

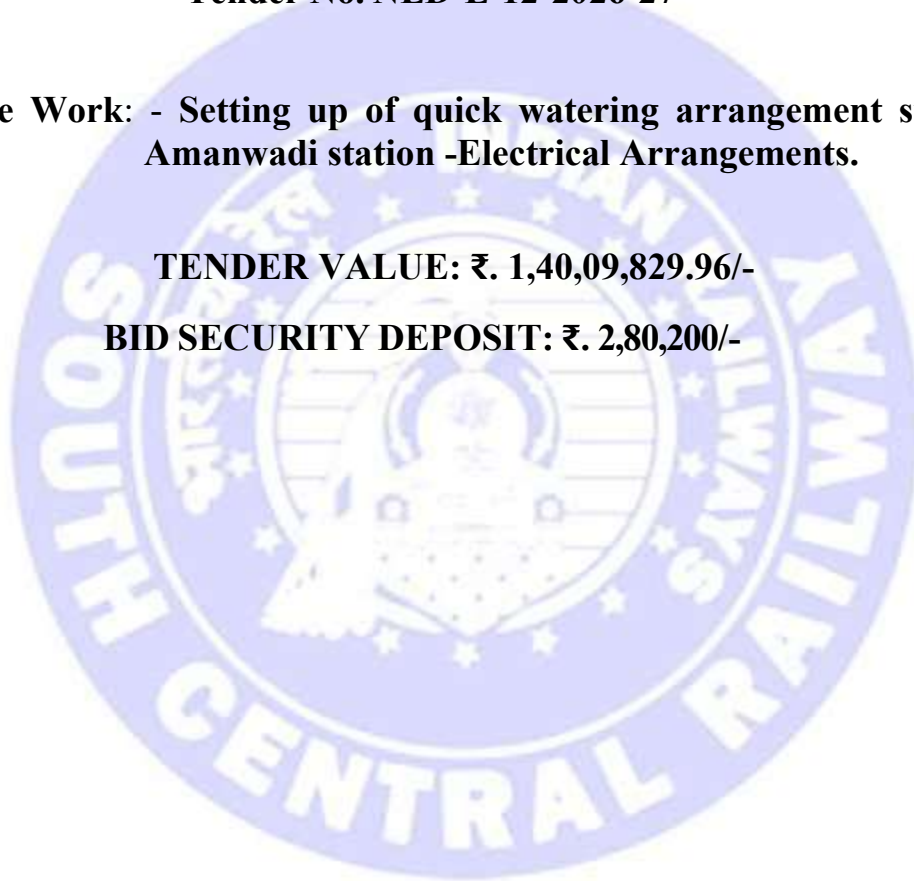
SOUTH CENTRAL RAILWAY
ELECTRICAL DEPARTMENT
NANDED DIVISION

Tender No. NED-E-12-2026-27

Name of the Work: - Setting up of quick watering arrangement system at Amanwadi station -Electrical Arrangements.

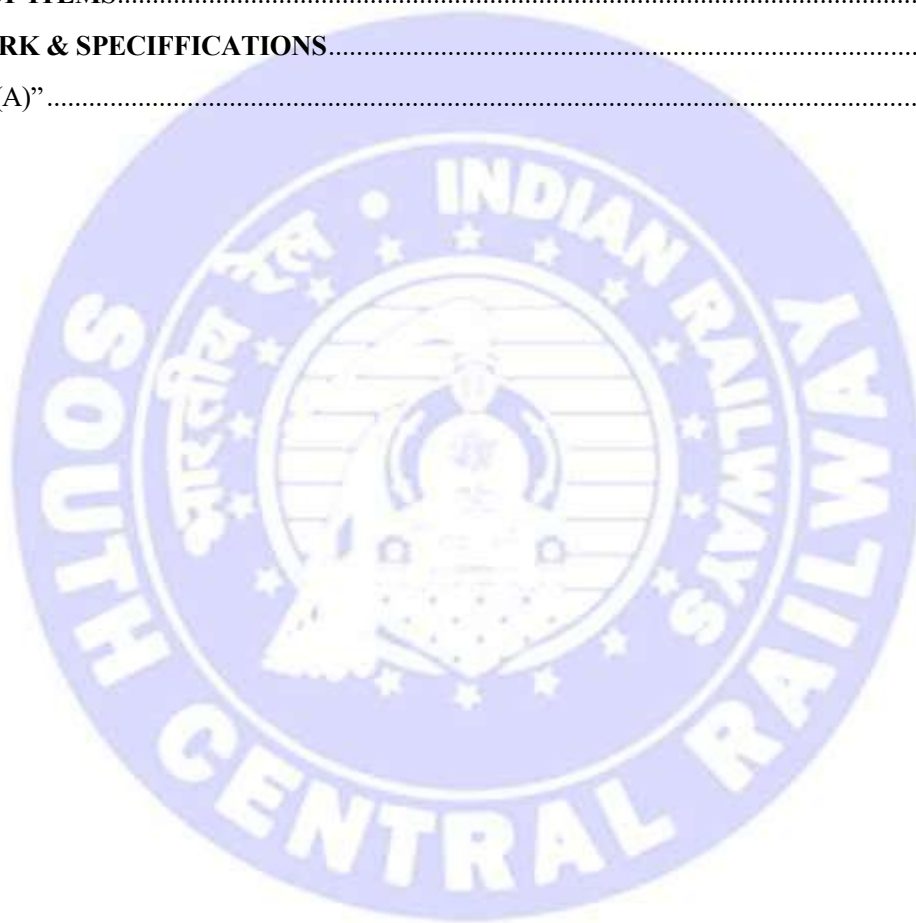
TENDER VALUE: ₹. 1,40,09,829.96/-

BID SECURITY DEPOSIT: ₹. 2,80,200/-



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SOUTH CENTRAL RAILWAY
TENDER FORM (First Sheet)

Tender No. **NED-E-12-2026-27**

Name of Work: Setting up of quick watering arrangement system at Amanwadi station -Electrical Arrangements.

THE PRESIDENT OF INDIA
ACTING THROUGH THE SENIOR DIVISIONAL ELECTRICAL ENGINEER,
DIVISIONAL RAILWAY MANAGER COMPLEX, NANDED DIVISION,
SOUTH CENTRAL RAILWAY, NANDED – 431 605

I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this tender open for acceptance for a period of 60 days from the date fixed for opening the same and in default thereof, I/We will be liable forfeiture of my/our Bid Security. I/We offer to do the work for **Nanded Division**, S.C. Railway, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within **12 months** from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Standard Schedule of Rates with all correction slips up to date for the present contract.
3. A Bid Security of **Rs. 2,80,200/-** has already been deposited online/submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other rights or remedies in case my/our Tender is accepted and if
 - (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document,
 - (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready and
 - (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.
4. (a) I/We am/are a Startup firm registered by.....Department of Industrial Policy and Promotion (DIPP) and my registration number is valid up to.....(Copy enclosed) and hence exempted from submission of Bid Security.
5. We are a Labor Cooperative Society, and our Registration No. is withand hence required to deposit only 50% of Bid Security.
6. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Bidder(s)

Date

Address of the Bidder(s)



1. **Instructions to Bidders and Conditions of Tender:** The following documents form part of Tender / Contract:
 - (a) Tender Forms – First Sheet and Second Sheet
 - (b) Special Conditions/Specifications (enclosed if any)
 - (c) Bill(s) quantities (enclosed)
 - (d) Standard General Conditions of Contract and Standard Specifications (Works and Materials) of Indian Railways as amended/corrected up to latest correction slips, copies of which can be seen in the office of Sr. DEE/M/NED or obtained from the office of the Chief Electrical Engineer, _____ South Central Railway on payment of prescribed charges.
 - (e) Schedule of Rates as amended / corrected up to latest correction slips, copies of which can be seen in the office of Sr. DEE/M/NED or obtained from the office of the Chief Electrical Engineer, _____ South Central Railway on payment of prescribed charges.
 - (f) 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.
2. **Drawings for the Work:** The Drawing for the work can be seen in the office of the Sr. DEE/M/NED and or the Chief Electrical Engineer, South Central Railway at any time during the office hours. The drawings are only for the guidance of Bidder(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.
3. The Bidder(s) shall quote his / their rates as a percentage above or below the Schedule of Rates of South-Central Railway as applicable to Nanded Division except where he/they are required to quote item rates and must tender for all the items shown in the Schedule of approximate quantities attached. The quantities shown in the attached Schedule are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of the Schedule. The Bidder(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.
4. Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tender(s) in his/their entries must be attested by him / them.
5. The works are required to be completed within a period of **12 months** from the date of issue of acceptance letter.

6. Bid Security:

- (a) Subject to exemptions provided under para 9 (a) of this document, the tender must be accompanied by a Bid Security as mentioned in tender documents, failing which the tender shall be summarily rejected.
- (b) The Tenderer(s) shall keep the offer open for a minimum period of 60 days (in case of two packet system of tendering 90 days) from the date of closing of the Tender. It is understood that the tender documents have been issued to the Tenderer(s) and the Tenderer(s), is / are permitted to tender in consideration of the stipulation on his / their part that after submitting his / their tender subject to the period being extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to _____ Railway. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited, or Bank guarantee bond submitted as Bid Security for the due performance of the above stipulation, shall be forfeited to the Railway.

(c) If his tender is accepted,

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

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

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

- 7. 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 Bidder(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 tender or tenders.
8. If the Bidder(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.

9. 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.



TERMS & CONDITIONS

Tender No. NED-E-12-2026-27

Name of the work: Setting up of quick watering arrangement system at Amanwadi station - Electrical Arrangements.

1.0 The following terms & conditions supplement the "Regulations for Tenders and Contracts, conditions of tender and General Conditions of Contract" and should be considered as part of the contract papers. Where the provision or the terms & conditions are at variance with the General conditions and other documents mentioned above, the Special conditions shall prevail.

1.1 It must be clearly understood that all the terms and conditions stipulated under special conditions are binding on the contractor. In all matters of dispute, the decision of the **Senior Divisional Electrical Engineer, Nanded Division, S.C. Railway, Nanded** shall be firm and binding.

2.0 Scope of work: The detailed scope of work & Specification is given in page no. 55-92 of this tender booklet.

3.0 Every effort has been made by the Railways to cover all the items required for executing the work. These items might have either been covered explicitly or implicitly in the specification and the Bidder shall, however, provide free of cost all such items that may be required for proper execution. Commissioning and performance of the equipment supplied and installed by them whether they are mentioned explicitly or implicitly in the specification or not. No extra claim whatsoever will be entertained by the Railways for such items provided by the installations provided by them under this contract.

4.0 OMISSIONS/DISCREPANCIES:

Should a Bidder 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 Bidders. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of tender and successful Bidder 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.

5.0 GUARANTEE:

- (a) The Contractor shall guarantee for satisfactory working of the installations erected by him, for a period of **Thirty-Six (36) months** from the date of physical completion of all works. ***If for any item guarantee/warranty period is more than 36 months as per specification for that item, the guarantee/warranty period laid down for such item will hold good.*** S.D. for the value of such items will be

released after expiry of guarantee/warranty PERIOD LAID DOWN IN the SPECIFICATION. S.D. FOR THE REMAINING VALUE OF THE work will be released after 36 months of physical completion of all works.

- (b) For supply portion of works contract, the warranty/guarantee period should be covered for a minimum period of 36/42 months i.e., 36 months from date of commissioning/42 months from date of supply whichever is earlier or the period as per approved specification or OEM's warranty whichever is higher than the above.
- (c) During the period of Guarantee, the Contractor shall be liable for the replacement at site of any parts which may be found defective in the equipment whether such equipment be of his own manufacture or those of his sub-Contractor, whether arising from faulty design, materials, workmanship or negligence in any manner on the part of the Contractor provided always that such defective parts as are not repairable at site, are promptly returned to the Contractor if so required by him at his (Contractor's) own expenses. In case of type defects in Contractor's equipment and components detected during guarantee period, Contractor should replace all such items irrespective of the fact whether all such items have failed or not. The Contractor shall bear the cost or repairs carried out on his behalf by the Purchaser at site. In such a case, the Contractor shall be informed in advance of the works proposed to be carried out by the Purchaser.
- (d) If it becomes necessary for the Contractor to replace or renew any defective portion of the equipment under the Para aforesaid then the provision of the said Para shall also apply to the portions of the equipment on replaced or renamed until the expiration of six months from the date of such replacement or renewal or until the end of the above-mentioned period whichever is late. Such extension shall not apply in case of defects of a minor nature, the decision of the General Manager or his successor/nominee being final in the matter. If any defect be not remedied within a reasonable time during the aforesaid period the Purchaser may proceed to do work at the Contractor's risk and expense, but without prejudice to any other rights and remedies which the purchase may have against the Contractor in respect of such defects or faults.
- (e) The repaired or renewed parts shall be delivered and erected on site free of charge to the Purchaser.

6.0 LIQUIDITATED DAMAGES:

- a) If the contractor fails to carry out, execute and complete the work under this contract within the time prescribed as per the original acceptance letter and agreement, penalty in terms of clause 17 of General conditions of contract will apply. In unforeseen circumstance if found justified, the time of completion can be

extended with or without LD or with lump sum penalty by the Senior Divisional Electrical Engineer NANDED division, S.C. Railway, without any prejudice the L.D. clause mentioned herein.

- b) The competent authority while granting extension to the currency of the contract under clause 17(B) of GCC will also consider levy of token penalty as deemed fit based on the merit of the case.
- c) Time is essence of the work if the contractor to restore within the stipulated time, the penalty will be levied.

7.0 GENERAL CONDITIONS OF TENDER:

- a) **TENDER IS CONFIDENTIAL:** The Bidder (Whether his/her Tender be accepted or not) shall treat the contents of his Tender as private and confidential. He / She shall treat the prices quoted by him / her as strictly confidential till the Tenders are opened.
- b) Non-fulfillment of the requirements is liable for rejection of the offer of such Bidder summarily.
- c) All the required supporting documents should be scanned and uploaded.
- d) E-Tenders will be opened online using the “**IREPS**” portal. No representative is required to be present for the opening of the tender and taking notes of the rates quoted and ranking as complete details of the rates etc. of all the bidders shall be available to bidders on the website after opening of the tender. Opening of the tenders will be on any convenient date after closing date & time of the tender.
- e) It shall be the duty of Bidder that they ensure to see any corrigendum of the tender and to check the corrigendum on the web site from time to time.

