv) The fitting should have voltage surge protection up to 4KV.
- xvi) Capable to switch to battery automatically in case of power failure.
- xvii) Lens – Provided for street light distribution.
- xviii) The warranty of LED fitting should be 5Years from date of supply.

Note:

- i) The sample of LED fitting with all requisite technical papers has to be prior approved before supply.
- ii) The Hybrid type solar LED fitting (outdoor type) should be equivalent to Model No. CSOP-844-30-57-HL5-HY-LM-PG of Crompton make.

(S. No. 20)

Supply of material, fabrication & erection of 12.8Mtrs. long Lattice tower made of 65x65x5 mm MS angle with 50x6 mm MS flat for bracing including excavation of pit 1.50x1.50x2.10m in ground. The tower should be erected by CC grouting & muffed in cement concrete of mix. Ratio 1:3:6 having size of 1.20x1.20x2.0m over base concrete of 100mm thick in mix. 1:5:10 as per latest IS Specification. The remaining position of the pit be back filled with watering & ramming and surplus material shall be dispose-off within lead of 50m. **Tower weight will be approximately 508Kg.** Contractor will provide clamps, nuts, bolts and washers etc. as per site requirement in tower erection including primer coat of red oxide and two coats of aluminum paints. Contractor shall provide anti climbing device (barber wire, Hot dip GI) and caution/Danger board for 11KV/33KV as per IS. Complete work will be as per instruction & satisfaction of railway site Engineer. Drawing of Tower will be approved from railway before fabrication.

The contractor shall arrange inspection of Lattice tower at manufacturer's works before dispatch at his own cost and shall have to submit original test certificate.

(S. No. 21)

The contractor shall supply and stringing ACSR conductor for HT/LT overhead line of size 6/1/4.72mm as per IS: 398 with bonding wire of 12SWG soft aluminum and complete in all respect with testing and commissioning. PG clamp shall be used for binding of jumper conductors.

(S. No. 22)

Supply, installation, testing and commissioning of porcelain insulators Disc/Pin type suitable for 11/33 KV HT line Capacity – 45KN and LT shackle insulator for LT lines as per latest IS specification. The insulators shall be vitreous throughout and non-observant. Insulators shall have adequate mechanical strength, high degree of resistance of electrical puncture and resistance to climatic conditions.

(S. No. 23)

Supply and providing stay shall consist of stay rod size 19mm x 1900mm. Anchor plate size 300 x 300 x 6.4 mm, thimble stay clamps turn buckle. G.I. Stay wire 7/4 Sq.mm. and strain HT/LT insulator, etc. in cement concrete foundations, the ratio of cement aggregate and cement shall be (1:3:6), including excavation refilling. All component of stay set assembly shall be of MS galvanized. Necessary stay arrangement is also required to be provided for the PCC poles/ 'H' Pole/ Lattice Tower etc. The position of stay pit shall normally be such that stay pit makes an angle of 30 to 60 degree with the support. The depth of the stay pit shall be such that normally a length of 45 cm of stay rod shall project above the ground level. The stay rod shall be complete with stay wire of size 7/4 Sq.mm. complete with stay rod, stay insulator, thimble etc. The stay rod shall have to be embedded in a cement concrete 1:3:6 foundation 42cms x 42cms in section, the anchor plate shall be placed on 15 cm thick cement concrete. The band in stay rod shall be such that stay rod are the bend portion of stay rod are in correct alignment. Stay rod shall be protected with GI pipe, which shall not be less than 40mm in dia and 1.5 meter long. Stay wire shall be bonded

properly to the earth wire. Complete work will be as per instruction & satisfaction of Rly. site Engineer.

(S. No. 24)

The contractor shall have to supply, install, fabricate, test and commission 16 gauge GI sheet box of approximately size 600 x 350 x 260 mm approximate painted with powder coating containing Bus-Bar and Din Rail. The distribution board shall be indoor type dust and vermin proof. Knock out/ glands plates as applicable shall be provided in the distribution board for incoming and outgoing cables. Two Earth terminals shall be provided on each distribution board. DB should be provided with danger notice, Earthing terminals and with bypass arrangement. The overall dimensions of L.T. Panel shall be such as to accommodate the following:-

System of supply: - 415 volts 3-Phase, 50 cycles AC

(a) INCOMING :

The following items shall be provided in the incoming circuit.

1. MCB -01 No. 63 Amp. TPN 'C' series MCB.
2. INDICATOR - 01 Set M-LED indication lamps (Red, Yellow, Blue) 03 Nos.

(b) OUTGOING :

The following items shall be provided in the outgoing circuit.

1. MCB - 01 No. 63 Amp. SPN 'C' series MCB.
2. INDICATOR -01 No M-LED indication lamp.
3. SELECTOR SWITCH - 01No. 63Amp. selector switch (phase selector switch). (Three phase incoming & only one phase outgoing).

Note: Drawing and MOM of Phase selector shall be approved before fabrication.

(S. No. 25)

Laying and commissioning of different sizes of LT/HT XLPE/PVC cables under the road / under the track / along with pole / wall / in air/cable tray/ **already laid pipe** etc. Before laying of cable the trench should be thoroughly checked for sharp ballast and stones so that the cable may not be damaged. Before and after laying the cable the IR value should be checked. While laying the cable, care should be taken that no tree roots come on the way of cable, as it may damage the outside insulation of cable. Armouring at both ends of cable should be earthed properly. **At termination point of cable aluminium lugs and glands of suitable size and good quality shall be provided.** Cable markers should be provided on both the sides/ each turn of the cable and all bends (The cost of cable marker is taken separately). Bending radius of the cable shall not less than 16 times of dia of the cable.

The above HT/LT cable will be laid in already excavated trench & already laid pipe as per site requirement. Whether the cable emerges out of the ground at least two loops of sufficient radius should be laid. Installation of cable along with wall / pole / underneath sheds wherever required shall be done with support of GI Saddles/MS clamp /J bolts of proper size /GI Pipe to prevent the cable from external damage.(The cost of G.I. Pipe is taken separately).

Breaking of floor / wall / road and other civil structures and repairing up to original condition, shall be done by the contractor, and no extra cost will be paid for it. Permission for crossing any road, if required, shall be arranged by the contractor in coordination of concerned railway supervisor, and all the expenditures will be borne by the contractor.

Before and after laying of cable, IR value should be checked. All the instruments required for insulation testing/ high voltage testing shall be arranged by contractor at his own cost. In case of cable is to be laid in trench without pipe then cable shall be covered with good quality of bricks (18 bricks per meter).

NOTE:-Transportation of the HT/LT cable is to be done by contractor at his own cost from main depot of railway to required site and cut in pieces as per site requirement according to instruction of railway supervisor. Any damaged to the cable during transportation or laying/cutting/storage etc. will be borne by contractor.

(S. No. 26)

This item covers drilling of Horizontal bore by pushing method (trenchless technology) in all types of soil/rock for laying of RCC/HDPE/DWC pipe upto 200 mm by pushing method in presence of Railway representative taking all necessary safety precautions related track and movement of trains. Horizontal boring will be done at minimum 1.5 Mtr. below (or as per site requirement) from ground level at railway track portion but in case, where bank height of track is high then boring should be such that outer side and under track RCC/HDPE/DWC pipes are in same alignment.

All work will be done in presence of Railway representative without disturbing the Railway track taking all necessary safety precautions related track and movements of trains.

(S. No. 27)

This item covers supply & laying of HDPE pipe in **already excavated trench** under road/ground/floor/railway track etc. with technical specification 160 mm dia (OD), wall thickness between 6.2 mm to 7.1 mm, material grade PE-80 and class of pipe should be PN-4 with confirming to IS:4984/2016 or latest.

After laying of HDPE pipe, the trench should be refilled with same soil and restored to original position & pipe should be laid in trench such that possible to withdraw the cable for repair or replacement. The pipe shall be laid with a gradient to facilitate drainage of water and it shall be right angle to the track. For each track crossing, contractor shall have to lay two length of pipe, for 02 Nos. of cable to be laid.

Accessories related with laying of HDPE pipe like fitting, bends joints/coupler, junction, flange end cap etc. as per site requirement will be provide by contractor and no extra payment will be given for above items.

The contractor shall arrange inspection of HDPE pipe at manufacturer's works before dispatch at his own cost and shall have to submit original test certificate of HDPE pipe with related documents.

(S. No. 28)

The contractor shall have to carry out supply, installation, testing and commissioning of Maintenance free earthing as per RDSO specification no. RDSO/PE/SPEC/PS/0109 (Rev.0) 2008 or latest.

(S. No. 29)

Supply & fixing/laying of 150 mm “B” class, medium duty, G.I. pipe as per IS-1239 in trench, under floor/road/railway track/along with pole/DP/Tower etc. complete with proper size clamp, nut-washer, coupling, bends, elbows etc. as required at site.

While terminating the LT/HT cable to the overhead rail pole/DP structure/lattice tower, upper end of GI pipe should be filled with POP after insertion of HT/LT cable to avoid any rainy water in pipe. The G.I. Pipe should be fixed to lattice tower/DP/Rail pole etc. as per site requirements with the help of M.S. Flat clamp (minimum 2Nos.) of suitable size. Complete work will be done as per instruction & satisfaction of Rly. Site Engineer.

Make of GI Pipe will be prior approved before execution.

(S. No. 30)

Supply, installation, testing and commissioning of heat shrinkable termination kit (end Box) suitable for 33kv, “E”, 3core x 300Sqmm HT XLPE Cable with required accessories complete in all respect. The cable end boxes shall be fixed with fixing brackets. Complete work will be as per instruction & satisfaction of Rly. site Engineer. Meggaring of HT cable should be ensured after commissioning of cable End Box. Make of cable end box will be prior approved before execution.

(S. No. 31)

Excavation and refilling of 0.50Mtr. Width, 1.20Mtr. depth trench **in all kinds of soil** for laying of HDPE/spun concrete pipe etc. for laying of underground cable. Complete work will be done as per instruction & satisfaction of Rly. Site Engineer.

(S. No. 32)

Excavation and refilling of 0.50Mtr. Width, 1.20Mtr. depth trench **in hard rock** (where blasting is prohibited) for laying of HDPE/spun concrete pipe etc. for underground cable. Complete work will be done as per instruction & satisfaction of Rly. Site Engineer.

(S. No. 33)

The contractor shall supply, erection, testing and commissioning of LED warm white water proof strip light with adaptor. (50Mtrs in one roll). LED strip with silicon thick coating, LED Type: SMD High Quality, Waterproof, Input Voltage: 230V 50Hz AC. Features: Flexible 100% unbreakable Easy to install Low maintenance cost and Safe to use. The LED strip light should be of Bajaj, Wipro, Phillip, Havells, Crompton make and should be got approved from railway before supply.

(S. No. 34)

Supply and fixing Gate light equivalent to Bajaj Model No. 160614 (Make: Bajaj,Wipro,Phillip,Havells, Crompton) and should be got approved from railway before supply.

(For S. No. 35 to 52)

Solar work

- 1) The work to be governed by this contract shall cover designing, manufacturing, transporting till site, safe custody at site, insurance, erection, and commissioning of equipments as detailed in the scope of Work of tender documents. All the materials and workmanship shall strictly conform to the provision of this specification primarily and to the related Indian Standard Specification and code of practice mentioned in the specifications.
- 2) All the materials brought to site for use on this work shall be new of the best quality of approved makes/manufacture as per list of approved makes of equipments/materials enclosed as Schedule and conforming to the relevant BIS specifications.
- 3) All the cable routes, locations of relevant items of work shall be first shown in drawing and marked at site and approval of the Engineer-in-charge obtained for the same before starting the work. Such drawings shall be based on the drawings issued and further based on the changes made at site by the Engineer-incharge through instructions to the site representative of the contractor.
- 4) The rates quoted for the relevant items of work shall include the cost of materials and equipments, their accessories, fixing labour, together with the cost of providing the necessary tools and tackles etc., so as to ensure that the work carried out forms a complete installation to the satisfaction of the Engineer-in-charge.
- 5) Any deviation from the specifications shall be clearly brought out in the offer along with the reasons for such deviations. If, no such deviations are brought out in the offer, it will be deemed that the tenderer has fully understood the requirements of the tender and no extra cost will be paid under any circumstances for carrying out the works under this tender in accordance with the interpretations of the Engineerin-charge.

6) The rates quoted shall also include the cost of any civil works connected with the relevant items of works.

7) The rates quoted shall also provide for handing over the necessary completion drawings together with the test results of commissioning tests carried out by the contractor, in accordance with BIS before the installation is handed over to the Railways.

8) The contractor is bound by the opinion of the Engineer-in-charge in accepting whether the work is carried out in accordance with the provisions of these specifications or not and shall take steps to rectify or replace such parts of the materials and installations as in the opinion of the Engineer-in-charge which are unsatisfactory in relation to these specifications.

9) STANDARDS FOR EQUIPMENTS AND WORKMANSHIP:

- 1.1 The materials and equipments to be supplied and installed under this contract shall conform to the requirements of these specifications.
- 1.2 In further support of what is contained in this specifications, the materials and equipments as well as workmanship shall satisfy the requirements.
- 1.3 All the materials and equipments shall conform to the Standards not less than those stipulated under the current Indian Standard Specifications.
- 1.4 For such of the materials and methods of construction for which BIS have not been published, British Standards shall be followed subject to the approval of the Engineer-in-charge.
- 1.5 In addition to the above, the equipment and workmanship shall satisfy the requirements of the following:-
 - a) Method of construction approved by the Electrical Inspectorate.
 - b) Indian Electricity Acts and Rules.
 - c) Fire Insurance Regulations.
 - d) I.E.E. wiring regulations.
 - e) Instructions of the Engineer-in-charge based on the site conditions and revised requirements, if any.

10) Definition of terms:

- a) **“Applicable Laws”** means, with respect to any Person, any constitutional provision, law, statute, rule, regulation, ordinance, treaty, order, decree, judgment, decision, certificate, holding, injunction, registration, license, franchise, permit, authorization, guideline, Governmental Approval, consent or requirement of any Governmental Authority in India having jurisdiction over such Person or its property, enforceable by law or in equity, including the interpretation and administration thereof by such Governmental Authority;
- b) **“Approvals”** means all permits, clearances, licenses, consents, authorizations, approvals, registrations, waivers, privileges, acknowledgements, agreements, or Agreements required to be obtained from or provided by any concerned authority for the purpose of setting up of the solar power project and/or for supply of power pursuant to this Agreement;
- c) **“Commissioning Tests”** means the tests to be carried out to determine the Commissioning of the Unit or Facility, as the case may be, in accordance with the Testing Procedures specified and as defined in this document.

- d) **“Delivery Point”** shall be the interconnection point at which the railway metering point is located.
- e) **“Document”** or **“Documentation”** means documentation in printed or written form, or intapes, discs, drawings, computer programs, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;
- f) **“Drawings”** means all of the drawings, calculations and documents pertaining to the Project. This shall include both the electrical and civil drawing(s);
- g) **“Interconnection Facilities”** means all the facilities installed by the contractor at the Relevant Premises to enable Railways to receive the Delivered Energy from the Project at the Delivery Point, including transformers, and associated equipment, relay and switching equipment, protective devices and safety equipment;
- h) **“Metering System”** means the meters and other applicable devices/instruments installed and used for measurement of Electricity, delivered from the Electricity generated by Units comprising the Facility, as per the specifications provided.
- i) **“Main Meter”** means for each Unit, the Metering System which would primarily be used for accounting and billing of Electricity generated by Units comprising the Facility to be installed at the Delivery Point
- j) **“Solar Rooftop Power System/Project”** includes a solar PV panel power generation facility to be established by the contractor on the Relevant Premises, located within Railway’s license area, having an Installed Capacity and includes the integrated assembly of photovoltaic panels, mounting assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring, and all other material comprising the Installation Work, including protection equipment and the like necessary to deliver the Electricity generated by it to Railways at the relevant Delivery Points;
- k) **“Testing Procedures”** as specified in this document.

11) The Scope of Work of the contractor includes, but is not limited to, the following:

Design, develop, procure, construct and commission, roof mounted SPV power packs, which includes, but is not limited to the following:

- a. Solar PV modules.

- b. Mounting frames, structures, array foundation (grouting on terrace), earthing grid design, and module inter-connection.
- c. All System Junction boxes.
- d. Power Conditioning Units (PCU) with monitoring.
- e. Appropriate AC power evacuation panels or inverters, according to Project Site requirements, with bus bars (in-built or otherwise) and circuit breakers.
- f. Protection/isolation systems.
- g. Power and Control Cables.
- h. Earthing system for PV Array, DC power system, lightning protection system.
- i. Data monitoring system with remote monitoring facilities.
- j. Transportation, unloading, and loading of all equipment at Project Site.
- k. Project Management including adherence to all requisites safety practices.
- l. MPPT – Max power point tracking built in the PCU
- m. Firefighting and fire detection systems
- n. Making arrangements for water in the plant area for module cleaning along with cleaning mechanism;
- o. Control room/ panel (which ever may be found appropriate) for the plant built in suitable material, with proper ventilation for temperature control of the equipment and serviceability within the building. Alternatively, the existing meter room can be utilized after proper designing and approvals of the building owner.
- p. Battery pack of 10 kWh for hybrid solar power plants.

12) Installation and Commissioning of roof mounted SPV power packs that include:

- a. Design and construction of foundations / grouting for holding module mounting structures without puncturing the roof; maintaining proper drainage of rainwater over terrace through the installation area; cable routings through PVC pipes not obstructing the movement on the terrace.
- b. Before commencement of work, the contractor to obtain all approvals for related drawings to be obtained from the concerned authorities.
- c. All drawings shall conform to relevant IS standards.
 - d. Special care to be taken while designing all structures for modules to cater to heavy rainfall, strong winds and earthquake that may be prevalent in the area.
- e. Pre-commissioning and Commissioning of all supplied equipment.