8.0 CARE IN SUBMISSION OF TENDER:

- (a) (i) Before submitting a tender, the Bidder will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all-inclusive to accord with the provisions in Clause-37 of the Standard General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
- (ii) Bidders 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. Bidders will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.

(iii) The successful Bidder who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.

(iv) In case the successful Bidder 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.

(v) Contractor shall be liable to pay/refund the amount collected as GST to the Indian Railways along with interest and penalties, if any imposed by the authorities, in case GST input tax credit of Indian Railways is denied/rejected by the tax authorities due to reasons mentioned below but not limited to:

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

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

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

- (b) When work is tendered for by a firm or company, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
- (c) The Railway will not be bound by any power of attorney granted by the Bidder or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after

obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

8.1 In case other than Company /Proprietary firm, Annexure V(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. Non submission of above certificate by the bidder shall result in **summarily** rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.

9.0 BID SECURITY DEPOSIT: As per GCC 2022 and its latest amendments.

10.0 Security Deposit (Ref-Indian Railways Standard GCC, April-2022):

As per GCC 2022 and its latest amendments.

10.1 Refund of Security Deposit: Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor after the following:

- Final Payment of the Contract as per clause 51(1) of GCC and
 - Signature of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor and
 - Issue of Maintenance Certificate on expiry of the maintenance period as per clause 50(1) of GCC.

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

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

11 Performance Guarantee: Ref-Indian Railways Standard GCC, April-2022 as per IR-GCC ACS-11 dt.13.03.2026 or its latest amendments. Insurance Surety Bond (Annexure-I) added as per IR-GCC ACS-9 dt.09.01.2025. The successful bidder shall submit Guarantee (PG) amounting to the original contract value and **Additional performance Guarantee** as per clause 16 (4) (h) in any of the following forms

i) A deposit of cash ii) Irrevocable Bank Guarantee iii) Insurance Surety Bond as per Annexure-M.

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.

New Para 16(4) (h) of Part-II of GCC'22:

If a tender is accepted on the quoted rates of bidder which is below the Advertised tender value, an additional Performance security shall be submitted by the bidder as below:

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

12 AGREEMENT:

- i. 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. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender. The Contract Agreement shall be entered into by Railway only after submission of valid Performance Guarantee by the Contractor. In such cases the Railway may determine that such tenderer has abandoned the contract and there upon his tender and acceptance thereof shall be treated as cancelled and the Railway shall be entitled to forfeit the full amount of the Bid Security and other dues payable to the Contractor under this contract. The failed Contractor shall be debarred from participating in the re-tender for that work.
- ii. Every contract shall be complete in respect of the document it shall so constitute. Not less than 2 copies of the contract document shall be signed by the competent authority and the Contractor, and one copy given to the Contractor (there would be no need of signing two copies if agreement is signed digitally).

13 FAILURE TO PERFORM: If the Contractor fails in the performance of the contract, South Central Railway may without prejudice to his other rights, cancel the contract or a portion thereof and Railway shall be entitled to forfeit PG, EMD & SD as per the provision of GCC.

14 Completion Period:

- i) Contractor will take up the work and complete it within **12 months** from the date of receipt of the letter of acceptance.

- ii) If, during contract, the administration feels that it is not necessary to continue the contract due to administrative reasons, the contract stands foreclosed with immediate effect without assigning any reasons.
- iii) The Railways attached the utmost importance to the timely completion of the work on or before the date contracted for. In this connection, the attention of the contractor is specially invited to the clause regarding "Liquidated Damages" and determination of contract owing to default of contractor provided for in general conditions of contract.

15 EMPLOYMENT OF ELECTRICAL ENGINEERING GRADUATES/ DIPLOMA - HOLDERS:

The contractor shall employ the following technical staff during the execution of this work.

- 15.1 One Qualified Graduate Engineer when cost of work to be executed is ₹.200 lakh and above.
- 15.2 One Qualified Diploma Holder Engineer when cost of work to be executed is more than ₹. 25 lakhs but less than ₹. 200 lakhs.
- 15.3 These engineers shall be available throughout the period when the work is in progress and not merely be available for taking instructions. In case the contractor fails to employ the Qualified Engineer, as aforesaid in Para 1 & 2 above, he, in terms of Clause 26 A.2 to the General Conditions of Contract, shall be liable to pay an amount ₹. 40,000/- (Rupees forty thousand only) for each month or part thereof for the default period in case of Graduate Engineer and ₹. 25,000/- (Rupees Twenty-Five thousand only) for each month or part thereof for the default period in case of Diploma holder Engineer.
- 15.4 The decision of the Railway Engineer-in-charge as to the period for which the required technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor.

16 Deduction of income tax, GST at source:

- 16.1 In terms of new Section 194-C inserted by the Finance Act 1972, in the income tax Act 1961 the Railway shall at the time of arranging payments to the contractor and/or sub-contractor (in the case of sub-contractor only when the Railway is responsible for payment of consideration to him under the contract) for carrying out any work (including supply of labor for carrying out any work) under the contract be entitled to deduct income tax at source on 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.

No Income Tax will be deducted by the Railway on payments made for supply of materials where such value of supply portion is distinct and ascertainable such as supply of Timber, tiles, bricks, ballast including track/ballast etc. The deductions towards Income Tax to be made at source from the payment due to non-residents shall continue to be governed by Section 195 of the Income Tax Act 1961.

16.2 Goods and Service Tax (GST) will be applicable on this work as per the prevailing rates amended from time to time by Government of India.

16.3 The Bidder shall quote the rate by considering all the statutory duties/taxes applicable to the work up to the date of opening of tender.

16.4 Conservancy charges as applicable and as modified from time to time will be recovered from contractors running bills.

17 Payment Terms:

- i. 90% payment will be made for completed portion of itemized work/or/ complete sub work and balance 10% payment will be made after successful completion of entire work.

In respect of the above claim, the following documentation is to be invariably adhered to,

1. Work done statement shall be prepared by the contractor and submitted to the nominated Railway supervisor for completed portion of work for which the payment is claimed duly signed by the contractor as well as nominated Railway supervisor.
2. Based on the work done statement, measurements will be recorded in the Measurement Book (MB) by the Nominated Railway supervisor.
3. Certified that the 20% check conducted against the work undertaken and found satisfactory (this should be done by the concerned DEE/ADEE.)

ii. Payment Mode

- a) All payment will be made on the name of the firm of the successful bidder.
- b) The bidder shall be entitled to be paid by way of “On Account Payment” as per the General Conditions of the Contract. (Wherever applicable).
- c) No advance payment will be made to the contractor.

iii. Information to be furnished by the contractor.

The information regarding Electronic Payment System (NEFT/RTGS) shall be furnished by the contractor duly signed by him.

The payment towards contractors/ suppliers' bill will be paid through Electronic Payment System i.e., NEFT/RTGS and commission charges if any to be borne by contractor/supplier.

Bidder /s are required to submit a scanned / attested copy of following information along with their tender- 1. Bank Account No 2. Name of Bank 3. Indian Financial System Code {IFSC} 4.PAN No 5. Bidders Contact No. Contractor should provide firms PAN, issued by Income Tax Department with his quote or within 30 {Thirty} days of award of contract. No payment will be released without submission of PAN. All taxes {including surcharge and cess shall be recovered from his payment as per tax provisions in vogue. Proforma is given as **Annexure**

17.1 CLAIMING OF ON ACCOUNT/FINAL BILLS BY THE CONTRACTORS:

The contractor shall submit bills/gate passes for the materials purchased by them to supply the same to Railways at the time of supplying the materials to nominated Railway Stores Depot.

For claiming on account bill the contractor shall make a formal written request to the concerned Official/Officer-in-charge of the works clearly mentioning the quantity executed.

Each on account bill/Final Bill shall invariably accompany the contractor's material statement (materials drawn from the stores vs. material utilized at site on the work for which materials have been drawn from Railway stores.

The excess Class-I materials drawn from Railway Stores shall be returned as Class-1 only. Damages occurred during handling/stack and transportation by the Contractor will be charged to the Contractor and the cost will be recovered from the Contractor.

At the time of drawing materials from Railway Stores, the contractor shall check and ensure the correctness of quantity, description, and condition of the materials.

The Contractor while submitting requisition for drawl of stores shall indicate the quantity of material as per the schedule and the quantity already drawn and the quantity now required with remarks.

17.2 “Letter of Credit” as Mode of Payment

- (i) For all the tenders having advertised cost of Rs. 10 lakh or above, the contractor shall have the option to take payment from Railways through a letter of credit (LC) arrangement.
- (ii) The 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 Bidder at the time of bidding itself, and the Bidder shall affirm having read over and agreed to the terms and conditions of the LC option.
- (iii) The option so exercised, shall be an integral part of the bidder’s offer.
- (iv) The above option of taking payment through LC arrangement, once exercised by Bidder at the time of bidding, shall be final and no change shall be permitted, thereafter, during execution of contract.

- (v) In case Bidder opts for payment through LC, following shall be the procedure to deal release of payment through LC:
- (a) The LC shall be a sight LC.
 - (b) The contractor shall select his Advising/Negotiating bank for LC. The incidental cost towards issue of LC and its operation thereof shall be borne by the contractor.
 - (c) SBI, New Delhi Main Branch will be the nodal branch for issue of LCs based on online requests received from Railway Accounts Units for tenders opened in financial year 2018-19. SBI branches where the respective Railway Accounts Office has its Account (local SBI branch) will be the issuance/reimbursing branch for LC issued under this arrangement. The Bank shall remain same for this tender till completion of contract. The incidental cost @0.15% per annum of LC value, towards issue of LC and operation thereof shall be borne by the contractor and shall be recovered from his bills.
 - (d) The LC shall be opened initially for duration for 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 Railways by reason of any act or omission of the contractor, his agents, or employees, in relation to the Letter of Credit (LC). All sums payable/borne by Railways on this account shall be considered as reasonable compensation and paid by contractor.
 - (f) The LC terms and conditions shall inter-alia provide that Railways will issue a Document of Authorization (format enclosed as **Annexure J**) 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 Railways.
 - (i) On issuance of Document of Authorization, a copy of Document of Authorization shall be posted on IREPS for download by the contractor. A digitally signed copy of Document of Authorization shall also be sent by

Railway Account 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 for Railway's Bank (Local SBI Branch).
 - (l) The contractor's bank (advising bank) shall submit the documents to the Railway's Bank (Local SBI Branch).
 - (m) The Railway's bank (issuing bank) shall, after verifying the claim so received w.r.t. the digitally signed Document of Authorization received from Railway Account Office, release the payment to contractor's bank (advising bank) for crediting the same to contractor's account.
 - (n) Any number of bills can be dealt within one LC, provided the sum total of payments to contractor is within the amount for which LC has been opened.
 - (o) The LC shall be closed after the release of final payment including PVC amount, if any, to the contractor.
 - (p) The release of Performance guarantee or security deposit shall be dealt directly by railway with the contractor i.e., not through LC.
- vi. For opening of LC, executive department shall make a request letter to concerned Accounts Department on a format, placed as **Annexure – I**.
- vii. Necessary charges in IREPS and IPAS e-applications have already been carried out, for having option for payment to contractors through LC.

18 Credentials Requirement & Eligibility Criteria:

Electrical License: The tenderer shall possess a valid Electrical Contractor License, issued by any State Government or Union Territory Administration, authorizing execution of electrical works up to 11 kV. The contractor shall have in his employment or shall engage a person holding a valid certificate of competency issued by any State Government or Union Territory Administration for supervision of electrical works up to 11 kV.

Offers not accompanied by a valid Electrical Contractor License and requisite Supervisor competency for works up to 11 kV shall be summarily rejected

Note: In case of expiry of validity of license during contract, the contractor should renew the license so that it is always valid during contract).

Technical Eligibility Criteria:

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

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

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

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

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

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

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

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

Note: Separate completed works of minimum required values for each component can also be considered for fulfilment of technical eligibility criteria.

(ii) In such cases, what constitutes a component in a composite work shall be clearly pre-defined with estimated tender cost of it, as part of the tender documents without any ambiguity. Any work or set of works shall be considered as a separate component, only when cost of the component is more than ₹ 2 crore each.

(iii) To evaluate the technical eligibility of tenderer, only components of work as stipulated in tender documents for evaluation of technical eligibility, shall be considered. The scope of work covered in other remaining components shall be either executed by tenderer himself if he has work experience as mentioned in clause 7 (a) (ii) of Part-II of GCC or through subcontractor fulfilling the requirements as per clause 7 of Part-II of GCC 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 fulfilment of technical eligibility. Such subcontractor must fulfill technical eligibility criteria as follows:

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

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.

Definition of Similar nature of work:

“Works of wiring/cabling or installation and commissioning of electrical items (other than on coaches) such as lights, fans, pumps, charging arrangements, earthing etc. (with or without supply of items / equipment) for 230V, 1phase or 415V, 3phase system or higher voltages”.

Note for Technical Eligibility:

Tenderer should submit attested copy of work experience certificate in **Annexure – ‘E’** to establish the eligibility criteria. All details as required in the **Annexure – ‘E’**, shall be made available otherwise the information is treated as incomplete.

The work experience certificate shall be issued by an officer not below the rank of JA Grade or Bill passing Officer in Railways and Bill passing officer/Executive In-charge of work in other Govt./Govt. bodies/ PSUs. The certificate should bear the signature and seal of the issuing officer, name of the department etc.

In case of Partnership deeds, Power of Attorney etc. shall meet to Indian Railways Standards General Conditions of Contract April’2022.

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 opening 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 the Experience Certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received

and copy of final/last bill paid by company in support of above work experience certificate.

b) Financial Eligibility Criteria:

The tenderer must have minimum average annual contractual turnover of V/N or V whichever is less; where

V= Advertised value of the tender in crores of Rupees.