- f. Test running of the grid-connected solar Facility including load trials at Project Site, prior to handover and commencing energy export for metering.
- g. Grid commissioning; the plant needs to be grid interactive. Interconnection points to be checked and certified by Railways for accuracy and safety.
- h. Installation of Main Meter shall be done by the contractor and the contractor shall submit drawings for grid interface for each individual power pack and get approved prior to commencement of work on Project Site.
- i. Commissioning certificate from relevant authorities for the Facility.

13) The following Statutory Clearances to be obtained by the contractor at his cost wherever applicable:

- a. Electrical System approval (Electrical Inspector)
- b. Fire System approval (CFO)
 - c. All equipment, accessories, materials, civil construction & erection works should comply with statutory requirements and IS standards.
 - d. All statutory requirements for working at the Project Site like Labour Registration, Workman Compensation Policy, ESIC etc. to be complied with by the Vendor before deployment of resources at the Project Site.

14) Obligations of the contractor:

- (a) The contractor will Design, Engineer, Procure, Undertake Civil and Electrical works including Erection, Testing & Commissioning of the solar PV project
- (b) Bear and pay all costs, expenses and charges in connection with or incidental to the performance of the obligations of the CONTRACTOR under this document.
- (c) The contractor shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 or latest, CEAG guidelines etc.
- (d) The contractor will install the Main Metering System at the Delivery Point for the measurement of electrical energy produced by the System.
- (e) Ensure net metering with the concerned Distribution Company on the behalf of Railways. Facilitate the execution of the Net Metering agreement (including procurement & all cost related to Net Metering connection thereof) of Railways with the utility.

- (f) To apply for and obtain net metering on behalf of the Railways for the Project and bear all the costs for the same on behalf of Railways;
- (g) Procured all the Approvals specified in this document and also from other agencies unconditionally or if subject to conditions, then all such conditions required to be fulfilled by the dates specified therein shall have been satisfied in full and such Approvals are in full force and effect;
- (h) Facilitate the execution of the Net Metering agreement (including procurement & all cost related to Net Metering connection thereof) of Railways with the utility
- (i) To apply for net metering related work on the behalf of Railway with the concerned DISCOM within 15 days of LOA
- (j) To identify & finalise all required steps as per the concerned DISCOM within 45 days of LOA
- (k) Acquire and maintain in effect all approvals and clearances in order to enable it to perform its obligations under this document.
 - Governmental Approvals: While providing the Installation Work, the Solar Power and System Operations, the contractor will obtain and maintain and secure all Governmental Approvals required to be obtained and maintained and secured by the contractor and to enable the contractor to perform such obligations.
 - Interconnection Requirements: The interconnection of the rooftop solar system with the network of the Railways will be made as per the technical standards for connectivity of distributed generated resources regulations as may be notified by the competent authority.
- l) Subject to and on the terms and conditions of this document, the contractor shall, at its own cost and expense, procure finance for and undertake the design, engineering, procurement, construction and commissioning of the rooftop solar project and observe, fulfil, comply with and perform all its obligations set out in this document.
- m) The contractor shall comply with all Applicable Laws and obtain Approvals (including renewals as required) in the performance of its obligations under this document.
- (n) Procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used or incorporated into the rooftop solar project;
- (o) Procure that all facilities and amenities within the solar rooftop power system are operated and maintained in accordance with Good Industry Practice
- (p) Undertake Interconnection Facilities as per the specifications and requirements laid down by the Central Electricity Authority and respective State ERCs.

- (q) Facilitate the execution of the Net Metering agreement (including procurement & all cost related to Net Metering connection thereof) of Railways with the utility.
- (r) To provide water connections for the cleaning of the solar modules. The Raw Water connection point may be provided by Railways at site as available. The contractor to provide water connection by laying pipelines and all necessary accessories from nearest water connection point made available.
- (s) The contractor shall ensure efficient operation of the Project and the associated facilities to achieve the maximum power generation from the Project. For this purpose the contractor shall engage the services of adequate number of Engineers and Technicians. Daily Management Information System (MIS) reports with generation and down time analysis data shall be made available to Railway office by E-mail.

15) Obligations during Construction and Commissioning:

The contractor will be responsible for the design, implementation and commissioning of the project. The contractor will Design, Engineer, Procure, Undertake Civil and Electrical work including Erection, Testing & Commissioning of the solar PV project

- a. The contractor shall procure the solar plant in line with the MNR requirements on domestic content.
- b. The contractor will bear all costs pertaining to the installation and Commissioning of the systems and these costs will not be recoverable in any form from Railways.
- c. Testing Procedures: The contractor and Railways or its representative(s) shall implement the testing procedures as attached.
- d. The contractor will provide and lay down the dedicated electrical cables for transmission of Solar Power from the Project up to the Delivery Point.

16) Obligations relating to aesthetic quality of the rooftop solar project:

The contractor shall maintain a high standard in the appearance and aesthetic quality of the rooftop solar project and achieve integration of the Solar Rooftop Power System with the character of the surrounding landscape through both appropriate design and sensitive management of all visible elements. The contractor shall engage professional architect and town planners of repute for ensuring that the design of the rooftop solar project meets the aforesaid aesthetic standards.

17) Obligation of Railways

- (a) Enter into net metering agreement (Excluding the cost for net metering connection) with concerned Distribution licensee.

Technical specifications for Solar PV system

Technical specifications - The proposed work shall be commissioned as per the technical specifications given below.

DEFINITION:

A Grid Tied (ON GRID/Hybrid) Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is with battery (for 10kWp Hybrid type solar plants at 10 Nos. stations and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equipments/components.

- Solar PV modules consisting of required number of **Mono Crystalline** PV modules.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightning protections.
- IR/UV protected PV Cables, pipes and accessories
- Battery pack (for hybrid type solar power plants)

1.1 SOLAR PHOTOVOLTAIC MODULES (For Solar Work):

- I. The PV modules used should be made in India.
- II. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS 14286. The PV modules shall have following properties.

Origin	Manufactured in India
Efficiency	$\geq 18\%$
warranty	Panel output (W_p) capacity to be $\geq 90\%$ at the end of 12 years and $\geq 80\%$ at the end of 25 years.
Module frame	Non-corrosive and electrically compatible with the mounting structure material
Termination box	Thermo-plastic, IP65, UV resistant
Module minimum rated power	The nominal power of a single PV module shall not be less than 300 Wp for schedule C and 540 Wp for Schedule A.
Identification tag for each solar module	Shall be provided inside the module and must be able to withstand environmental conditions and last the lifetime of the solar module.
Identification tag data	Name of the manufacturer with logo Month and year of manufacture Model No (Should consist of the voltage and rated wattage) Module serial number Made in India
Power output rating	To be given for standard test conditions (STC). I- V curve of the each module shall be submitted.
Compliance with standards and codes	IEC 61215/IS 14286 IEC 61730 Part 1 and 2 or latest
Salt Mist Corrosion Testing	As per IEC 61701 or latest
Make	Solar PV modules should be tested from the MNRE approved test centres / NABL / BIS / IEC accredited testing-calibration laboratories.

2. ARRAY STRUCTURE (For solar work):

- a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/ arrays. Each structure should have an angle of inclination as per the site conditions to take maximum isolation. However to accommodate more capacity the angle inclination may be adjusted until the plant meets the specified performance requirements.
- b) The Mounting structures shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (like Delhi- wind speed of 150 km/ hour). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to Railway. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.

- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structures shall be in compliance of latest IS 4759. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminum structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- d) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structures shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.
- e) Regarding civil structures the bidder needs to take care of the load bearing capacity of the roof and need to arrange suitable structures based on the quality of roof.
- f) The total load of the structure (when installed with PV modules) on the terraces should be less than 60 kg/m².
- g) The contractor may suitably decide upon the clearance keeping in view the need of heat dissipation etc.
- h) Water cleaning arrangement is to be done by contractor.

3. JUNCTION BOXES (JBs) and Solar Array Fuse

- a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthing. It should be placed at 5 feet height or above for ease of accessibility.