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

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

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

18.1 Additional Documents to be submitted along with the tender:

- (i) List of personnel organizations available on hand and proposed to be engaged for the subject work. These two lists should be given separately and signed by Bidder and are to be submitted in the Proforma given in the **Annexure ‘A’**.
- (ii) List of Plant & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for the subject work and this list shall be signed by the Bidder and is to be submitted in the Proforma given in the **Annexure ‘B’**.
- (iii) List of completed works in the last three Financial Years giving description of work, organization for whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work, date of actual start, actual completion and final value of contract should also be given in the **Annexure ‘C’**.
- (iv) List of Works on Hand indicating name of work, contract value, bill amount paid so far; due date of completion etc. to be furnished by Contractor in **Annexure ‘D’** and this Certificate is to be signed by Contractor.
- (v) Tenderer should submit attested copy of work experience certificate in **Annexure ‘E’** to establish the eligibility criteria in case of Multiple L-1. All details as required in the **Annexure ‘E’**, shall be made available otherwise the information is treated as incomplete.

The work experience certificate shall be issued by an officer not below the rank of JA Grade or Bill passing Officer in Railways and Bill passing officer/Executive In-charge of work in other Govt./Govt. bodies/ PSUs. The certificate should bear

the signature and seal of the issuing officer, name of the department etc.

In case of Partnership deeds, Power of Attorney etc. shall meet to Indian Railways Standards General Conditions of Contract april'2022.

For further details refer clause no. 10 of GCC April 2022.

- (vi) The Tender Floating Authority may incorporate “any other details of specific nature relevant and mandatory for Tender finalization.
- (vii) **A checklist of documents to be submitted** at the time of tender submission is given **as top sheet** in **Annexure-G** for easy guidance and compliance from prospective Bidders. The Bidders shall submit the following documents for identification of the Bidder:

18.2 Documents to be submitted along with the tender:

- (i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Joint Venture (JV) / Registered Society / Registered Trust / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust, or society.
- (ii) Following documents shall be submitted by the tenderer:
- (a) Sole Proprietorship Firm:
A copy of registration / Income tax/ PAN No. for filing returns self- attested.
- (b) HUF: (i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of ‘Karta’ of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.
A copy of registration / Income tax/ PAN No. for filing returns self- attested.
- (c) Partnership Firm: (i) All documents as mentioned in para 26 of the Tender Document.
- (d) Joint Venture (JV): All documents as mentioned in para 17 of the Tender Form (Second Sheet) of GCC April 2022.
- (e) Company registered under Companies Act 2013:
- The copies of MOA (Memorandum of Association) / AOA (Articles of Association) of the company (ii) A copy of Certificate of Incorporation (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favor of the individual to sign the tender on behalf of the company and create liability against the company.
- (f) LLP (Limited Liability Partnership): (i) A copy of LLP Agreement (ii) A copy of Certificate of Incorporation (iii) A copy of Power of

Attorney/Authorization issued by the LLP in favor of the individual to sign the tender on behalf of the LLP and create liability against the LLP. (iv) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.

(g) Registered Society & Registered Trust: (i) A copy of Certificate of Registration (ii) A copy of Memorandum of Association of Society/Trust Deed (iii) A copy of Power of Attorney in favor of the individual to sign the tender documents and create liability against the Society/Trust. (iv) A copy of Rules & Regulations of the Society.

(iii) If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm / Partnership firm / Joint Venture / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.

(iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF/LLP etc. shall be neither asked nor considered, if submitted. Further, no Suo motu cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.

(v) A tender from JV shall be considered only where permissible as per the tender conditions.

(vi) The Railway will not be bound by any change of power of attorney or in the composition of the firm made subsequent to the submission of tender. Railway may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

18.3 The tenderer whether sole proprietor / a company or a partnership firm / joint venture (JV) / registered society / registered trust / HUF / LLP etc. if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in 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.

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.

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.

18.4 Multiple L-1:

In case of more than one L-1 bidders, tender may be awarded to Bidder having higher Bid Capacity. In case of Bid Capacity is also the same, Bidder having done more value of similar work in last three previous financial years and the current financial year up to the date of opening of the tender, may be selected for the award. Instructions with respect to Bid Capacity will follow. (Ref: Railway Board's letter No.2017/Trans/01/Policy dt. 08-02-2018 communicated by PCE/SC letter No.W.496/P/ Transformation dt 14-02-2018).

18.5 Post Tender submission of Documents/information of Mandatory Nature linked to Eligibility Criteria called for, at Tender stage:

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

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

- (ii) The Railway reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the Railway, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification by the railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the railway thereunder.

- (iii) In case of any wrong information submitted by Bidder, the contract shall be terminated, Performance Guarantee (PG) and Security Deposit (SD) of contract forfeited and agency barred for doing business on entire Indian Railways for 2

(five) years.

19 TAXES & DUTIES:

No reimbursement or claim of Taxes & duties whatsoever will be allowed. Form “D” will not be issued by Railways.

20 Right of the Railway to deal with tender:

- a) While opening tender or after opening of tenders, no opportunity shall be given to any bidder to repudiate, amend or explain the rate and or any condition in the tender, as applicable.
- b) It shall not be obligatory on the competent authority to accept lowest tender and no bidder shall demand any explanation for the cause of rejection of his/their tender. Further it shall not be obligatory on the said authority to award contract to a single bidder for the entire work.
- c) No free pass will be issued by the administration to the contractor.
- d) If the bidder expires after the submission of his tender or after the acceptance of his tender, the Railway shall deem such tender as cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the Railway shall deem such tender as cancelled, unless the firm retains its character.
- e) The authority for acceptance of the tender will rest with the Senior Divisional Electrical Engineer, South Central Railway, Nanded who does not bind himself to accept the lowest or any other tender nor does he undertake to assign reasons for declining to consider any particulars tenders or tenders.

21 The contractor should submit list of infrastructure facilities and establishment available with him.

22 The contractor **shall submit proof of purchase with manufacturer’s guarantee** if any for the item supplied by them.

23 Price Variation: No Price variation clause shall be made applicable to this contract.

24 VARIATIONS IN CONTRACT QUANTITIES (As per IRS GCC-2022): The procedure as detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:

- (1) **Modification to Contract to be in Writing:** In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Railway and the Contractor, and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending,

reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Railway unless and until the same is incorporated in a formal instrument and signed by the Railway and the Contractor, and till then the Railway shall have the right to repudiate such arrangements.

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

d.(ii) Quantities operated more than 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 tender.

d.(iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that tender.

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

(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.

(vi) As far as SOR items are concerned, the limit of 25% would apply to the value of SOR schedule as a whole and not on individual SOR items. However, in case of NS items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).

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

(4) The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. In case of vitiation of tender (both for increase as well as decrease of value of contract agreement) sanction of competent authority as per single tender should be obtained. In addition to the above, the partial modification is as furnished below (RB Lr No: 2017/Trans/01/Policy/New Delhi dated 08/02/2018), it has been decided that as a result of variations, a contract shall be considered “vitiating” only when, the following percentage variation in contract value between Bidders are noticed to have been exceeded.

S. No.	Value of Contract	Percentage difference between present contractor and new L-1 as a result of variation. (Percentage shall be calculated with base as the revised contract quantities multiplied by the rates of the present contractor)
1	Small value contracts (Tender value less than Rs.50 Lakh)	10%
2	Other than small value contracts (Tender value equal to or more than Rs.50 lakh)	5%

- (5) When the percentage difference between present contractor and new L-1 is noticed as becoming beyond the values above, the following action shall be taken. Vitiations should always be computed with respect for the items rates quantities and conditions as available at the time of tender opening and subsequent changes/additions by way of new items will not be counted for computing vitiations.
- (6) Overall agreement value arrived at by adding the positive variation and subtracting the negative variation from the accepted value of the contract shall be taken for deciding the competency of sanction.

25 Partnership Firm:

- i. Partnership deed is eligible if entered and registered prior to Tender Notice. Bidder should attach scanned experience certificate in the same name and style as the Bidder and their credentials shall be considered fully to the extent of work executed by the partnership firm. (EXPERIENCE OF INDIVIDUAL PARTNERS WILL NOT BE CONSIDERED).
- ii. Any change or modification in the constitution of tendering firms for whatever purpose or intimation of any disputes by any of the partners in the firm making tendering firm ineligible, during consideration of Tender after opening of the Tender, shall be deemed to be backing out of the offer by the Bidder.

25.1 Participation of Partnership Firms in works tenders:

- (i) The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
- (ii) The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized prior to date of tender opening as per the Indian Partnership Act.
- (iii) Separate identity / name should be given to the partnership firm. The

partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.

- (iv) Once the tender has been submitted, the constitution of the firm shall not be allowed to be modified / altered / terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from Railway and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the Railways and the Bidder shall have no claims what-so-ever. Any change in the constitution of Partnership firm after opening of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full EMD shall be forfeited.
- (v) If any Partner/s withdraws from the firm after opening of the tender and before the award of the contract, the offer shall be rejected. If any new partner joins the firm after opening of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the Bidder fails to inform Railway beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 62 of General Conditions of Contract.
- (vi) A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.
- (vii) The tender form shall be submitted only in the name of partnership firm. The EMD shall be deposited by partnership firm through e-payment gateway or as mentioned in tender document. The EMD submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.
- (viii) One or more of the partners of the firm or any other person (s) shall be designated as the authorized person (s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a “Power of Attorney”, specially authorizing him / them to submit & sign the tender, sign the agreement, receive payment, fitness measurements, sign measurement books, make correspondences, compromise / settle / relinquish any claim (s) preferred by the firm, sign “No Claim Certificate”, refer all or any dispute to arbitration and to take similar such action in respect of the said tender / contract. Such “Power of

Attorney” shall be notarized / registered and submitted along with the tender.

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

(x) On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.

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

i. Joint and several liabilities:

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

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

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

iv. No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the Railway.

(xii) The Bidder shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:

(1) A copy of partnership deed.

(2) A copy of Power of Attorney (duly registered as per prevailing law) in favor of

the individual to tender for the work, sign the agreement etc. and create liability against the firm.

- (3) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India / any State Govt. from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

26 Employment/Partnership etc., of Retired Railway Employees

As per GCC-2022 and latest amendments to GCC-2022.

27 ARBITRATION:

27.1 Reconciliation of disputes: 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.

The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract.

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.

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.

The conciliation proceedings shall be terminated:

By the signing of the settlement agreement by the parties on the date of agreement; or

- By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of declaration; or

- By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated, on the date of declaration; or

27.2 Matters Finally Determined by the Railway: All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the Contractor to the GM and the GM shall, within 120 days after receipt of the Contractor's representation, make and notify decisions on all matters referred to by the Contractor in writing provided that matters for which provision has been made in Clauses 8, 18, 22(5), 39, 43(2), 45(a), 55, 55-A (5), 57, 57A, 61(1), 61(2) and 62(1) of Standard General Conditions of Contract or in any Clause 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 Arbitration Clause.

27.3 (1) Demand for Arbitration:

(1)(i): In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the Railway of any certificate to which the Contractor may claim to be entitled to, or if the Railway fails to make a decision within 120 days, then and in any such case, but except in any of the "excepted matters" referred to in Clause 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.

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

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

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

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

(1)(iii)(c): The Railway shall submit its defense statement and counter claim(s), if any,

within a period of 60 days of receipt of copy of claims from Tribunal, unless otherwise extension has been granted by Tribunal.

(1)(iii)(d): Place of Arbitration: The place of arbitration would be within the geographical limits of the Division of the Railway where the cause of action arose or the Headquarters of the concerned Railway or any other place with the written consent of both the parties.

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

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

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

(3): Appointment of Arbitrator:

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

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

(3)(a)(ii): In cases not covered by the Clause 64(3)(a)(i), the Arbitral Tribunal shall consist of a panel of three Gazetted Railway Officers not below Junior Administrative Grade or 2 Railway Gazetted Officers not below Junior Administrative Grade and a retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the Railway will send a panel of at least four (4) names of Gazetted Railway Officers of one or more departments of the Railway which may also include the name(s) of retired Railway Officer(s) empaneled to work as Railway Arbitrator to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the General Manager.

Contractor will be asked to suggest to General Manager at least 2 names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them is from the Accounts Department. An officer of Selection Grade of the Accounts Department shall be considered of equal status to the officers in Senior Administrative Grade of other departments of the Railway for the purpose of appointment of arbitrator.

3.(a). iii: The serving railway officer working in arbitral tribunal in the ongoing arbitration cases as per clause 64.(3)(a)(i) and clause 64.(3)(a)(ii) above, can continue as arbitrator in the tribunal even after his retirement.

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

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

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

(ii) In cases where the total value of all claims in question added together exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Panel of three (3) retired Railway Officer, retired not below the rank of Senior Administrative Grade Officer, as the arbitrators. For this purpose, the Railway will send a panel of at least four (4) names of retired Railway Officer(s) empaneled to work as Railway Arbitrator duly indicating their retirement date to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the General Manager.

Contractor will be asked to suggest to General Manager at least 2 names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway. The General Manager shall appoint at least one out of them as the Contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly

indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed. General Manager shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them has served in the Accounts Department.

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

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

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

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

(a) Serving Gazetted Railway Officers of not below JA Grade level.

(b) Retired Railway Officers not below SA Grade level, one year after his date of retirement.

(c) (i) Age of arbitrator at the time of appointment shall be below 70 years.

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

(iii) While appointing arbitrator(s) under Sub-Clause 64.(3)(a)(i), 64.(3)(a)(ii), 64.(3)(b)(i) & 64.(3)(b)(ii) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as Railway servant(s) expressed views on all or any of the matters under dispute or differences. A

certification to this effect as per annexure- XVI shall be taken from Arbitrators also. The proceedings of the Arbitral tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrators 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.

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

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

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

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

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

(6): The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed by Railway Board from time to time and the fee shall be borne equally by both the parties, provided parties sign an agreement in the format given at Annexure XV to these condition after/ while referring these disputes to Arbitration. Further, the fee payable to the arbitrator(s) would be governed by the instructions issued on the subject by Railway Board from time to time irrespective of the fact whether the arbitrator(s) is/are appointed by the Railway Administration or by the court of law unless specifically directed by Hon'ble court otherwise on the matter.

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

29. PROVISIONS OF CONTRACT LABOUR REGULATION AND ABOLITION ACT:

- i. The Contractor shall comply with the provisions of the Contract Labor Regulation and Abolition act 1970 and the Contract Labor Regulation and Abolition Central

Rules, 1971, as modified from time to time, wherever applicable, and shall also indemnify the Purchaser from and against any claims under the aforesaid Act and the rules.

- ii. The Contractor shall pay to labor employed by him, directly or through Sub-contractors, the wages as per provisions of the aforesaid Act and the rules, wherever applicable. The Contractor shall, notwithstanding the provisions of the contract, cause to be paid the wages to labor indirectly engaged on the work including any engaged by his sub-contractors in connection with the said work, as if the labor has been immediately employed by him.
- iii. In respect of all labor directly or indirectly employed in the work for performance of the Contractor's part of the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and the rules wherever applicable.

30. Minimum Wages Act, Labor Laws:

- a) The contractor shall comply with all the legal provisions pertaining to industrial labor and hours of employment regulations in force. The wages to be paid to the contractor's staff shall necessarily be in accordance with the provisions of the MINIMUM WAGES ACT, 1948 as amended from time to time. The risk to the life and limb of the contractor's staff shall be covered by the contractor by way of an insurance policy. Compensation to the contractor's staff in case of accidents or otherwise shall be made by the contractor only. **Further it is the responsibility of the contractor to ensure that the provisions of the Contract Labor (Regulation and abolition) Act/Rule are not violated.**
- b) The contractor should submit a proof of having paid Minimum wages to the labor engaged by him as per the Minimum Wages Act during the contract period.

31. Jurisdiction of the Courts: The courts of the place where the contract has been entered by South Central Railway i.e., courts of Nanded shall alone have the Jurisdiction to decide any dispute arising out of or in the respect of the contract.

32. Subletting and Assignment: Subletting of work or part of the work in any manner is not permitted without specific permission in writing of Railway. Any breach of this condition shall make the contractor liable for terminating the contract and forfeiting Security deposit and en-cashing the performance guarantee.

Clause 7 of Standard General Conditions of Contract (Part-II) clearly specify that 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 Railway. Any breach of this condition shall entitle the Railway to rescind the contract under Clause 62 of GCC 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. The permitted subletting 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.

- 33. Accidents:** The Bidder shall indemnify and keep the Purchaser/Consignee Indemnified and harmless against all actions, suits, claims, demands, costs, charges or expenses arising in connection with any death or injury sustained by any person or persons within the Railway premises and any loss or damage to Railway property sustained due to the acts or omission of the Bidder's his agents or his staff during the execution of this contract irrespective of whether such liability arises under the Workman's Compensation act, or Fatal Accident Act or Factory Act or Payment of Wages Act or any other statute in force for the time being. Railway will not be responsible for any accident (fatal or non-fatal) or injury to any personnel of the contractor or any financial implications, arising there upon.

In case of Injury or accidents/deaths of contractor staff, the full responsibility, and all consequences thereof, shall lie with the contractor only. The Railways shall pay no compensation whatsoever in this regard. Any litigation or any law-and-order problems arising due to accidents or deaths shall be the total responsibility of the contractor. The Railway shall not bear any responsibility and the Railway will not pay any compensations.

34. Additional conditions / precautions:

- a. When the work required to be carrying out on the track itself or as close to the track as may pose a hazard to rail traffic. The work shall be carried out under the supervision of an authorized Railway representative only.
- b. During the execution of the works, the contractor or his representative shall not leave the site where the works are being carried out. At the site of work the contractor shall always make available one representative who shall be approved by Railway administration who shall be invested with adequate powers by the contractor so that orders or instructions given to the said representative by the Railway Administration in writing could be considered as duly given or conveyed to the contractor himself. Representative of the Railway will check up the work from time to time.
- c. Whenever the cable route is extremely near or over the embankment due to non-availability of space, the route marking shall be given in consultation with Railway Civil Engineering Officials. In these stretches the contractor shall complete the work in minimum possible time.
- d. The progress of trenching, availability of cable, bricks, pipes etc. shall be closely coordinated to ensure that the trenches remain open for minimum possible time.
- e. Whenever the track crossing is to be done, the same shall be done in least possible

time in the presence of Railway Civil Engineering representative.

- f. The contractor shall not allow any road vehicle belonging to him or his suppliers etc. to ply in Railway land next to the running line. If permitted by Railway Administration for execution of certain works such as supply of ballast, sand etc. the following precautions must be taken by the contractor in the presence of Rly. representative.
 - i) The road vehicles will ply only between sunrise and sunset.
 - ii) Nominated vehicle and drivers will be utilized for work in the presence of at least one flagman and one supervisor certified for such work.
 - iii) The vehicles shall ply 6.0 Mtrs. Clear track. Any movement/work at less than 6 Mtrs. And up to minimum 3 Mtrs. Clear of track centre shall be done only in the presence of Rly. Employee authorized by Engineer-in-charge. No part of the road vehicle allowed at less than 3.5 Mtrs. from the track center.
 - iv) The contractor shall remain fully responsible for ensuring safety and in case of any accident, shall bear cost of all damages to his equipment and men and also damages to Railway and its passengers.
- g. Vehicles and equipment of contractors can be drafted by Railway Administration in case of accidents / natural calamities involving human lives.
- h. It shall be the responsibility of the contractor to keep in safe custody, any railway materials, plant or equipment issued for the work.
- i. Within the station premises and especially on passenger platforms the contractor shall ensure sufficient free space for movement of passenger traffic. He must cover and protect the excavations carried out in such areas with a view to avoid any accidents.
- j. The works must be carried out most carefully in such a way that they do not hinder the Railway operation except as agreed to by the Railway.
- k. The contractor shall abide by the Indian Electricity Act and the Indian Electricity Rules as amended from time to time. When not in use, no electrical apparatus which is liable to be a source of danger shall remain electrically charged.

35. IMPORTANT NOTE: During execution of work, the Bidder should assess the variation in quantity of items if any and should obtain prior approval of Senior Divisional Electrical Engineer through the Railway engineer at site.

Bidder(s) shall go through the above particulars, instructions fully and understand and accept. He/She/They is/are bound by all the conditions referred

in above.

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SCHEDULE OF RATES

Tender No. NED-E-12-2026-27

Schedule A-Setting up of Quick Watering Arrangements System at Amanwadi Station-Electrical Arrangements.

S.No	Description of Work	Qty	Unit	Rate	Total
1	Supply, installation, testing and commissioning of Pump sets of 60 HP/45KH (1 set=3 no's) each along with IE 3 Electric Motor). Motor & Pump should be of standard manufacturer such as M/s Kirloskar or similar Positive suction and discharge capacity of 320 m ³ /hr. with minimum 35 meter head.	1	Set	812634.00	812634.00
2	Supply, fixing and installation of Common Skid Mounting for Pump set	1	Nos	84028.00	84028.00
3	Supply, fabrication and erection of MS Fabricated Suction manifold of 500 mms suitable for 3 no's of 60 hp pump sets for quick watering facility including fitment work.	1	Nos	106140.00	106140.00
4	Supply, fabrication and erection of MS Fabricated Delivery manifold of 500mm suitable for 3 no's of 60 hp pump sets for quick watering facility including fitment work as per applicable standard IS specifications	1	Nos	106141.00	106141.00
5	Supply, installation , testing and commissioning of 200 mm Basket type in line Strainer for pump sets. Make: ZOLOTO/AUDCO/L&T/NVR	3	Nos	73206.00	219618.00
6	Supply, installation, testing and commissioning of Non return valve 150 mm. Make: ZOLOTO/AUDCO/L&T/NVR	3	Set	13629.00	40887.00
7	Supply, fixing, testing and commissioning of On Line Flow meter 400 NB Make: ABB/E&H/Emmeson	1	Nos	486475.00	486475.00
8	Supply, fixing, testing and commissioning of On Line Flow meter 200 NB Make:ABB/E&H/Emmeson	2	Nos	309575.00	619150.00
9	Supply, fixing, testing and commissioning of Electrical Operated solenoid Valve 400 mm with CI bolt, SS304 Disc Make: Sude Engg/Maarck/KOR India	1	Nos	486475.00	486475.00
10	Supply, fixing, testing and commissioning of Electrical Operated solenoid Valve 200 mm with CI bolt, SS304 Disc Make: Sude Engg/Maarck/KOR India	2	Nos	309575.00	619150.00
11	Supply, installation, testing and commissioning of Suction Pressure Transducer and Pressure Gauges With Fittings	1	Nos	27711.00	27711.00
12	Supply, installation, testing and commissioning of Delivery Pressure Transducer and Pressure Gauges With Fittings	1	Nos	27711.00	27711.00

13	Supply and running of 1.5 sq.mm 6core copper cable for controls of flowmeter and Auto Valves	800	Mtrs	110.00	88000.00
14	Supply, fixing, testing and commissioning of Hydro Pneumatic Tank With Fittings	1	Nos	54768.00	54768.00
15	Design, install, testing and commissioning of SCADA for 500 Tab data analysis including of desk top PC,LED display 32"" Keyboard, printer and licensed viewing system for Two integrated remote installed office PCs through team viewer through internet connection and allied accessories complete all as specified and as directed for controlling pumps and all electrical operated values.	1	Job	457324.00	457324.00
16	Supply, installation and commissioning of 2 KVA UPS with back up of minimum 2 hr.	1	Nos	153947.00	153947.00
17	Supply, erection, testing and commissioning of all material, excavation, and casting of cement concrete foundation/ concreting in ratio1:3:6.	8	cum	5846.00	46768.00
18	Supply, transportation, installation, testing and commissioning of 250 KVA DG set 3 phase with AFM control panel with CPCB -IV + compliance and Specification as per model No : M250DR of mahendra powerol or its equivalent	1	Nos	3146666.00	3146666.00
19	"Supply, running and connecting of 4 core 16 sq.mm. PVC insulated and PVC Round Sheathed, Multicore Annealed Bare Copper Conductor (flexible) industrial cable for Voltage Grade 1100 Volt, Conforming to IS694 : 2010 or its latest amendment."	150	Mtrs	1107.00	166050.00

20	<p>Control panel with inclusion of the following (i) Design, fabrication, transportation, supply, erection and commissioning of LT cubical panel 3 phase and neutral 415 V, 4 wire, free standing floor mounted, LT panel made up of 14 SWG CRCA (Cold rolled Carbon Annealed) sheet after seven tank process and painting with EPOXY powder coating. TPN (Triple Pole Neutral) tinned copper bus bar supported with DMC/AMC barriers and colour coded with heat shrinkable sleeves. The metering shall be provided as specified. The panel shall have short circuit with standing capacity of minimum 50 KA (RMS) power frequency test and consist of the switch gear as mentioned below. The panel shall be mounted on channels including supply and fixing as per specification. The complete work has to be carried out by the contractor including masonry work after execution, all the feeder cables have to be connected to new panel with suitable cable hands as per the requirement of the Engineer at site. Air condition provision is to be made for entire control panel. Control panel should have microprocessor type PLC based with dedicated VFD for each pump(60 HP capacity) for automatic Smart control panel SCADA enabled suitable for operation of system. The control panel will have protection like-over/under voltage, dry run protection, over/under current, phase reversal protection, single phasing protection. The control panel should be having remote monitoring/control system for operation and observation both through GSM/WIFI based communication. The control panel should be programmed in such a manner so that the VFD can operate upto 110% of total load condition if at any point of time on a multiple pressure variation water flow required. The control panel shall have cascade by pass operation due to failure of drive the pump will operate on direct mode. HMI touch screen display will be on the control panel body for operation. All MCCB's will be microprocessor based The panel should consist of Incomer 400 A Change over switch, 400A microprocessor based MCCB with 50KA Icu=Ics= 100%, 3 no's VFD with 3 no's 100A MCCBs with tinned busbar of 800A(RYBN) as per as per IS 613: 2000 or latest amendment, Program logic controller, HMI and 60KVAR APFC bank with IP 43 protection with appropriate DMC /SMC barriers and colour coded with heat shrinkable sleeves, LT 3 Phase Digital Multifunction energy meter with 3 lines LCD display for measuring all the parameters (Voltage/ Current/Power/ Frequency/power factor/kw/kwh/</p>	1	Nos	1058206.00	1058206.00
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	<p>kvar/kvarh) , Current T/Fs, indication lamps for incoming & outgoing feeders. Support insulators, neutral links, Incoming & outgoing terminals, suitable cable termination glands , grommets,lugs, connecting wires and all other accessories suit with the following switchgear and accessories. The cables should be properly terminated in the switchgears with necessary lugs and all necessary accessories complete. The panel should conform to IS/IEC 61439 in all respects. The LT Control panel should manufactured by CPRI approved manufacturers only.</p>				
21	<p>Fabrication and erection of 14 SWG CRCA sheet steel enclosure of suitable size for outdoor distribution Panel with IP 54 protection, plinth mounted with Double Door, including cutting, bending drilling, welding and revetting etc, complete with cleaning with 7 tank process and painting with EPOXY powder coating including cost and conveyance of all materials and labour charges. The MDBs shall be mounted on suitable required size of CC plinth (CC plinth cost will be paid separately)/ wall mounted and secured with bolts, nuts and washers as advised by Engineer at site. The panel comprising of 1600A tinned Copper Bus Bar RYB & N of same size) as per IS 613: 2000 or latest amendment required shape supported with appropriate DMC / SMC barriers and colour coded with heat shrinkable sleeves, LT 3 Phase Digital Multifunction energy meter with 3 lines LCD display for measuring all the parameters(Voltage/ Current/ Power/Frequency/power factor /kw/kwh/ kvar/kvarh) , Current T/Fs, indication lamps for incoming & outgoing feeders. support insulators,</p>	1	Nos	904672.96	904672.96