- c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.
- e) The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as required. All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

4. DC DISTRIBUTION BOARD:

- a) DC Distribution panel to receive the DC output from the array field.
- b) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

5. AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from AC DB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS 60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz

- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) All the 415 volts AC 50Hz, 3 phase or 230 volt single phase AC Hz devices/equipment like bus support insulators, circuit breakers, SPDs, VT etc., mounted inside the switch gear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage	+/-10%
Variation in supply frequency	+/-5Hz

6. PCU/ARRAY SIZERATIO:

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

7. PCU/Inverter:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array &

the Inverter, to the power conditioning unit/inverters should also be DG set interactive. If necessary, Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

A–ForHybridtypesolarpowerplant(AslistedinSchedule):

A	SOLARCHARGECONTROLLER(SCC)	
1	ChargeControllerType	MPPT
2	PVNominalCapacity(Total)(kWp)	Same rating as the Inverter Rating
3	No of MPPT Channels	Minimum one
4	Battery Type Supported	Lithium-ion battery
5	Min. Battery AH Required (AH)	10 kWh capacity operating volt 12 to 48 DC in the range of 100-300 AH
6	Min Charging Efficiency (%)	94%
B	SOLAR INVERTER	
1	Battery backup Capacity	Equivalent to more than 1 hour of inverter rating
2	Nominal Battery Voltage (VDC)	As per Inverter Manufacturer
3	Nominal Capacity (KW)	Inverter Rated capacity shall be at 0.8 PF
4(a)	Operation AC voltage	415 Volt 03 phase four wire or as per availability of the main grid supply
4(b)	Voltage Regulation (in Standalone Mode) (%)	+/-2
5	Frequency Regulation (in Standalone Mode) (Hz)	+/-0.5
6	THD (%)	< than 5
7	Power Factor	> 0.90
8	Over Loads: 60secs/50secs/5secs (%)	110%/125%/150%
9	Minimum Phase imbalance capability (%)	30%
10	Auto Bypass Feature	To Be provided
11	Parallel Operation with Grid/DG	To Be provided
12	Power Export to Grid Facility	To Be provided
13	Anti-Islanding from Grid	To Be provided
14	Switching device	MOSFET/IGBT
15	Control Device	Microprocessor/DSP
16	No loaded losses	Less than 01% of rated power
C	GRID CHARGER	
1	Grid Voltage Sync Range (%)	+10% to -20%
2	Grid Frequency Sync Range	+5% to -5%
3	Max Grid Import Power (kW)	Same as inverter Rating

INDICATION&PROTECTION		
1	Type of User Interface with KeyPAD	LCD based UI interface with Alphanumeric indications
2	Display Parameters	Battery voltage/current
		Solar Panel voltage/current/Power
		Grid voltage/Current/frequency/power/power factor
		Emergency Load voltage/current/power
		System fault including temperature and active faults
		Solar power generated in day/till the time
3	Communication with other system	Wi-Fi or GSM in built in the inverter
4	ON line monitoring	on-line monitoring on cloud platform shall be provided
5	ON Line monitoring software	Shall be already in operation
E	Isolating Switches	
1	Grid side disconnection	To be provided
2	Load side disconnection	To be provided
3	Battery side disconnection	To be provided
4	PV side disconnection	To be provided
F	Operational Requirements	
1	Charging the battery from Solar and Grid (Solar priority)	
2	Cater to Priority load and other load through solar energy first and balance energy from Grid as per the load and battery charging state.	
3	Synchronize and share the energy with grid power supply whenever grid is available.	
4	In absence of Grid power supply non availability; the grid connections shall be isolated from the grid and battery shall supply the energy to Priority load.	
5	If grid and solar power is available and battery is fully charged, then the self-consumption load shall be fully catered by the solar and balance power to be taken from grid if required.	

In addition to above the item shall have following specifications Switching devices:

IGBT/MOSFET

Control: Microprocessor/DSP

Grid Voltage tolerance: -20% & +15%

No-load losses: Less than 1% of rated power

Inverter efficiency (minimum): >95% (In case of on grid type solar power plant of 10 kW or above)

Inverter efficiency (minimum): on 100% Load >85% (In case of hybrid solar power plant)

) Waveform: Sine wave

Protection:

Over voltage (both input and output) Over current (both input and output) Over / under grid frequency

Over temperature

Short circuit

Lightening

Surge voltage induced at output due to external source
Islanding

- a) Three phase PCU/inverters shall be used with each power plant system.
- b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power; inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d) Built-in meter and data logger to monitor plant performance through external computers shall be provided.
- e) **Anti-islanding** (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/IEC 62116 or equivalent BIS standard.
- f) In PCU/Inverter, there shall be a direct current isolation provided at the output by means of a suitable isolating transformer.
 - g) The PCU/inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- h) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as

per standard codes IEC 61683/IS 61683 and IEC 60068- 2(1,2,14,30) /Equivalent BIS Std.

- i) The charge controller (if any) / The MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- j) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

8. INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which convert DC produced by SPV array to AC and feed it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/DG power connection need to be provided.

9. DATA ACQUISITION SYSTEM/PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of system parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system
- v. The following parameters are accessible via the operating interfaced display in real time separately for solar power plant:
 - a. AC Voltage.
 - b. AC Output current.
 - c. Output Power
 - d. Power factor.
 - e. DC Input Voltage.

- f. DCInputCurrent.
 - g. TimeActive.
 - h. Timedisabled.
 - i. TimeIdle.
 - j. Powerproduced
 - k. Energy(Units)produced
 - l. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.
- vi) Allmajorparametersavailableonthedigitalbusandloggingfacilityforenergyauditing throughtheinternalmicroprocessorandreadonthedigitalfrontpanelatanytime)and logging facility (the current values, previous values for up to a month and the average values) shouldbemadeavailableforenergyauditingthroughtheinternalmicroprocessorand should be read on the digital front panel.
 - vii) PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current&EnergygeneratedbythePVsystemprovided.EnergymeteralongwithCT/ PT should be of 0.5 accuracy class.
 - viii) ComputerizedDCString/ArraymonitoringandACoutputmonitoringshallbeprovided as part of the inverter and/or string/array combiner box or separately.
 - ix) String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phasesandlines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
 - x) Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
 - xi) The data shall be recorded in a common worksheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
 - xii) All instantaneous data shall be shown on the computer screen.
 - xiii) Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
 - xiv) Provision for instantaneous Internet monitoring and download of data shall be also incorporated.
 - xv) Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
 - xvi) Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.

- xvii) Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xviii) Remote Monitoring and data acquisition through Remote Monitoring System software at the railway location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on Railway server and portal in future shall be kept.
- xix) The bidders shall be obligated to push real-time plant monitoring data on a specified intervals (say 15 minute) through open protocol at receiver location (cloud server) in XML/JSON format, preferably. Suitable provision in this regard will be intimated to the bidders.

10. METERING & TRANSFORMER “IF REQUIRED”:

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) Installation of the net meter will be carried out as per DISCOM. Beneficiary will submit application to DISCOM to enable the connectivity of Solar rooftops with Grid and to avail net metering benefits.
- c) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.
- d) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to Railway before commissioning of SPV plant.
- e) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

xiv. Battery Pack: (in case of Hybrid solar power plants)

The system is to be installed with lithium-ion battery pack for minimum 10 kWh capacity. The capacity of battery bank should be designed for minimum 10 KWH (Units). Warranty of battery shall be minimum of 5 years. The voltage of battery may be selected according to the PCU design. A copy of the relevant test certificate for the battery should be furnished. Battery pack should be in an enclosure. Single enclosed container for battery pack. Proper cooling is required. Battery should withstand all type of weather Condition minimum IP55.

xv. PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

• LIGHTNING PROTECTION

- a) The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

• SURGE PROTECTION

- a) Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement).

• EARTHING PROTECTION

- a) Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Railways as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- b) Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

• GRID ISLANDING:

- a) In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC- to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

- b) A manual disconnect 4 pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.
- xvi. Cables :** Cables of appropriate size to be used in the system shall have the following characteristics:
- Shall meet IEC 60227/IS 694, IEC 60502/IS 1554 standards
 - Temp. Range: -10°C to $+80^{\circ}\text{C}$.
 - Voltage rating 660/1000V
 - Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
 - Flexible
 - Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%).
 - For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
 - For the AC cabling, PVC insulated and PVC sheathed single or, multi-core multi-stranded flexible copper cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
 - The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPE type and black in colour.
 - The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
 - Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers
 - All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with the most plastic clamps at intervals not exceeding 50cm; the minimum DC cable size shall be 4.0 mm² copper; the minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
 - Cable Routing/Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no./Batch no. to be embossed/printed at every one meter.
 - Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour
 - All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards.

DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.

- The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation.
- Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation. Overall PVC insulation for UV protection Armoured cable for underground laying. All cable trays including cover to be provided. All cables conform to latest edition of IE C/ equivalent BIS Standards as specified below:

Bo	Sitem/	component	Standard	Descripti	on
Standard	Number	Cables	General	Test and	Measuring
Methods,	PVC	Insulated	cables	f	or
working	Voltage	upto	and	including	1100V,
UV	resistant	for	outdoor	installation	IS/IE
C	69947.				
- The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.
- The conduit shall not run across the pathway of the terrace. Flexible corrugated PVC conduits shall not be used.
- Cables and wires used shall be of color coded as per relevant standard and interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.
- All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with
- Thermo-plastic clamps at intervals not exceeding 50cm.

xvii. **CONNECTIVITY:**

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

- a) The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.
- b) Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.

xviii. TOOLS&TACKLESANDSPARES:

- a) After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from railways.
- b) A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver card etc. Junction Boxes. Fuses, MOVs/arrestors, MCCB etc. along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

xix. DANGERBOARDSANDSIGNAGES:

- a) Danger boards should be provided as and where necessary as per IE Act./IE rules as amended up to date. Three signage shall be provided one each at battery – cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with railways.

xx. FIRE EXTINGUISHERS:

The fire fighting system for the proposed power plant for fire protection shall be consistent of:

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

xxi. DRAWINGS&MANUALS:

- d) Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the

power plant and power evacuation, synchronization along with protection equipment.