<p>neutral links, Incoming & outgoing terminals, suitable cable termination glands , grommets, lugs, connecting wires and all other accessories with the following switchgear and accessories. Suitable busbars has to provided for the incomings of all the MCCB's from main bus bar The cables should be properly terminated in the switchgears with necessary lugs and all necessary accessories complete. The panel should conform to IS/IEC 61439 or its amendment in all respects. The panel should comprise of the following Switchgear:</p> <p>1. Supply and installation of ACB 800 Amps 36KA-2 nos, 2. Supply and installation of on load change over switch of 800A of conforms to IS/IEC:60947-3 or its latest amendments -1 nos, 3. Supply and installation of microprocessor based release; Icu =50KA ; 400A 4 Pole MCCB conform to IEC 60947-2 or latest amendments communication capable for energy management with spreader links (2 sets), phase barriers-2 nos, 4. Supply and installation of 320 A 4P MCCB, 36 KA, Micro processor based adjustable with LSIG protection communication capable conform to IEC 60947-2 or it's equivalent with extended ROM, spreader links(2 sets)-2 nos. 5. Supply and installation of 250 A4P MCCB, 36 KA, Microprocessor based adjustable with LSIG protection communication capable conform to IEC-60947 -2 or its latest amendments model no 4205 39 of legrand make or its equivalent with extended ROM, spreader links (2 sets)-2 nos, 6. Supply and installation of DPX3 160 thermal magnetic based release; Icu = 36KA; 100A 4 Pole MCCB conform to IEC 60947 - 2 or its latest amendments of model no. 4200 95 of legrand make or equivalent make with extended ROM, spreader links (2 sets)-4 no. 7. Supply and installation of DPX3 160 thermal magnetic based release; Icu=36K; 63A 4 Pole MCCB conform to IEC 60947-2 OR ITS LATEST AMENDMENT OF MODEL NO. 4200 93 OF LEGRAND MAKE OR IT'S EQUIVALENT WITH EXTENDED rom, spreaser links (2 sets) -4 nos, 8. Supply and fixing of 40/50/63A A 4P MCB C Curve, 10 KA capacity with necessary connections and all accessories complete-2 nos, 9. Supply and erection of LT 3 phase Digital Multifunction energy meter with 3 lines LCD Display for measuring all the parameters (Voltage/ Current/ Power/ Frequency/power factor/kw/kwh/kvar/kvarh) on existing box panel board-14 sets of 3 nos. The LT control panel should manufactured by CPRI approved manufactures only.</p>				
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22	Supply, Fixing, & Installation Of Open well submersible Pumps. The pump shall be of 20 hp 3 Phase 380V with head range of 9 to 31 MTRS and flow range of 46 to 27 LPS. Pump Material of construction will be as follows: - Pump casing - SS304, pump impeller - SS 30 , Shaft -Duplex Steel . Make- Shakti, Crompton, Texmo.	2	Nos	112619.00	225238.00
23	Supply, Fixing, & Installation Of Fixed Speed smart starter for 20 hp pump (1w+1S) With Auto Cascading, Overvoltage, undervoltage, overload, dry run & other necessary protection. The starter will have gsm communication.	1	Nos	112619.00	112619.00
24	Supply, fixing and Installation of 200 mm M.S Pipe with painting	12	Mtrs	5740.00	68880.00
25	Supply, fixing and Installation of 400 mm M.S Pipe with painting	6	Mtrs	8872.00	53232.00
26	Supply, fixing and installation of MS bends 200 mm	9	Nos	2922.00	26298.00
27	Supply, fixing, testing and commissioning of Butter Fly Valve 200mm	9	Nos	15251.00	137259.00
28	Supply, fixing, testing and commissioning of Butter Fly Valve 400mm with gear gear and handle	1	Nos	60588.00	60588.00
29	Supply, fixing, testing and commissioning of 200mm MS Flange as per standard or exact suit to pipes and fittings	38	Nos	992.00	37696.00
30	Supply, fixing, testing and commissioning of Set of Rubber gasket+ Nuts and bolts for 200 mm Flanges	38	Set	574.00	21812.00
31	Supply, fixing, testing and commissioning of 400mm MS Flange as per standard or exact suit to pipes and fittings.	8	Nos	6262.00	50096.00
32	Supply, fixing, testing and commissioning of Set of Rubber gasket+ Nuts and bolts for 400 mm Flanges.	8	Set	2922.00	23376.00
33	Supply, fixing/connecting of MS/GI/Fabricated Spacers like, Tee, Enlarger, reducer & spool pieces	120	Kg	339.00	40680.00
34	Supply of one computer table, two chairs and one small cupboard	1	Set	30789.00	30789.00
35	Supply and fixing of 20 W LED Tube Light fittings conforming to specification Make: Havells/Syska /Crompton /Bajaj/Surya or similar	10	Each	366.00	3660.00
36	Supply and fixing of 28W 1200mm BLDC Ceiling Fan, BEE 5 star rated with remote control and all connected accessories conforming to class 1 of IS:374/1979 with amts 1 to 6 including labor charges. Make: Gorilla /Havells / CG/Bajaj/Orient or similar	2	No.	2347.00	4694.00
37	Supply and fixing of Ventilating Fans (Exhaust fan) of 4 pole 300 mm sweep size with metallic body with capacitor conforming to IS No.2312/67 (Reaffirmed 2005) complete with louver and all connected	4	No.	2146.00	8584.00

	accessories. Make: Havells/CG/Bajaj/Khaitan or similar				
38	Provision of concealed wiring with two runs of 1.5 Sq, mm 1100 Volts and one run of flexible copper conductor 1.5 Sq, mm 1100 Volts FRLS PVC insulated wires ISI marked (Phase, neutral and earth)(upto 10 meters) in the PVC conduit pipe with 6A flush modular type switch including 2 way switches where ever required, ceiling rose, bulb holder and modular type plate cover to MS switch control box including all labour charges complete for light points, ceiling fans and exhaust fans points cat walk points and ioh service buidling points etc. accessories.	16	Points	743.00	11888.00
39	Supply and run of 2 nos, 2.5 sqmm, 1100 V PVC (FRLS) insulated flexible copper conductor wiresand one run of 1.5 sqmm PVC (FRLS) insulated flexible copper cable for earthing in existing PVC conduit Pipe conforming to IS 1554-part 1.	150	Mtrs	113.00	16950.00
40	Supply and run of 2 nos, 4.0 sq mm, 1100 V PVC (FRLS) insulated flexible copper conductor wiresand one run of 2.5 sqmm PVC (FRLS) insulated flexible copper cable for earthing in existing PVC conduit pipe conforming to IS 1554-part	80	Mtrs	170.00	13600.00
41	Supply and run of 2 nos, 6.0 sqmm, 1100 V PVC (FRLS) insulated flexible copper conductor wiresand one run of 2.5 sqmm PVC (FRLS) insulated flexible copper cable for earthing in existing PVCconduit/Casing and capping pipe.	40	Mtrs	200.00	8000.00
42	Supply and concealed laying of 25 mm dia 2mm thick PVC pipe (ISI MARK) heavy mechanical stress FRLS with all required accessories including masonary work (chipping etc.) and labour charges etc.	220	Mtrs	41.00	9020.00
43	Supply and laying of 32 mm dia 2 mm thick PVC pipe (ISI mark) concealed in roof slab and wall with all required accessories including masonry work(chipping etc.) and labour charges etc (for main tosub mains).	60	Mtrs	63.00	3780.00
44	Supply ,erecting and laying of 4 core 10 sqmm copper cables XLPE insulated, cores laid up, PVC inner sheathed unarmoured 650/1100V grade as per IS 7098(Part 1) 1988.	320	Mtrs	466.00	149120.00
45	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 6 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner. Make: Legrand/Havells/ Schneider/GM/INDOASIAN.	4	No.	288.00	1152.00

46	Supply and erection of modular type 5 pin 6A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete. Make: Legrand/Havells/GMINDOASIAN.	10	No.	121.00	1210.00
47	Supply and erection modular type switch 6/10A ISI mark approved make duly erected on provided plate and box with wiring connections complete. Make:Legrand/Havells/GM /INDOASIAN.	10	Nos	47.00	470.00
48	Supplying and erecting single pole and neutral distribution board (SPNDB) with door surface/flush mounted with 2 ways for incoming and 10 ways for outgoing SP MCB's on iron frame/laminated board as per specification No. SW-SWR/MCBDB Make: Legrand/Havells/L&T.	1	No.	1528.00	1528.00
49	Supply, erection and marking DP MCB 16-32A, 10 kA B/C-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand/Havells/L&T	2	No.	482.00	964.00
50	Supply, erection and marking SP MCB 16-32A, 10 kA B-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand/Havells/L&T	4	No.	180.00	720.00
51	Supply and erection of earth electrode as per the enclosed specification	6	Nos	3574	21444.00
52	Supply and running of 8 SWG GI wire is to be laid for earth continuity.	2800	Mtrs	11.00	30800.00
53	Supply and fixing of 30W 400mm BLDC Wall Mounting Fan,Energy Efficient with remote control and all connected accessories conforming to class 1 of IS: 555/1979 with Amdts. including laborcharges. Make: Gorilla/Havells/CG/Bajaj/Usha	1	No.	3290.00	3290.00
54	Supply, fixing and connecting of 2 pole 2 module 32A 30 mA Lexic RCBOs conforming to IEC 61009-2-1 as advised by the site supervisor with all necessary accessories complete or equivalent make.	1	Nos	5414.00	5414.00
55	Supply and fixing of 40 W LED type weatherproof street light fitting complete with all accessories and conforming to specification no. Make: Bajaj/Havells/ Philips.	6	No.	2516.00	15096.00
56	Supplying and erecting triple pole and neutral distribution board (TPNDB) with door surface/flush mounted with 4 ways for incoming and 12 ways for outgoing SP/TP MCB's on iron frame/laminated board as per specification No. SW-SWR/MCBDB with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner Make: Legrand/Havells/L&T.	9	No.	2512.00	22608

57	Supply, erection and marking TPN MCB 63A, 10 kA C-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand/Havells/L&T	22	No.	1396.00	30712
58	Supply, fixing, connecting and commissioning of Master control 32A TPN MCB as per the direction of the Engineer at site	2	Each	1443.00	2886.00
59	Supply, fixing and connecting of 4pole 63A 100 mA Lexic RCBOs conforming to IEC 61009-1 as advised by the site supervisor with all necessary accessories complete	1	Nos	7969.00	7969.00
60	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 12 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner. Make: Legrand/Havells/ Schneider/ GM/ INDOASIAN	2	No.	485.00	970.00
61	Supply and laying of 4 core 50 sq mm cross linked polyethylene (XLPE) insulated LT UG cable, PVC outer sheathed, armored with galvanized round steel wire or steel strip and with aluminium conductor suitable for rated voltage at 1100 volts grade and conforming to IS:7098(Part-1)/1988 with amdt.no. 1, 2 & 3 (reaffirmed2005) or latest. including supply and fixing of cable lugs,glands and through joints wherever necessary and all other accessories suit with for switchgear and accessories make: Polycab / KEI / Havells / Finecab / Finolex	2200	Mtrs	307.00	675400.00
62	Supply, erecting and laying of HDPE pipe of PE80 grade inPN-4 outer dia of HDPE pipe 63mm (nearest 2" dia) and wall thickness minimum 2.5 mm maximum 2.8 mm with "T" joints, bends, elbows etc. including all other connected accessories. Make: M/s.Sudhakar/ Nagarjunapolymer/Nandi/Plasto	2200	Mtrs	147.00	323400.00
63	Supply,erecting and laying of HDPE pipe of PE80 grade in PN-4 outer dia of HDPE pipe 110mm (nearest 4" dia) and wall thickness minimum 4.1 mm maximum 4.3 mm with "T" joints,bends, elbows etc. including all other connected accessories. Make: M/s.Sudhakar/ Nagarjuna polymer/Nandi/Plasto	500	Mtrs	371.00	185500.00
64	Supply, erecting, laying, connecting, testing and commissioning of 4core 25 mm ² LT XLPE UG Aluminium Cable, 1100 Volts as perIS:7098/Pt.I/1988 or latest including supply and fixing of cable lugs and throughh joints wherever necessary and all other accessories suit with for switchgear and accessories make: Polycab /KEI/Havells/Finecab/Finolex/	100	Mtrs	153.00	15300.00

65	Supply, Installation, Testing and commissioning of maintenance free earthing comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250-micron molecular copper bonded earthing rod of Length 3m along with 25 kg Carbon based environment friendly back fill ground enhancing compound required to fill up the excavated earth with required quantity complete as per RDSO specification No. RDSO/PE/SPEC/PS/0109(Rev.0)-2008.	6	Nos	11422.00	68532.00
66	Supply and fixing of 25 x 3 mm EC grade copper strip for connecting earth terminal to the bus bar in for maintenance earthing as per RDSO specification No. RDSO/PE/SPEC/PS/0109 (Rev.0)-2008 (Amdt. 1) or latest.	40	Mtrs	1212.00	48480.00
67	Supply, laying, connecting, testing and commissioning of 4core 240 mm ² LT XLPE UG Aluminium Cable, 1100 Volts as per IS:7098/Pt. I/1988 or latest make: Polycab/KEI/Havells/Finecab/LS/Gloster or similar.	600	Mtrs	1054.00	632400.00
68	Excavation of cable trench 30 cm wide x 90cm deep in all types of soils for HT/LT UG cable as per specification No. Y/E.cable laying/6/99 annexed.	550	Mtrs	115.00	63250.00
69	Cutting of esphated road/ concrete/ cement/under the track etc., and excavation of cable trench 30 cm wide x90cm deep road etc., for laying of HT/LT UG cable. After laying of cable the trench should be brought to its original position by providing tar/ concrete/ cement as per the site conditions and as per directions of Rly. Engineer.	260	Mtrs	191.00	49660.00
70	Supply, erection, testing and commissioning of vertical type, 5 star energy efficient, ISI marked submersible pump set suitable to operate at duty point of 109 Mtr head approx .and 1.8 LPS discharge approx 5 HP approx., 3-phase motor, 14 stage complete with all accessories suitable as per IS 8034:2002 for 150mm dia borewell and outlet 50 mm dia equivalent to waterman model no: AR01 14 3PC GOLD in	2	Nos	42510	85020.00
71	Supply, Fabrication and fixing and commissioning of pump panel suitable for 5 Hp pump comprising of motor protection circuit breaker, DOL starter, electronic timer, ammeter, voltmeter, pilot lamps and capacitor complete with all other connected accessories	2	Nos	20033	40066.00
72	Supply and running of 3core 4sq.mm. 1100V submersible flat cable conforming to IS:1554	240	Mtrs	204	48960.00
73	Supply and fixing of Non return valves of 50 mm dia (As advised by the site supervisor) with conforming to IS 778 . material of body: brass with all connected accessories complete.	2	Nos	4922	9844.00
74	Supply and fixing of Rope for lifting and lowering of pumps inside the bore.	24	Kgs	161.00	3864.00

75	Provision of 200KVA Transformer and Load extension to 120 KVA as per MSEDCL Estimate.	1	Job	782540.00	782540.00
	Total				14009829.96

Note: 1) Schedule Rates are inclusive of GST.

NOTE ON PRICE SCHEDULE

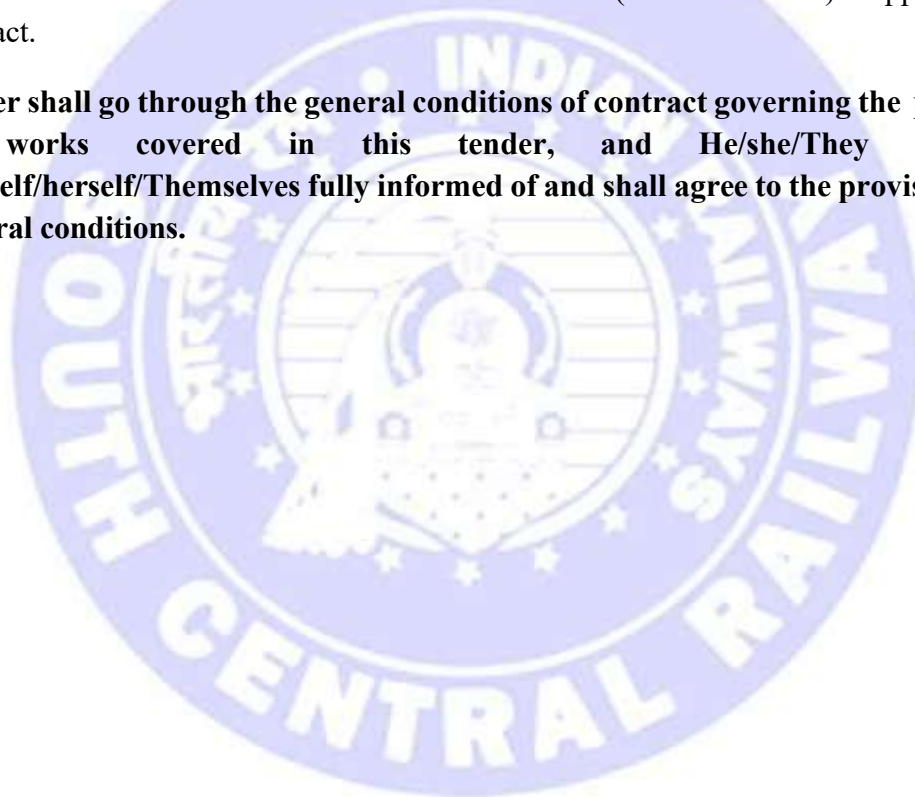
1. The rates shall also be inclusive of accessories, fittings, clamps, supportive pipes, bolts, and nuts etc.
2. The rates quoted shall be NET and firm inclusive of all taxes, duties, transport charges etc. both in figures and words.
3. The tenderers are requested to inspect the site before quoting.
4. The contractors are requested to visit the site before procurement of cables to assess the exact requirement of cables.
5. Tenderers must specifically mention the brands offered and relevant technical details specifications, catalogues etc.
6. The exact locations of the work will be shown by the engineer at site.
7. The contractor at his own cost shall make good any damages during the execution of work.
8. The successful tenderer should submit the sample to Sr. DEE/M/NED and obtain the approval for each item before procuring in lot.
9. All the fittings/equipment/materials shall be provided of preferred makes as mentioned in Schedule. If preferred, make is not mentioned or if contractor wants to supply products of other than preferred make, then a sample with relevant test certificates to be approved by Sr. DEE/M/NED for quality purpose.
10. The contractor shall provide all approved makes/models. However, the samples of all items/technical details etc. covered in the contract are necessarily to be got approved by Sr. Divnl. Elect. Engineer/Asst. Divnl. Elec. Engineer/NED before supplying/execution of work.
11. The work shall be executed as per the directions of the site Engineers of Railways.
12. Earthing arrangements shall be as per Railway specifications/standards.
13. Any doubts on purview of scope of work shall be got clarified personally from Division Executive i.e., Sr. Divl. Elect. Engr./Nanded to get better understanding on scope/essence of the contract.

Tenderer shall agree to abide by the extant rules and regulations of Railways, stipulated general conditions of the contract and the rules laid down in special conditions of the contract.

GENERAL CONDITIONS OF CONTRACT

1. “The General Conditions of Contract” governing the performance of the works covered by this tender “Standard General Conditions of Contract in use in General in the South- Central Railway “as amended from time to time” is applicable. The copy of the booklet incorporating above general conditions of the contract may be verified from the office of the Senior Divisional Elec. Engineer/Maintenance/Nanded Division, South central Railway at DRM Complex, Sanghvi Naka, Nanded, Maharashtra.
2. By submission of this letter, it would be deemed that the Bidder has kept himself fully informed of the provisions of the General Conditions of Contract including all corrections and amendments issued up to the date of tender notice.
3. Railway Board vide their letter No. 2022/CE-I/CT/GCC-2022/Policy dated 27-04-2022 has issued Amendment to General Conditions of Contract (works contracts) is applicable to this contract.

Bidder shall go through the general conditions of contract governing the performance of works covered in this tender, and He/she/They shall keep himself/herself/Themselves fully informed of and shall agree to the provisions of these general conditions.



INSPECTION OF ITEMS

I) List of items identified for inspection of RITES irrespective of Value

S. No.	Item
1.	D. G. Sets above 10 KVA capacity
2.	Transformers for substations
3.	Outdoor 11 kV/ 33 kV Circuit Breakers
4.	Solar PV panel above 1 KWp
5.	Package Substation
6.	Hybrid Solar PV & wind system
7.	Escalators and Elevators
8.	Modular chilled water coolers
9.	Portals for lighting purpose
10.	CLS panels
11.	High Mast towers

II) List of items identified for more than ₹.5 Lakhs for inspection of RITES

S. No.	Item
1	Distribution Boards / Panel boards
2	Sockets/Switches/Concealed or surface GI Boxes/Regulators/Angle holders / ceiling rose
3	LT cables under Rate Contract
4	LT Switch gears/Fuse units/Change over switches
5	RCC spun pipes
6	Cross arms
7	Polycarbonate boxes
8	PVC/metallic conduit pipes, PVC Casing & Capping channels and their accessories
9	Maintenance free earthing materials/GI Pipe earthings/GI Flat earthing
10	Sheet Mould Compound (SMC)/GI/Track lead Junction Boxes
11	Cable trays and associated accessories
12	LV transformers used for distribution purpose
13	Signage Boards
14	Occupancy sensors
15	BD siren
16	Air coolers
17	Hot water geysers
18	Stabilizers / voltage regulators
19	GI ducting/Grills/Dampers/Valves/Pumps/M S pipes etc. related to Chillers/Package units
20	CLS panel Accessories
21	Evaporative air-cooling system
22	Solar water heating systems under Rate contract
23	GI/HDPE/Composite/CPVC pipes
24	T5/MH/CFL/HPSV/Induction/Luminaries and lamps/Electronic ballast
25	PVC Copper/aluminium wires/Flat cables
26	Invertors / Convertors / Solar Charge controllers

27	UPS
28	LED based Luminaries/ Power supply units
29	Water coolers
30	Soft starters
31	Centrifugal /Submersible / Jet / Booster Pumps
32	VVF, VF, VVVF drives
33	HT equipment AB switches / Dropout fuses / LA sets
34	Air conditioners / Curtains
35	Pre-cooling sockets
36	HT cables & LT UG Cables
37	Chillers Plants / Package Units / AHUs
38	Battery Chargers
39	Conical / Swaged poles along with brackets
40	GSM/ GPRS related automation equipment
41	Ceiling / Exhaust / Axial flow fans/ Air circulators
42	Electric Motors
43	Metering equipment
44	Cable termination Kits
45	ACSR Conductor / Insulators
46	Capacitor banks / APFC Panels
47	Power savers / Energy saving equipment
48	AVRs
49	Fire alarm system
50	Lead Acid / Ni-cd/VRLA/SMF type Batteries

NOTE: 1. All other items which are not covered in the list I & II having value above Rs.5 lakhs required RITES inspection.

2. Items costs below 5 lakhs mentioned in the list -II will be inspected by consignee. For consignee inspection, the firm should submit Guarantee/Warranty certificate, Test certificate from OEM.

** ** *

SCOPE OF WORK & SPECIFICATIONS

Name of work: - Setting up of quick watering arrangement system at Amanwadi station - Electrical Arrangements.

Electrical arrangements to Quick watering arrangements for 2 nos hydrant pipe lines from Platform no: 1 to Platform no: 2 at AMW Railway station controlled, monitored and operated through integrated automation - SCADA system comprising of Pump sets, piping and control valves etc. encased in a Pump house Room.

All the scheduled Quick watering work has to be executed as per Final committee report IRCAMTECH/2024/M/C/WATERING/2.0 August' 24 and its amendments and Railway Board Letter no: 96/M(C)/141/77 dated 27-11-2024 or its latest amendments.

Basic Principle:

Flow requirement is varying from 320 m³/hr. minimum to 600m³/hr. Maximum as per CAMTECH report but it is necessary to maintain constant pressure for feeding water to coaches while considering the following points.

- a) Optimum power consumption.
- b) No wastage of water.
- c) Minimum manual interface.
- d) Flexibility of operation on D.G set.
- e) Flexibility of operation in auto and manual mode.

Multiple pumps parallel with speed control to optimize the power consumption in proportion of flow shall be used. Programmable logic control system for automation will be based on header pressure and line pressure sensed by pressure transducers fitted on appropriate location.

The work shall be carried out on turnkey basis such that the parameters to be maintained in the system are:

- a. 3Kg/Cm² Pressure are to be maintained in all the pipe lines at any point of time during coach watering.

This system shall be required to feed 2 hydrant pipe Lines for watering the trains, halting at the Platform no: 1 to Platform no: 2. The amount of water transferred shall be measured through flow meters.

System comprises of the following major components: -

Sl. No.	Title	Purpose	Advantages
1	ON/OFF valves	To allow/disallow the liquid to pass-thru.	Can be controlled via PLC (On/Off position) Hence response time increases, wastage of water decreases etc.,
2	Flow meters	Quantitative measure of liquid passed	The information of how much water is consumed by each train is known. This increases the accuracy of the system.
3	VFD	To control the speed of the pump motor	The pump speed is varied as per our process pressure. This helps us to achieve the aim of the project, power consumed by pumps can be reduced, pump longevity etc., Three pumps to be integrated with VFD with constant discharge and intergraded with SCADA.
4	PLC system	For automating the process	In Automation system, Accuracy & Response of the system can be increased, also the wastage of resources like water & power can be minimized.
5	SCADA, Web Servers	For remote access of the data	The authorized user can access the data at any place at ease.
6	32" LCD Monitors	For viewing the process graphically on line.	For Visual clarity.

Successful Tenderer shall prepare schematic flow diagram & General Arrangement drawing along with the diagram for PLC operation and get approval of Engineer-In-charge or Nominated Engineer's Representative before commissioning the work. Individual designing of system for Purna Station must be on requirements at site keeping in view the above principles.

The Recommended list of materials to be used for the system/Schedules are detailed in Schedule of items.

All the above system is detailed as Schedule of Items is based on CAMTECH report, however any minor variation or change in Design or working of proposed system can be done based on actual site requirements with prior approval of Sr. DEE/M/NED or authorized person. If any small works are to be done, it should be done free of cost duly informing to the Railway supervisor concerned.

GENERAL REQUIREMENTS:

- a. All materials and equipment's shall be new and of best quality confirming to specification.
- b. All Equipment shall be installed on suitable foundations, true to level and in a neat workmanship.
- c. Sufficient clearance to be provided between equipment's during installation.
- d. Piping within the pump house shall be so done as to prevent any obstruction in the movement within the pump house.
- e. All delivery headers/hanging pipes within the pump house shall be floor supported.
- f. Underground pipeline crossing the track shall be provided with casing pipe as per RDSO standards

TECHNICAL SPECIFICATIONS OF CONTRACT

1. ELECTRICAL SAFETY:

- The work is to be done in compliance with the National Electrical Code – 2011 or the latest issued by BIS.
- The work done to comply with the provision of CEA (Measures relating to safety and electric supply) regulation 2010.
- Only items confirming relevant BIS to be used if issued by BIS in compliance of CEA (Measures relating to safety and electric supply) regulation 2010. In case, no specification is mentioned then the contractor is restricted to use the material in conformity with BIS in vogue. In such case contractor is to obtain approval of tender issue authority or Sr. DEE/M/NED in advance.
- Contractor is advised to train / counsel or use only trained workers having the competency to work in the LV system and are aware of electrical safety.

2. PRE-DELIVERY TESTS FOR MATERIALS BY RITES

All individual items of the schedule each costing more than 5.00 Lakhs should be inspected and certified by RITES. Test certificates /inspection certificates shall be submitted to the office of Sr. DEE/M/NED prior to delivery of the materials at site.

3. FINAL TESTING OF THE PUMPING SYSTEM AND SCADA

The Quick watering arrangement comprising the pumping system and the automation system will be tested on physical completion of the work / stages of work to the entire satisfaction of the Engr-

in-Charge.

4. IMPARTING TRAINING TO THE RAILWAY STAFF

A week-long program will be arranged / conducted by the contractor to impart training to the Railway staff /technicians on operation, maintenance and troubleshooting of the SCADA system meeting different parameters of automation in pumping system to the entire satisfaction of the Engr-in-Charge.

5. COACH WATERING INSTALLATION SPECIFICATION:

Item No 1

Supply, installation, testing and commissioning of Pump sets of 60 HP/45KH (1 set=3 no's) each along with IE 3 Electric Motor). Motor & Pump should be of standard manufacturer such as M/s Kirloskar or similar Positive suction and discharge capacity of 320 m³/hr. with minimum 35 meter head..

A. Pumps and Motors

I. Pumps:

Description	Tech. Specification
Pump Make	Kirloskar /CRI/KSB/Crompton Greaves or any BIS approved of respective IS.
Type	Horizontal Split Case Centrifugal Pump
Flow Rate Min	320 M ³ /hr.
Model no	UP 100/38
Head	35 mtrs
Suction Size	200 mm
Delivery Size	150 mm
Suction Head	Flooded (Positive Suction)
NPSHR	3.91 m + 0.5 m
Sp. Gravity	Water Sp.Gr.1
Efficiency of Pump	84.67% (±3%)
Rating	60 HP
Casing	CI
Impeller	BRONZE
Shaft sleeves	CI
Shaft	40C8
Shaft Sealing	Mechanical Seal
Enclosure	TEFC
Other Part of pump Material	As per Manufacture.