- e) Approved ISI and reputed makes for equipment to be used.
- f) For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to Railways before progressing with the installation work.

xxii. PLANNING AND DESIGNING:

- g) The bidder should carry out Shadow Analysis at the site and accordingly design strings & array layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to Railways for approval.
- h) Railways reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- i) The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

xxiii. DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT

- j) The Contractor shall furnish the following drawings Award/Intent and obtain approval
- k) General arrangement and dimensioned layout
- l) Schematic drawings showing the requirement of SPV panel, Power conditioning Unit (s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- m) Structural drawing along with foundation details for the structure.
- n) Itemized bill of material for complete SPV plant covering all the components and associated accessories.
- o) Layout of solar Power Array
- p) Shadow analysis of the roof

xxiv. SAFETY MEASURES:

The bidder shall take entire responsibility for electrical safety of the installation(s) including

connectivitywiththegridandfollowallthesafetyrules®ulationsapplicableasper
ElectricityAct,2003andCEAguidelinesetc.

xxv) DCCombinerBox

ADCCombinerBoxshallbeusedtocombinetheDCcables ofthesolarmodulearrays withDC fuseprotectionfortheoutgoingDCcable(s)totheDCDistributionBox.

xxvi) DCDistribution Box

ADCdistributionboxshallbemounted closetothesolargridinverter.TheDCdistributi onbox shall be of the thermo-plastic IP65 DIN-rail mounting type and shall comprise the following components and cable terminations:

IncomingpositiveandnegativeDCcablesfromtheDCCombinerBox;

DCcircuitbreaker,2pole(thecablesfromtheDCCombinerBoxwillbeconnectedtothis circuit breaker on the incoming side);

DC surge protection device (SPD),class2 asper IEC60364- 5-53;

OutgoingpositiveandnegativeDCcablestothelarggridinverte r.

AsanalternativetotheDCcircuitbreakeraDCisolatormaybeusedinsidetheDCDistri bution

BoxorinaseparateexternalthermoplasticIP65enclosureadjacenttotheDCDistributionBox.

IfaDCisolatorisusedinsteadofaDCcircuitbreaker,aDCfuseshallbeinstalledinsideth e

DCDistributionBoxtoprotecttheDCcablethatrunsfromtheDCDistributionBoxtoth eSolar Grid Inverter.

ACDistributionBox

AnACdistributionboxshallbemounted closetothesolargridinverter.TheACdistributi onbox

shallbeofthethermoplasticIP65DINrailmountingtypeandshallcomprisethefollowi ng components and cable terminations:

Incoming3-core/5-core(single-phase/three-phase)cablefromthesolargridinverter

ACcircuitbreaker,2-pole/4-

poleACsurgeprotectiondevice(SPD),class2asperIEC60364- 5-53

xvii. DISPLAYBOARD

Thebidderhastodisplayaboardattheprojectsitementioningthefollowing:

- a. Plant Name, Capacity, Location, Type of Renewable Energy plant (Like solar wind etc.), Dateof commissioning, details of tie-up with transmission and distribution companies, Power generation and Export FY wise.
- b. FinancialAssistancedetailsfromSECI/MNRE/Anyotherfinancialinstitutionapar tfrom loan.Thisinformationshallnotbelimitedtoprojectsitebutalsobedisplaysite offices/head quarter offices of the successful bidder.

- c. The size and type of board and display shall be approved by Engineer-in-charge before site inspection.

xviii. Cleaning of solar PV panels-

Cleaning of solar power panels to be done by contractor during warranty period of two years. As per guideline by MNRE regularly basis cleaning of each solar PV module is very much needed. After cleaning by water, dirty elements may be deposited at the bottom frame of the panel which should be cleaned on fortnightly (every fifteen days) basis or earlier as per condition of dust accumulation otherwise plant generation will be reduced.

**xix. AMC of 10 kW solar power plant –
ANNUAL MAINTENANCE GUIDELINES TO BE MANDATORILY FOLLOWED BY Contractor:-**

The Contractor shall be responsible for all the required activities for maintenance of the Rooftop Solar PV system for a period of 3 years from the date of last date of expiry of general warranty (two years of plants).

As per guideline by MNRE regularly basis cleaning of each solar PV module is very much needed. After cleaning by water, dirty elements may be deposited at the bottom frame of the panel which should be cleaned on fortnightly (every fifteen days) basis or earlier as per condition of dust accumulation otherwise plant generation will be reduced. So an experienced manpower should be deputed to take care of the whole system.

Below mentioned guidelines, shall be followed for maintenance:-

Maintenance of Solar Power Plant shall be compliant with grid requirements to achieve committed energy generation.

Deputation of qualified and experienced engineer/ technicians till the maintenance period at project site as & when required.

Monthly check of the Modules, PCUs, Battery pack shall be carried out as a part of routine preventive maintenance.

All the equipment testing instrument required for Testing, Commissioning for the healthy operation of the Plant shall be maintained by the Contractor. The testing equipment must be calibrated once every 2 years from NABL accredited labs and the certificate of calibration must be kept for reference as required.

If negligence/mal-operation on part of the Contractor's operator results in failure of equipment, such equipment should be repaired/replaced by the contractor free of cost.

The Contractor shall submit performance report of SPV Plant on monthly basis.

Cleaning Procedure: To remove a layer of dust and dirt from the module simply wash the

panel with water. If the module has thick dirt or grime and bird droppings which are harder

to remove with wash of cold water and rub the panel surface with a sponge. Do not use a metal brush to clean solar panel surface. Detergents should not be used.

TECHNICAL SPECIFICATIONS FOR OTHER ITEMS

SPECIFICATION FOR MULTICORE PVC INSULATED FLEXIBLE COPPER CONDUCTOR CABLES FOR VOLTAGE GRADE 650/ 1100 VOLTS

Multi Core PVC insulated multi stranded PVC insulated and FRPVC round sheathed flexible copper cable of industrial grade conforming to IS: 694-1990 or its latest editions with bright annealed based copper conductor as per IS: 8130 of 1976 or its latest editions, working voltage 1100 volts.

SPECIFICATION FOR SINGLE CORE PVC INSULATED FLEXIBLE COPPER CONDUCTOR CABLES FOR VOLTAGE GRADE 650/ 1100 VOLTS

Single Core PVC insulated multi stranded flexible copper cable conforming to IS: 694-1990 or its latest editions with bright annealed based copper conductor as per IS: 8130 of 1976 or its latest editions, working voltage 650/ 1100 volts with ISI marked.

GENERAL GUIDELINES FOR PVC CONDUIT WIRING

- a) Drilling holes in the walls should be done very carefully without causing damage to supporting wall and structure of building. Minor damages caused if any to the plastering on the wall should be repaired by the contractor.
- b) Wall crossings should be through PVC pipe of 25 mm dia (2 mm wall thickness).
- c) Looping of neutral is not permitted; a separate neutral wire is to be drawn from the neutral strip connector in Subcircuit board to each point.
- d) The wiring shall conform to latest IS specification (IS-732) and NEC Code for internal wiring in buildings. No joint is permitted in wiring.
- e) The pipe should be fixed on to the wall in exactly horizontal or vertical fashion as required as per site condition and there should not be a gap left between the consecutive lengths. The pipe should be fairly tight to facilitate easy removal and replacement of the same for maintenance wherever required.
- f) The Junction Boxes, straight through joints, bend sets should be provided wherever necessary.
- g) The wires taken inside the pipe shall not be cramped and wires should be easy to pull out at the time of maintenance/checking.

SPECIFICATION FOR CABLE TRENCH FOR LTUG CABLES

- a) **EXCAVATION OF CABLE TRENCH**
Excavation of cable trench 450 mm wide and 1000 mm deep in all kinds of soil and refilling the cable trench with excavated soil free from unwanted materials, ramming, consolidating and bringing the surface to its original finish.
- b) Cable route indicator should be provided along the route of LTUG cable in ground at both the ends of the length and at all deviation points. The indicator should be fabricated by 1 mtr long angle iron stud embedded in concrete.

c) Trench for cable underneath the track/road:-

Cables shall be drawn through HDPE pipes. Trench to accommodate pipes shall be of suitable width and excavated at 1.0 m below the formation level. Once the pipes are laid in the trench, it should be made to its original formation level by filling it up with excavated earth by watering and ramming process and resetting the ballast of track to its original level. Similarly wherever road has been dug for laying the cable, the same should be filled, rammed and asphalted and brought to original condition.

The cable rising above ground shall be taken through GI pipe neatly clamped and open end of GI pipe has to be sealed with bitumen compound. The cable has to be laid along the route as per instruction of Engineer-in-charge.

SPECIFICATION FOR LAYING OF LTUG CABLES:

The laying of LTUG Cable includes un-coiling of cable from cable drum, Laying the cable in the trench free from twists, bends, Peeling of Insulation, Dressing at Terminal Ends, Provision of Cable glands, Crimping with suitable shoe, Connection at both ends & Earthing of Armour at both ends.

SPECIFICATION FOR HDPE PIPE

The HDPE pipe material should be conforming to standard IS 4984-1995 or latest and should be of PE-

80 material designation which has MRS (Minimum Required Strength) of 8.0 MPa and maximum allowable hydrostatic design stress of 6.3 MPa (@20°C) with pressure rating of PN-6 (6 kg/cm²), heavy gauge has to be provided.

The cable has to be laid through HDPE pipe with all necessary accessories for jointing, clamping, bends etc as per site condition has to be provided.

SPECIFICATION FOR LTUG CABLES:

PVC insulated armoured with heat resistant insulation, PVC outer sheathed multi core LTUG cable with standard aluminium conductor, with ISI 1554 Part I/1988 with latest amendment suitable for working voltage up to and including 1100 volts.

Moulded Case Circuit Breakers (MCCB)

MCCBs shall conform to IS 13947/Pt-II/1993 (Ics = 100% Icu) and shall have ON, OFF & TRIP indications with breaking capacity as specified in the relevant Schedule item. MCCBs shall be suitable for three phase, 415 Volt, AC supply. MCCB shall overall conform to IS 13947/Pt.II/1993.

Earthing with 2.0 meter long copper bonded rod

d A Earth Rod

Length of rod = minimum 2000 mm

Diameter of rod = minimum 17.2 mm

Copper Bonding = 200 to 250 micron

B Chemical Specification-

Shall Have High Conductivity, improve earth absorbing power and humidity retention capability. Shall be non-corrosive in Nature Having Low Water Solubility but highly hygroscopic.

Shall be suitable for installation in dry form or in a slurry form.

Shall not depend on the continuous presence of water to maintain its conductivity.

Shall be permanent & maintenance free and in its SET Form Maintains Constant Earth Resistance with Shall be thermally stable between -100°C to +600°C ambient Temperatures.

Shall not require periodic charging treatment nor replacement and maintenance.

Shall be suitable for any kind of electrode and all kind of soil of different resistivity.

Shall not pollute or local water table and meets environmental friendly requirements for landfill. Shall not be explosive.

Earthing should be as per I.S. 3043-

1987 and should give desired value of resistance as per I.E. Rules. The location of earth electrode will be such where the soil has reasonable chance of remaining moist.

As far as possible trenches, permanent and roadways are to be definitely avoided for locating the earth electrodes.

Make-CPRI approved.

C. Specification of copper bonded lightning arrestor

Length of rod = 1500

mm

Diameter of rod = 17.2 mm

m

Copper Bonding = 200 to 250 micron

Voltage-12kV

Make-CPRI approved.

Arrestor shall conforming general to IEC-99-4 document or its latest amendment and IS/IEC

In addition to the above specifications following is also required: Remote Display
 Contractor will arrange to install LED based displays screens along with relevant hardware at each relevant stations and will develop relevant software programs which will display real time generation on a minute, hourly, daily, monthly and annual basis. The cost of development of these systems will have to be borne by the contractor. In addition, the system has to send SMS regarding Solar generation at each location to the selected officials of Railway on Daily basis.

The contractor shall provide and maintain perimeter fencing or other suitable protection around the rooftop solar project and shall be responsible for these security arrangements, which also includes providing & maintaining necessary equipment at the entry, exit and within the rooftop solar project in order to maintain orderly conduct of its business and the security thereof.

Interconnection Scheme

Interconnection Requirements: Scope of Work for the contractor:

A. All work must be carried out as per the following:

- ✓ Indian Electricity Act and rules therein
- ✓ Indian Electricity Grid Code
- ✓ Regulations of Chief Electrical Inspector

Beside the above measures, certain precautions prescribed by the CEA shall also be incorporated into the solar PV system design:

- PV system shall be provided with adequate rating fuses, fuses on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection as well as disconnecting switches to isolate the DC and AC system for maintenance.
- Fuses of adequate ratings shall also be provided in each solar array module to protect them against short circuit.

B. Phase Imbalance:

- Phase imbalance can occur due to varied power injected into different phases of the grid. Whenever solar power plants (SPPs) of lower capacities with single phase inverters are used to feed power into the grid using a single phase injection point, they tend to induce imbalance. This imbalance can be resolved simply by connecting/injecting power to different phases into the same grid.
- The developer shall have to follow the phase imbalance limits imposed by the Off Taker and shall also have to follow the guidelines before reconnecting such limits to the grid.
- The injection phase for each system to be injected into a single phase shall be approved by the Off Taker.

- a) **Statutory clearances to be arranged by the contractor**
- a) Building and Architectural Drawings approval must be obtained.
- b) All statutory requirements for working at the Project Site like Labour Registration, Workman Compensation Policy, ESIC etc.

TESTING PROCEDURE:

The contractor shall adhere to the Testing Procedures given in this document.

Mandatory check before and after connecting the SPV system with DISCOM Network and steps for maintenance of network. The following shall be provided by the contractor and ensured.

1. **Mandatory safety precautions/features:**

The following are mandatory safety precautions which will be taken care before and after commissioning of grid connected Solar PV system.

- (a) An inbuilt Inverter relay which trips on Discom / Railway supply failure and thus prevents any solar power injection to the Discom / Railway Network when there is no power from Discom / Railways. The anti-islanding protection shall be tested by respective Railway Engineer and the contractor during the release of connection.
- (b) The Solar PV system should be separately grounded / earthed. A minimum of two Separated dedicated and interconnected earth electrodes must be used for the Earthing of the PV system support structure, with a total earth resistance not exceeding 5 ohms. There must be at least three different earth pits, with a minimum distance of 3 meters between any two, for each PV system; one for DC side (panels and structure), second for AC side (also called a neutral earthing) and lightning arrestor earthing. Additionally inverter body must be earthed as per instructions from inverter manufacturer.
- (c) A properly designed Lightning Protection System (including arrestors as necessary) also must be provided for SPV.
- (d) Manual isolator switch, at an easily accessible location with locking facility, shall be provided between inverter AC output and grid interconnection.
- (e) Caution Stickers shall be used with the green background and the text "Solar PV Systems" written in white letters. The size of these stickers shall be 10 CM (width) x 7 CM (height) with the text clearly printed in the center of the sticker.

- (f) All SPV systems should have a mandatory sign board fitted near the existing meter reading terminal stating that 'This service is fitted with a LT grid connected SPV plant'. The Solar PV system Caution Stickers shall be fixed under the supervision of Railway Engineer and the contractor in the following locations.
- i. On or near to meter of service with grid connected solar PV system;
 - ii. On the consumer main switch, of a service connected with a grid connected Solar PV System.
 - iii. On LT poles with grid connected Solar PV Systems at a height of about 1.50 meter from the ground;
 - iv. On LT feeder pillars with grid connected Solar PV System on the street-facing door of the feeder pillar.
 - v. On each of the LT takeoff poles of a Distribution Transformer to which Solar PV Systems are connected.
 - vi. On substation end of HT feeder having Solar PV System.
 - vii. A list of service connected with grid connected Solar PV Systems shall be available at the Railway office.
- (g) During planned/forced maintenance work on Discom network, before taking up the work in hand, besides ensuring all other provisions such as line earthing, de-energizing the line section where the work is to be carried out as per prevailing norms, it should also be ensured that supply from such small solar roof-top PV power plants are not back-feeding and supply should also be disconnected by manual isolating switch with locking facility installed in the premises of such consumers and ensuring proper earthing.

List of Materials/Approved Brands (for Solar work)

The make of materials shall be any one of the following approved make or any make having ISI approval / ISI marked or any make / manufacturer having ISO approval.

S No	Description	Make intended to be supplied by the contractor.
1	Solar Panel	The PCU/inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories.
2	PCU/Inverter	The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.
3	Bidirectional meter	DISCOM approved
4.	Lithium ion battery (AH,V)	lithium-ion batteries pack for Minimum 10 kWh capacity operating volt 12 to 48 DC in the range of 100-300 AH

NOTE:

1. Any other make for the above item should have prior approval of Dy.CEE/C-I/Jaipur.
2. Manufacturers Test Reports/ Test Certificates should be submitted to this office for all major plants, equipments and machineries as required by the Engineer in charge.

The IEC standards to be mandatorily adhered are as given below:

Solar PV Modules/Panels	
IEC 61215/IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853-Part 1/IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating—: Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules—Ammonia (NH ₃) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification—Part 1: Requirements for Construction, Part 2: Requirements for Testing
IEC 62804	Photovoltaic (PV) modules—Test methods for the detection of potential-induced degradation. IEC TS 62804-1: Part 1: Crystalline silicon (mandatory for applications where the system voltage is >600 VDC and advisory for installations where the system voltage is <600 VDC)
IEC 62759-1	Photovoltaic (PV) modules—Transportation testing, Part 1: Transportation and shipping of module package units
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems—Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP65 for outdoor mounting, IP54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems—Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
BSEN 50530 (as applicable)	Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.

IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters- Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2(1, 2, 14, 27, 30 & 64)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing-Part 2- 1: Tests-Test A: Cold b) IEC 60068-2-2: Environmental testing- Part 2-2: Tests-Test B: Dry heat c) IEC 60068-2-14: Environmental testing-Part 2-14: Tests- Test N: Change of temperature d) IEC 60068-2-27: Environmental testing-Part 2-27: Tests- Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing-Part 2-30: Tests- Test Db: Damp heat, cyclic (12h +12h cycle) f) IEC 60068-2-64: Environmental testing-Part 2- 64: Tests- Test Fh: Vibration, broadband random and guidance
IEC 61000– 2, 3, 5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Comp atibility (EMC) testing of PV Inverters

Fuses

General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low- voltage Switchgear and Control- gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low- voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch- disconnectors and fuse- combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low- voltage Switchgear and Control- gear, Part 1: General rules b) Low- Voltage Switchgear and Control- gear, Part 2: Circuit Breakers c) Low- voltage switchgear and Control- gear, Part 3: Switches, disconnectors, switch- disconnectors and fuse- combination units d) EN 50521: Connectors for photovolt aicsystems – Safety requirements and tests
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IEC 60269-6	Low-voltage fuses- Part 6: Supplementary requirements for fuse-links for
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	theprotectionofsolarphotovoltaicenergysystems
SurgeArrestors	
IEC62305-4	LighteningProtectionStandard
IEC60364-5-53/ IS 15086-5(SPD)	Electricalinstallationsofbuildings-Part5-53:Selectionanderectionof electrical equipment - Isolation, switching and control
IEC61643-11:2011	Electricalinstallationsofbuildings-Part5-53:Selectionanderectionof electrical equipment - Isolation, switching and control
Cables	
IEC 60227/IS 694, IEC 60502/IS1554 (Part1&2)/ IEC69947	General test and measuring method for PVC (Polyvinyl chloride) insulated cables(forworkingvoltagesuptoandincluding1100V,andUVresistant for outdoor installation)
BSEN50618	Electriccablesforphotovoltaicsystems(BT(DE/NOT)258),mainlyforDC Cables

Earthing /Lightning	
IEC 62561 Series (Chemical earthing)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: RequirementsforconnectioncomponentsIEC62561-2Lightningprotectionsystemcomponents(LPSC)- Part2:Requirementsfor conductors and earth electrodes IEC 62561-7 Lightning protection system components(LPSC)- Part7:Requirementsforearthingenhancing compounds
JunctionBoxes	
IEC60529	Junctionboxesandsolarpanelterminalboxesshallbeofthethermo-plastictypewithIP65protectionforoutdooruse,andIP54protection for indoor use
EnergyMeter	
IS16444oras specifiedbythe DISCOMs	A.C.Staticdirectconnectedwatt-hourSmartMeterClass1and2— Specification (with Import & Export/Net energy measurements)
SolarPVRoofMountingStructure	
IS2062/IS475 9	Materialforthestructuremounting

Note-Equivalentstandardsmaybeusedfordifferentsystemcomponentsoftheplants.Incaseof clarification following person/agencies may be contacted.

- MinistryofNewandRenewableEnergy(Govt.ofIndia).
- NationalInstituteofSolarEnergy.
- TheEnergy&ResourcesInstitute.

General Instruction for Solar work:

- 1) For inspecting the major/high value, viz., Solar panels, Inverters, Battery packs Railway's representative will visit to manufacturer's premises to conduct the test, if necessary. Contractor shall provide all necessary assistance in carrying out test and & other items to be inspected by the consignee/RITES/TPI based on test certificate issued by OEM. All inspection cost will be borne by the contractor only.
- 2) The contractor has given 25 years warranty obligation for SOLAR PV Modules and 05 years for PCU/ inverter and Battery packs.
- 3) The PV Modules shall be replacement warranted for minimum of 10 years against all material/manufacturing defects and workmanship
- 4) Items (Except Solar pv Modules, battery packs and inverters) for which the warranty offered by manufacturer is more than two years, contractor will submit the warranty card of the item duly filled in all respect to consignee after commissioning of the plants.
- 5) All minor items viz. hardware items, termination lugs, cable tie, cable jacket, washers (spring/flat), Nut- bolts and other petty items etc. for electrical connections etc. as required and necessary for completion of above work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.
- 6) Solar specifications issued from NWR/HQ vide letter No. HQ0ELCT(POWR)/5/2024 dtd.10-12-2025 will also compile.

GENERAL INSTRUCTIONS OF WORK

1. Contractor shall arrange shutdown and clearance of power block from SEB authority for execution of work also at his own level in co-ordination with railway representative.
2. Contractor should have all testing equipments for testing of cable/earthing etc. (like HT/LT Meggar, Digital earth tester etc.) before commissioning of OH line/cable.
3. Contractor should have all safety equipments during working at site like earthing chain, safety belts, HT Glouves, helmet etc.
4. First aid box/kit must available every time at site during working.
5. All work must be executed with follow all safety aspects at site and proper care must be taken of railway properties.
6. Information will be given to all concern (Railway and SEB authorities) before execution (horizontal boring) of work at site and Shutdown/charging of line also.

TECHNICAL SPECIFICATIONS FOR OTHER ITEMS

SPECIFICATION FOR MULTI CORE PVC INSULATED FLEXIBLE COPPER CONDUCTOR CABLES FOR VOLTAGE GRADE 650/ 1100 VOLTS

Multi Core PVC insulated multi stranded PVC insulated and FR PVC round sheathed flexible copper cable of industrial grade conforming to IS: 694-1990 or its latest editions with bright annealed based copper conductor as per IS: 8130 of 1976 or its latest editions, working voltage 1100 volts.

SPECIFICATION FOR SINGLE CORE PVC INSULATED FLEXIBLE COPPER CONDUCTOR CABLES FOR VOLTAGE GRADE 650/ 1100 VOLTS

Single Core PVC insulated multi stranded flexible copper cable conforming to IS: 694-1990 or its latest editions with bright annealed based copper conductor as per IS: 8130 of 1976 or its latest editions, working voltage 650/ 1100 volts with ISI marked.

GENERAL GUIDELINES FOR PVC CONDUIT WIRING

- h) Drilling holes in the walls should be done very carefully without causing damage to supporting wall and structure of building. Minor damages caused if any to the plastering on the wall should be repaired by the contractor.
- i) Wall crossings should be through PVC pipe of 25 mm dia (2 mm wall thickness).
- j) Looping of neutral is not permitted; a separate neutral wire is to be drawn from the neutral strip connector in Sub circuit board to each point.
- k) The wiring shall conform to latest IS specification (IS-732) and NEC Code for internal wiring in buildings. No joint is permitted in wiring.
- l) The pipes should be fixed on to the walls in exactly horizontal or vertical fashion as required as per site condition and there should not be gap left between the consecutive lengths. The pipes should be fairly tight to facilitate easy removal and replacement of the same for maintenance wherever required.
- m) The Junction Boxes, straight through joints, bends etc should be provided where ever necessary.
- n) The wires taken inside the pipe shall not be cramped and wires should be easy to pull out at the time of maintenance/checking.

SPECIFICATION FOR CABLE TRENCH FOR LTUG CABLES

d) EXCAVATION OF CABLE TRENCH

Excavation of cable trench 450 mm wide and 1000 mm deep in all kinds of soil and refilling the cable trench with excavated soil free from unwanted materials, ramming, consolidating and bringing the surface to its original finish.

- e) Cable route indicators have to be provided along the route of LTUG

cable in ground at both the ends of the length and at all deviation points. The indicators shall be fabricated by 1 mtr long angle iron stud embedded in concrete.

g) Trench for cable underneath the track/road:-

Cables shall be drawn through HDPE pipes. Trench to accommodate pipe shall be of suitable width and excavated at 1.0 m below the formation level. Once the pipes are laid in the trench, it should be made to its original formation level by filling it up with excavated earth by watering and ramming process and resetting the ballast of track to its original level. Similarly wherever road has been dug for laying the cable the same should be filled, rammed and asphalted and brought to original condition.

The cable rising above ground shall be taken through GI pipe neatly clamped and open end of GI pipe has to be sealed with bitumen compound. The cable has to be laid along the route as per instruction of Engineer-in-charge.

SPECIFICATION FOR LAYING OF LTUG CABLES:

The laying of LTUG Cable includes un-coiling of cable from cable drum, Laying the cable in the trench free from twists, bends, Peeling of Insulation, Dressing at Terminal Ends, Provision of Cable glands, Crimping with suitable shoe, Connection at both ends & Earthing of Armour at both ends.