RTES inspection certificate for pumps to be obtained before delivering to site.

II. Electrical Motor:

Description	Tech. Specification
Manufacturer	Kirloskar /CRI/KSB/Crompton Greaves /KBL/ABB/Siemens
Power	60 HP
Type	3-phase TEFC SCR Induction Motor, High efficiency.
Voltage	415V (±10%)
Type	Squirrel cage (SER)
Frequency	50±5%Hz.
Combined Variation	±10% (Absolute SUM)
Rating	Continuous.
Insulation	Class “F” with class “B” Temp rise.
Ambient	50°C
Temp. Rise	70°C
Degree of Protection	IP 55
Frame size	As per Manufacture.
FL RPM	1475.
Efficiency	IE3.

i. Variable speed Hydro-Booster system for water Supply:

- The packaged water booster pump system shall be a standard product of a **single pump manufacturer. The manufacturer of the packaged pump system shall also be the manufacturer of the pumps. “One of a kind” packaged (assembled) pump system shall be considered equal.**
- The packaged water booster pump system shall use advanced variable frequency drive and dedicated electronic pump controller to maintain a constant water pressure of 3 to 3.4 Bar to a maximum flow of 540 to 600m³/hr. Max supply pressure shall be 3 Bar (Positive Pressure).

ii. Horizontal Split Case Centrifugal Pumps:

- a. The contractor shall furnish and install pumps as outlined on the equipment schedule and described in these specifications.
- b. Pumps shall be of a single stage double suction horizontal split case centrifugal pump(s) or equal, designed to deliver the scheduled flow rate (in LPS), the specified total dynamic head (in m), at the scheduled efficiency and scheduled speed (RPM).
- c. To ensure maximum efficient throughout the operating range, the proposed pumps duty point shall be as close as possible to the pump BEP.
- d. The efficiency curves of the proposed pumps shall have broad bands characteristic.
- e. To ensure cavitation-free operation, each pump's net positive suction head (NPSH) requirement must be low enough to permit stable, continuous operation at 120% or greater of best efficiency

point.

- f. Each Pump shall be factory tested hydrostatically as per hydraulic Institute (HI) standards.
- g. It shall then be thoroughly cleaned and painted with at least one layer of primer and follow with finishing coats prior to shipment.

iii. Pumps Installation:

- a. Pump and motor shall be pre-aligned at the factory by the manufacturer. The contractor shall realign the pump and motor at site before start up.
- b. Alignment limits shall be according to the standards of the Hydraulic Institute or manufacturer's recommendation and shall be carried out with laser alignment tools or dial gauges.
- c. Site realignment shall be carried out after grouting of base, connection of piping; system and pump casing completely bleed and filled with pumping fluid.
- d. If pump sets are installed on inertia base, it shall be properly levelled by adjusting the vibration isolation dampers below the inertia block.
- e. The contractor shall ensure that the pumps foundation / inertia blocks are accurately sized; the pump set seating face shall be properly levelled. Pump set shall be properly installed and bolted in position by anchor bolts.
- f. Piping connected to the pump's flanges must be properly aligned, free of stresses and forces.
- g. The contractor shall ensure that pumps submitted will meet the design flow, head and efficiencies as outlined in the equipment schedule.

Motor & Variable frequency drive:

- The motors shall be totally enclosed fan cooled (TEFC) type, class F insulation, 4 pole, efficiency class "IE-3", should be a NEMA standard motor. Drive-end motor bearings shall be designed to absorb thrust and shall be adequately sized to ensure long motor life.
- The variable frequency drive enclosure shall include dry-contact fault- output relay contacts along with analog and digital inputs. The motor shall detect/protect itself against under voltage, over voltage, excessive temperature, and set-point signal fault.

B. Other Accessories:

Item No: 2,5,6,27,28

Supply, fixing and installation of Common Skid Mounting For Pump set.

Supply, fixing, testing and commissioning of Butter Fly Valve 200mm.

Supply, fixing, testing and commissioning of Non return Valve 150 mm.

Supply, fixing, testing and commissioning of Butter Fly Valve 400mm with gear and handle

Supply, installation, testing and commissioning of 200 mm Basket type in line Strainer for pump sets.

Description	Tech. Specification
BASE PLATE	M.S. Fabrication with drip tray arrangements on Common skid mounting.
Coupling Guard	M.S. Fabricated.
Coupling	Love Joy Tyre.
Set of Foundation Bolts	Fabricated/KOR
Strainer	Fabricated/KOR
Valves	As per site requirement.
Sluice Valve	KBL/KSB/Leader/L&T/KOR
NRV	KBL/KSB/Leader/L&T/KOR
Pressure gauge and piping.	Standard.

Technical Specifications for Valves and Strainers cable

Following valves should be installed as per the specifications:

- To avoid wastage of water and to maintain pressure in main distribution pipeline, solenoid operated valves shall be provided along with timer at individual connection or one solenoid operated valve with timer at starting point of distribution main.
- Maintenance and for regulation of flow, manual valve (dummy) in parallel to automatic Valve.
- Sluice valves, butterfly valves and non-return valves in pump house.
- Valves for isolation in feeder line before branching for maintenance purpose.

Non return check valves

They shall be provided delivery side of each pump and size as per recommendation of pump manufacturer. The valve shall be designed in such a manner to effect non slam closure. The valve must be energy efficient with low pressure drop across the valve. To substantiate this CV values and pressure drop.

Material of construction.

Body	Cast iron
Disc with hinge pin	Cast iron
Sealing	Nitrile "O" ring
Bypass	valve
Make	KSB/Kirloskar/, Audco /KOR

Working pressure	10 AND 16 kg / cm ²
Body & seat Pressure	As per IS Code

Marking

- IS/B.S. Certification mark
- Manufacturer's name trademark
- Nominal pressure
- Size of valve

Basket strainer

They shall be provided on suction side, Size as per recommendation of pump manufacturer T type having both side flanged ends, should work for clear water having turbidity to 5000 ppm and temp ambient. Strainer shall be confirming to BS: 5154/IS 13090 with latest amendments. The size of Strainer shall be as per manufacturer recommendation or designed by contractor as per suction pipe size. The Strainer shall with stand test pressure of 6 kg/cm² and. Contractors shall provide test certificate for each Strainer. Material of construction: Body M.S. Fabricated and strainer bucket of S.S./Bronze. Size : FROM 100 mm to 400 mm.

Item No 20

Control panel with inclusion of the following (i) Design, fabrication, transportation, supply, erection and commissioning of LT cubical panel 3 phase and neutral 415 V, 4 wire, free standing floor mounted, LT panel made up of 14 SWG CRCA (Cold rolled Carbon Annealed) sheet after seven tank process and painting with EPOXY powder coating. TPN (Triple Pole Neutral) tinned copper bus bar supported with DMC/AMC barriers and colour coded with heat shrinkable sleeves. The metering shall be provided as specified. The panel shall have short circuit with standing capacity of minimum 50 KA (RMS) power frequency test and consist of the switch gear as mentioned below. The panel shall be mounted on channels including supply and fixing as per specification. The complete work has to be carried out by the contractor including masonry work after execution, all the feeder cables have to be connected to new panel with suitable cable hands as per the requirement of the Engineer at site. Air condition provision is to be made for entire control panel. Control panel should have microprocessor type PLC based with dedicated VFD for each pump(60 HP capacity) for automatic Smart control panel SCADA enabled suitable for operation of system. The control panel will have protection like-over/under voltage, dry run protection, over/under current, phase reversal protection, single phasing protection. The control panel should be having remote monitoring/control system for operation and observation both through GSM/WIFI based communication. The control panel should be programmed in such a manner so that the VFD can operate up to 110% of total load condition if at any point of time on a multiple pressure variation water flow required. The control panel shall have cascade by pass operation due to failure of drive the pump will operate on direct mode. HMI touch screen display will be on the control panel body for operation. All MCCB's will be microprocessor based The panel should consist of Incomer 400 A Change over switch, 400A microprocessor based MCCB with 50KA Icu=Ics= 100%, 3 no's VFD with 3 no's 100A MCCBs with tinned busbar of 800A(RYBN) as per as per IS 613: 2000 or latest amendment, Program logic controller, HMI and 60KVAR APFC bank with IP 43 protection with appropriate DMC /SMC barriers and colour coded with heat shrinkable sleeves, LT 3 Phase Digital Multifunction energy meter with 3 lines LCD display for measuring all the parameters (Voltage/ Current/Power/ Frequency/power factor/kw/kwh/ kvar/kvarh) , Current T/Fs, indication lamps for incoming & outgoing feeders. Support insulators, neutral links, Incoming & outgoing terminals, suitable cable termination glands, grommets, lugs, connecting wires and all other accessories suit with the following switchgear and accessories. The cables should be properly terminated in the switchgears with necessary lugs and all

necessary accessories complete. The panel should conform to IS/IEC 61439 in all respects. The LT Control panel should be manufactured by CPRI approved manufacturers only..

Dedicated Pump Logic Controller

A dedicated pump logic controller shall be a Multi Pump Controller or approved equal. The controller shall have a large graphical display with VGA 240 X 320 pixels. The logic controller shall be modular in design and should be expandable based on the system requirement. The controller should have following minimum communication ports:

- Ethernet port for remote connectivity
- Service port
- IO port for system expandability.

The controller shall operate the pumps to maintain the required system pressure while using minimum energy.

As flow demand begins, one of the pumps will start at low speed. As demand increases, the pump will speed up until it reaches full RPM. At this point the second pump will start. The speed of the first pump will vary until it builds up required system pressure. This sequence will continue for additional pumps.

Pumps will changeover automatically to maintain the system pressure depending on demand, time, and fault.

When flow demand is zero, the system shall shut off. If the system runs continuously, the lead pump shall alternate every 24 hours. If the system includes an optional standby pump, the controller shall exercise the standby pump as a part of the system and equally run the pump as other pumps in the system. The controller shall accept a low-suction pressure or other suction fault input to shut down/protect the system.

Means should be provided for friction loss compensation for increased consumption rate.

- Booster set should incorporate following “Power saving features” as standard.
- Selection of 3 basis set points for pressure relative to time.
- Pipe compensation i.e., Change of set point depending on water consumption.
- Compulsory change of starting of sequence, i.e., Equal operating time for Pump, both for frequency control and ON/OFF regulation.
- Inputs and outputs for external communication.

a. The functions of the Controller should incorporate the following features.

- ☐ Ethernet connectivity for remote monitoring and control
- ☐ Graphical view of the system with status indication of the complete system.
- ☐ Trouble free step by step installation Wizard.
- ☐ Open loop control.
- ☐ On / Off operation at low flow.
- ☐ Automatic cascade control of pumps
- ☐ Selection of switching sequences, automatic pump change and pump priority.
- ☐ Manual Operation.
- ☐ Analog set point influence

- ☐ Friction loss compensation
- ☐ Set point adjustment
- b. The remote control functions should have the following features.**
 - ☐ Control and monitoring of the system from remote location on Ethernet.
 - ☐ Remote system On/ Off – Hardwired Interface
 - ☐ Switching of individual pumps
 - ☐ Remote common alarm – Hardwired interface
 - ☐ Individual pump status through potential free contacts.
- c. The monitoring functions will have the following features.**
 - ☐ Pressure Loop
 - ☐ Pre pressure
 - ☐ Motor protection
 - ☐ Water shortage monitoring
 - ☐ Data of VFD through RS – 485 (Modbus protocol)
- d. Programmable Functions**

The display shall be menu driven for Status indication, Operation, Alarm and Settings. System functions shall be programmable through the display. These programmable menu functions / settings and information shall include, but not be limited to:

 - ☐ Large graphical display with overview of the system including key measuring points.
 - ☐ Backlight display
 - ☐ Menu bar for easy navigation
 - ☐ System information and Status
 - ☐ Control Functions
 - ☐ PI control setting
 - ☐ Setting of alternative set points
 - ☐ Setting of primary Sensor
 - ☐ Setting of Redundant primary sensor
 - ☐ Automatic pump alterations
 - ☐ Automatic cascade control of pumps
 - ☐ Set point adjustment and control
 - ☐ Pump priority
 - ☐ Standby pump designation
 - ☐ Friction Loss Compensation (set point)
 - ☐ System pressure set point
 - ☐ Actual system pressure
 - ☐ System faults
 - ☐ High and low discharge pressure shut-down limit
 - ☐ Analog input for remote set-point control
 - ☐ Digital input for remote stop/start
 - ☐ Data communication for remote control

Log and Statistics.

The system shall be capable of obtaining and logging the valid operation data and statistics such as System performance, Energy consumption, Alarm and Warning Log etc.

e. Automation, Controls and Logic

- a. It is recommended to design running of similar performance pumps in parallel to achieve required flow rate. Back pressure in system will decide what is flow requirement, because pressure is dependent on velocity and velocity is related to flow.
- b. Static head is fixed, and total head will decrease or increase because of flow, as flow is increasing, velocity is increasing, and correspondingly total head will increase.
- c. Total automation will depend on System Pressure therefore it should be planned to provide solenoid operated valves at every distribution branch of 200mm, so system will be leak proof and always filled with water at set pressure, as soon as any valve is opened for a moment, immediately pump will be “on” to fulfill the requirement.
- d. Cycle of operation of pump P1 will attain full speed start delivering a flow of 320 m³/hr and if requirement is not fulfilled then second pump P2 will be on and total flow of 640 m³/hr will be available and still requirement is not fulfilled then third pump P3 will be on but at any state if put together flow is more means system pressure is increasing then speed of pump will be regulated to deliver only required flow.
- e. Real time clock with the help of PLC will decide sequence of P1, P2, P3. It means every time P1 will not start always at first position. Sequencer will maintain operational time of every pump equally.
- f. System parameters must be preset and at the time of commissioning change of parameters if any must be done after verifying the theoretical calculations and site conditions.
- g. Pressure sensors must be provided on header and average reading should decide the requirement of water in total circuit and on its basis number of pumps in operation and speed of pumps should be decided.
- h. Standby pump should be connected in same header and any time we can bring into operation.
- i. Whole system must be any time switched over to manual in case of any fault, if one pump is defective or under maintenance then automatically it should be bypassed by system and next pump should start.