SPECIFICATION FOR HDPE PIPE

The HDPE pipe material should be confirming to standard IS 4984-1995 or latest and should be of PE-

80 material designation which has MRS(Minimum Required Strength) of 8.0MPa and maximum allowable hydrostatic design stress of 6.3 MPa (@20 °C) with pressure rating of PN-6 (6kg/cm²), heavy gauge has to be provided.

The cable has to be laid through HDPE pipe with all necessary accessories for jointing, clamping, bends etc as per site condition has to be provided.

SPECIFICATION FOR LTUG CABLES:

PVC insulated armoured with heat resistant insulation, PVC outer sheathed multi core LTUG cable with standard aluminium conductor, with ISI 1554 Part I/1988 with latest amendment suitable for working voltage up to and including 1100volts.

Moulded Case Circuit Breakers (MCCB)

MCCBs shall conform to IS13947/Pt-II/1993 (Ics = 100% Icu) and shall have ON, OFF & TRIP indications with breaking capacity as specified in

the relevant Schedule item. MCCBs shall be suitable for three phase, 415 Volt, AC supply. MCCB shall overall conform to IS13947/Pt.II/1993.

Earthing with 2.0 meter long

copper bonded rod A Earth Rod

Length of rod =
minimum 2000 mm
Diameter of rod =
minimum 17.2 mm
Copper Bonding = 200 to
250 micron

B Chemical Specification-

Shall Have High Conductivity, improves earth absorbing power and humidity retention capability. Shall be non-corrosive in Nature Having Low Water Solubility but highly hygroscopic.

Shall be suitable for installation in dry form or in a slurry form.

Shall not depend on the continuous presence of water to maintain its conductivity.

Shall be permanent & maintenance free and in its SET Form Maintains Constant Earth Resistance with Shall be thermally stable between -100C to +600C ambient Temperatures.

Shall not require periodic charging treatment nor replacement and maintenance. Shall be suitable for any kind of electrode and all kind of soil of different resistivity.

Shall not pollute or local water table and meets environmental friendly requirements for landfill. Shall not be explosive.

Earthing should be as per I.S. 3043-1987 and should give desired value of resistance as per I.E. Rules. The location of earth electrode will be such where the soil has reasonable chance of remaining moist.

As far as possible entrenches, permanent and road ways are to be definitely avoided for locating the earth electrodes.

Make – CPRI approved.

C Specification of copper bonded lightning arrester

Length of
rod = 1500
mm

Diameter of
rod = 17.2
mm

Copper Bonding = 200 to 250 micron

Voltage – 12 kV

Make – CPRI approved.

Arrestors shall conform in general to IEC-99-4 document or its latest amendment and IS/IEC

In addition to the above specifications following is also required: Remote Display

Contractor will arrange to install LED based display screens along with relevant hardware at each relevant stations and will develop relevant software programs which will display real time generation on a minute, hourly, daily, monthly and annual basis. The cost of development of these systems will have to be borne by the contractor. In addition, the system has to send SMS regarding Solar generation at each location to the selected officials of Railways on Daily basis.

The contractor shall provide and maintain perimeter fencing or other suitable protection around the rooftop solar project and shall be responsible for the security arrangements, which also includes providing & maintaining necessary equipment at the entry, exit and within the rooftop solar project in order to maintain orderly conduct of its business and the security thereof.

Interconnection Scheme

Interconnection Requirements: Scope of Work for the contractor:

c. All work must be carried out as per the following:

- ✓ Indian Electricity Act and rules therein
- ✓ Indian Electricity Grid Code
- ✓ Regulations of Chief Electrical Inspector

Besides the above measures, certain precautions prescribed by the CEA shall also be incorporated into the solar PV system design:

- PV systems shall be provided with adequate rating fuses, fuses on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection as well as disconnecting switches to isolate the DC and AC system for maintenances.
- Fuses of adequate rating shall also be provided in each solar array module to protect them against short circuit.

D. Phase Imbalance:

- Phase imbalance can occur due to varied power injected into different phases of the grid. Whenever solar power plants (SPPs) of lower capacities with single phase inverters are used to feed power into the grid using a single phase injection point, they tend to induce imbalance. This imbalance can be resolved simply by connecting / injecting power to different phases in the same grid.
- The developer shall have to follow the phase imbalance limits imposed by the Off Taker and shall also have to follow the guidelines before connecting such limits to the grid.
- The injection phase for each system to be injected into a single phase shall be approved by the Off Taker.

- a) **Statutory clearances to be arranged by the contractor**
- a) Building and Architectural Drawings approval must be obtained.
- b) All statutory requirements for working at the Project Site like Labour Registration, Workman Compensation Policy, ESIC etc.

TESTING PROCEDURE:

The contractor shall adhere to the Testing Procedures given in this document.

Mandatory check before and after connecting the SPV system with DISCOM Network and steps for maintenance of network. The following shall be provided by the contractor and ensured.

2. **Mandatory safety precautions / features:**

The following are mandatory safety precautions which will be taken care before and after commissioning of grid connected Solar PV system.

- (a) An inbuilt Inverter relay which trips on Discom / Railway supply failure and thus prevents any solar power injection to the Discom / Railway Network when there is no power from Discom / Railways. The anti-islanding protection shall be tested by respective Railway Engineer and the contractor during the release of connection.
- (b) The Solar PV system should be separately grounded / earthed. A minimum of two Separate dedicated and interconnected earth electrodes must be used for the Earthing of the PV system support structure, with a total earth resistance not exceeding 5 ohms. There must be at least three different earth pits, with minimum distance of 3 meters between any two, for each PV system; one for DC side (panels and structure), second for AC side (also called as neutral earthing) and lightning arrestor earthing. Additionally inverter body must be earthed as per instructions from inverter manufacturer.
- (c) A properly designed Lightning Protection System (including arrestors as necessary) also must be provided for SPV.
- (d) Manual isolator switch, at an easily accessible location with locking facility, shall be provided between inverter AC output and grid interconnection.
- (e) Caution Stickers shall be used with the green background and the text “Solar PV Systems” written in white letters. The size of these stickers shall be 10 CM (width) x 7 CM (height) with the text clearly printed in the center of the sticker.

- (f) All SPV systems should have a mandatory sign board fitted near the existing meter reading terminal stating that ‘This service is fitted with a LT grid connected SPV plant’. The Solar PV system Caution Stickers shall be fixed under the supervision of Railway Engineer and the contractor in the following locations.
- i. On or near to meter of service with grid connected solar PV system;
 - ii. On The Consumer main switch, of a service connected with a grid connected Solar PV System.
 - iii. On LT poles with grid connected Solar PV Systems at height of about 1.50 meter from the ground;
 - iv. On LT feeder pillars with grid connected Solar PV System on the street-facing door of the feeder pillar.
 - v. On each of the LT take off poles of a Distribution Transformer to which Solar PV Systems are connected.
 - vi. On substation end of HT feeder having Solar PV System.
 - vii. A List of service connected with grid connected Solar PV Systems shall be available at the Railway office.
- (g) During planned / forced maintenance work on Discom network, before taking up the work in hand, besides ensuring all other provisions such as line earthing, de-energizing the line section where the work is to carried out as per prevailing norms, it should also be ensured that supply from such small solar roof-top PV power plants are not back-feeding and supply should also be disconnected by manual isolating switch with locking facility installed in the premises of such consumers and ensuring proper earthing.

List of Materials/ Approved Brands

The make of materials shall be any one of the following approved make or any make having ISI approval / ISI marked or any make / manufacturer having ISO approval.

S No	Description	Make intended to be supplied by the contractor.
1	Solar Panel	The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories.
2	PCU/ Inverter	The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.
3	Bi directional meter	DISCOM approved
4.	Lithium ion battery (AH,V)	lithium-ion batteries pack for Minimum 10 kWH capacity operating volt 12 to 48 DC in the range of 100-300 AH

NOTE:

3. Any other makes for the above items should have prior approval of Dy.CEE/C-I/Jaipur.
4. Manufacturers Test Reports/ Test Certificates should be submitted to this office for all major plants, equipments and machineries as required by the Engineer in charge.

The IEC standards to be mandatorily adhered are as given below:

Solar PV Modules/Panels	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating –: Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH ₃) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730- 1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
IEC 62804	Photovoltaic (PV) modules - Test methods for the detection of potential- induced degradation. IEC TS 62804-1: Part 1: Crystalline silicon (mandatory for applications where the system voltage is > 600 VDC and advisory for installations where the system voltage is < 600 VDC)
IEC 62759-1	Photovoltaic (PV) modules – Transportation testing, Part 1: Transportation and shipping of module package units
Solar PV Inverters	
IEC 62109- 1, IEC 62109- 2	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
BS EN 50530 (as applicable)	Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.

IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 (1, 2, 14, 27, 30 & 64)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature d) IEC 60068-2-27: Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h
	+ 12 h cycle) f) IEC 60068-2-64: Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance
IEC 61000 – 2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters

Fuses

General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
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	the protection of solar photovoltaic energy systems
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Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 — Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting

Note- Equivalent standards may be used for different system components of the plants. In case of clarification following person/agencies may be contacted.

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