Item No 14

Supply, fixing, testing and commissioning of Hydro Pneumatic Tank with Fittings

A small sized pressure tank (as per the BOQ) to provide for reducing impact of water hammer. Diaphragm pressure tank shall be in MS construction, suitable for 10 bar pressure rating. The tank should have an interchangeable membrane with tiered membrane design and with built – in pressure gauge.

Electrical installation:

a. General:

- ☐ The Contractor staff who is working with Electrical works in this contract, should possess valid competency certificate.

- This section covers the general requirements for electrical work to be installed under this specification.
- The Contractor shall supply and install all electric wiring, switchgear etc., necessary for complete, safe and satisfactory operation of the plant covered by the Specification. All electrical wiring and cables shall be properly tagged to the satisfaction of the Consultant/E-I-C
- All equipment provided shall be 'tropicalized', i.e. designed for use in conditions up to 50°C ambient air temperature and 100% relative humidity.
- All equipment, materials, workmanship and fittings shall comply with the appropriate Indian Standard or Code of Practice as listed in the relevant paragraphs of this Section, or any approved equivalent international standards.

b. Electrical supply:

- The electricity supply shall be 415/240 Volts, 50 Hz, 3 phase, 4 wire. All equipment shall be designed to operate with a $\pm 10\%$ voltage tolerance without a loss of rated output.
- All equipment shall be connected to ensure that the phases are balanced, to the requirements of the local supply authority.

c. Switchboards and switchboard equipment:

i. Motor Control Panel:

- Control panels shall be self-contained, suitable for the location indicated and an operating environment of 50 degree C, built up of enclosed compartments conforming to form 3B as per BS 5486 Part-I: 1990 and IEC 439-1 to preclude fault transference between sections of the switchboard. All the specifications of the panel should comply with IS/IEC 61439.
- Control panels shall be arranged for the maximum safety of personnel. All power wiring and bus bars shall be fully enclosed with isolating and insulating barriers and interlocks provided to ensure maximum safe guards. All switches shall be lockable in both of the 'OFF' or 'ON' positions.
- Control panel shall be of the floor standing, type tested modular design, totally enclosed "dead front" type, consisting of dished front panels and doors built up on an approved substantial mild steel angle or channel frame with no cross-struts, and shall be fitted with removable rear and end panels held in position with six fixing points.
- All panels and doors shall be constructed of best quality, dead-flat CRCA MS sheet not less than 2 mm thick. Neat cutouts shall be provided in dished panels to allow the exposure of circuit breaker escutcheons and toggles, and switch operating handles and indicators only. The edges of all outlets and drilled holes shall be burr free.
- Doors shall be stiffened and provided with metal-based neoprene gaskets and concealed non-ferrous door hinges. Door handles shall be chrome plated and incorporate a barrel type locking mechanism and shaft adjustment for increasing sealing pressure.
- All switches/MCCB shall be provided with mechanical interlocks to prevent any positive access to any equipment inside the cubicle when the switch is in the 'ON' position.

- Dished panels shall be stiffened and held in place with chrome plated castle head nuts attached to fixed studs of not less than 10 mm nominal diameter. All fixing hardware shall be cadmium plated.
- The removable rear panels shall be provided with a pair of handles for easy fixing/removal of the panels.
- Provision shall be made for lifting cubicle switchboards. Eye bolts shall not be used when subjected to shear stresses.
- Adequate provision and space shall be provided for bending and connecting cables, which shall be separated from switch board bus bars.
- All internal small wiring shall be PVC insulated, neatly, bunched and run on supporting cleats or in trunking, colour coded and labeled or sleeved for identification. All switch-board small wiring is to terminate on labeled terminal boards or strips to which external connections are made.
- Insulators, including bus bar supports, shall be non-hygroscopic and non-deteriorating. The use of fibrous materials, linseed oil, varnish, “Press Palin”, etc. is prohibited.
- Low voltage switchboards shall be constructed to withstand a system fault level of 25 KA at 415 volts for 1 second. Low voltage switchboards shall be designed to comply IS:13947-1993.
- Type test certificates, issued by a reputed and independent testing authority such as CPRI certifying the circuit breaker, bus bar and its enclosure shall be submitted for review.
- Ventilating water-proof louvers are to be provided on the sides and back and are to be of approved design with internal dust baffles.
- Where ventilating fans are installed, a low level, filtered air intake shall be provided. The filter shall be removable from outside the switchboard.
- Current transformers shall be mounted without reduction of bus bars or connections and arranged for ease of removal.

ii. Wall Mounted Panel:

- Wall mounted panels with an appropriate rating and number of circuits shall be provided to supply power to plant located throughout the building.
- Panel enclosures are to be fabricated from CRCA sheet metal of minimum 2 mm thickness and finished in enamel of a color to the approval of the Architect. Inside the enclosure door, a circuit chart indicating the number of ways, location of equipment, loading and protection rating shall be fixed.
- All wiring terminations, bus bars, and live parts within the panel board shall be adequately shrouded and an insulating front shield of minimum 1.6 mm thickness shall be provided to completely screen the unit's interior. Only the operating dolly and insulated surround shall project through the shield.
- The units are to be provided with sufficient wiring ways for outgoing circuits at both the top and bottom of the board. Space for future ways shall be provided.

iii. Bus bars:

- All bus bars shall be made of hard drawn high conductivity Copper as per IS 613: 2000 or latest. Conductor conforming to latest standards making and arrangement of the bus bars, connections and auxiliary wiring shall be to relevant Indian Standard. Bus bars shall be insulated with heat shrunk PVCs leaving of 1.1 KV grade and Bus bar joints shall be provided with clip on shrouds.

- Bus bars shall be adequately rated and supported by porcelain or moulded insulators spaced at suitable intervals, the complete assembly being capable of withstanding the maximum mechanical stress to which it may be subjected under fault conditions. Full size neutral bars shall be provided.
- Bus bars shall be so arranged that all conductors can be brought onto the bars without undue bending.
- Conductors between the bus bars and MCCBs or isolators are to be high conductivity aluminium bar having a current rating of not less than that of the switches to which they are connected. The conductors are to be insulated with PVC sheathing and colour coded for phase identification.
- Removable bolted links shall be provided for the accommodation of current transformers for metering and protection facilities without affecting the mechanical and electrical properties of the bus bars as a whole.

iv. Moulded Case Circuit Breakers(MCCBs):

- All Moulded case circuit breakers shall conform to IS: 13947-1993, and be of approved manufacturer throughout the project.
- The body and base of the units are to be moulded and the units are to be sealed after assembly.
- The load handling contacts are to be silver/tungsten and the contacts and operating mechanism so designed as to give a wiping action both at make and break.
- The breaker operating mechanism is to be of the trip-free type so designed to prevent the load handling contacts from closing on a fault.
- The toggle handle shall open and close all poles of a multiple circuit breaker simultaneously. A fault on one pole shall open all poles.
- The MCCBs shall have the fault level rated as per schedule of quantities.
- Circuit protection against overload and fault conditions is to be provided by means of a thermal-magnetic device designed to give thermal operation on overload and magnetic operation under fault conditions.
- The position of the breaker operating dolly is to be clearly indicated for 'ON' and 'OFF'.
- MCCBs shall be suitable for use at temperatures of 50° C Ambient.

v. Miniature Circuit Breaker:

- Single pole or triple pole miniature circuit breakers (MCB) are to be used for sub- circuit protection.
- All MCBs shall conform to IS: 8828-1996. The body and base of the units are to be moulded bakelite or similar material and the units are to be sealed after assembly.
- The load handling contacts are to be silver/tungsten, and the contacts and operating mechanism shall be so designed as to give a wiping action both at make and break.
- The breaker operating mechanism is to be the trip free type. A thermal- magnetic time tripping mechanism is to be included for circuit protection against overload and short circuit. Short circuit level of MCBs shall not be less than 10KA.
- Tripping characteristics of MCBs shall be able to discriminate with upstream breakers.

vi. Isolators:

- All isolators whether mounted in a cubicle type switchboard or separately mounted shall be heavy duty type conforming to the requirements of IS: 13947-1993. All contacts are to be fully shrouded and are to have a breaking capacity on manual operation as required by British Standards.
- Operation of switches shall be independent of the operator's control, with a quick make/quick break action.
- The links for switch are to be high rupturing capacity.
- The category of duty of the main switchboard, sub main switches and cable tee- offs shall be as indicated in the schedules.
- Switches and isolators mounted in cubicle type switch-boards are to be enclosed in separate sheet metal compartments, and mechanical interlocks are to be provided between the cubicle doors and the switch operating mechanisms, so arranged that the cubicle door may not be opened with the switch in the 'ON' position. Similarly, it shall not be possible to close the switch with the cubicle door open, except that provision shall be made within the cubicle for authorized persons to defeat the mechanical inter lock for test purposes, and close the switch with the door in the open position.
- The 'ON' and 'OFF' positions of all switches and isolators shall be clearly indicated by a mechanical flag indicator or similar device.
- In TPN switch units, bolted neutral links are to be fitted. For single pole and neutral switches and isolating switches, the neutral conductor is to be taken through a bolted link.

vii. Contactors:

Contactors or control relays are to be single or triple pole, conforming to IS: 13947- 1993 (part IV Section 3). The rating shall be as noted on the drawing but in any case, shall not be less than 10A or the rating of the circuit, whichever is the greater. All ratings shall be "continuous" and all contacts shall be silver plated. Contactor coils shall operate from the supply provided.

viii. Measuring Instruments and Protection Relays:

- All ammeters and voltmeters for use in conjunction with switch-gear are to be of the moving iron pattern to comply with relevant Indian Standard.
- Unless otherwise specified, all meters are to be 96mm dial square flush pattern with quadrant scales.
- Ammeters with scale deflections greater than 100A installed in the Switch Board shall indicate all phase and neutral currents.
- All ammeters shall have a continuous overload capability of 120% of the upper limit of the scale for two hours. Each ammeter shall be provided with an adjustable red index pointer to indicate the normal full load current.
- Ammeters shall be provided for motors of 5.5KW or larger and they shall be capable of starting current and shall have a compressed overload scale for this purpose. Motor current reading shall be provided on one phase only.
- Voltmeters shall be of accuracy Class 2 and have expanded scales.
- Voltmeters shall be connected to the incoming side of the power supply through 6 ampere MCB's.

- Mechanical zero adjustment shall be provided for voltmeters and ammeters by means of a screw slot at the face of the meters.
- Energy and maximum demand meters shall be installed as specified. Energy meters shall provide a direct, single, digital reading, without the need to apply multiplication factors.
- Earth fault and over current protection relays shall be as specified in the drawings.
- Current transformers for measurement and protection shall be of ring pattern, clamped on readily removable, bolted copper links with accessible terminals.
- Selector switches of the rotary type shall be provided to enable all phase currents and all phase and phase to neutral voltages to be read.
- Instrument MCB shall be mounted on the panel adjacent to their associated instruments.
- All instrument and indicating lamp wiring behind hinged front panels shall be protected by clear acrylic sheets.
- The arrangement, scale deflections and ratios of all instruments and relays shall be approved prior to assembly of the associated switchboard

ix. Labeling:

- All items of equipment on the switch board shall be labeled to indicate function with black Traffolyte labels and white engraved lettering securely fixed with chrome plated screws. Lettering shall be at least 10mm high. Labels to all switches, isolators and the like shall indicate the supply and cable details. All labels shall be approved prior to engraving.
- The use of adhesive labels will not be permitted. All electrical equipment not mounted on the switchboard shall also be labeled as specified above.

x. Time Delays:

Time delays shall be provided to prevent the simultaneous starting of any two motors above 3.5 kW and to prevent short cycling of automatically controlled motors.

xi. Control Switches:

- All control switches shall be of the rotary type of approved manufacturer.
- Each control switch shall be panel mounted and engraved to clearly indicate the equipment controlled or function of the switch.

xii. Indicating Lamps:

- Indicating lamps shall be individual flush mounted units. Lamps shall have chromium plated and polished solid brass body and ring with metallic threaded section and shall be circular in shape of approximately 22 mm diameter.
- Indicating lamps shall be of 240/110 V and rated to withstand not less than 20% continuous over voltage.
- Lamps shall be well ventilated and the design shall permit removal of lamp glasses and bulbs from the front of the unit without the need of any special tool.
- A push button lamp test facility shall be provided for all switchboards. Indicating lamps shall be colour

coded as follows:

Green	- Motor stopped, Circuit breaker OFF	
Amber White	- Supply available, Valve open, Circuit breaker trip	auto
Red	- Motor running, Circuit breaker ON	
Blue	- Valve closed	

xiii. Push Button Switches:

- Push button switches shall comply with and be tested and certified to relevant Indian standard. Electrical rating shall be 500V AC or 250 V DC as appropriate. Push buttons for alarm duty shall be minimum of 2 amp rated Push buttons for control duty shall be 10 amp rated.
- Push buttons shall be individual flush mounted units with metallic chromium plated and polished solid brass body and ring, circular in shape and approximately 20 mm diameter.

Unless specified otherwise, push buttons shall be colour coded as follows:

Green	- Start motor
White	- Open valve
Red	- Stop motor
Blue	- Closed valve
Black	- Reset protection/alarm, lamp test
Yellow	- Accept alarm

xiv. Earth System:

All metal work associated with the switchboard installation not forming part of a phase or neutral circuit shall be bonded together and shall be solidly and effectively earthed through the system provided by the Main Electrical Contractor. Continuous earth bus suitable to withstand prospective short circuit current shall be provided. Hinged doors shall be connected to earth through adequately sized flexible braids. It shall be the responsibility of this Contractor to ensure that adequate means unearthing are provided.

xv. Cabling:

A cabling zone clear of bus bars, switch and circuit breaker chambers shall be provided in such a manner to give minimum difficulty in connecting sub-main cables entering the switchboard for connection to switch units or circuit breakers. The cabling zone shall be fully isolated from any live metal part so that future cabling and alterations can be carried out in complete safety without the necessity of shutting down the complete switchboard.

xvi. Terminal Blocks:

- Terminal blocks for control wiring shall be rated not less than 20 amp and shall clamp the wire securely between two plates secured by a captive screw.
- Terminal blocks shall have easily removable copper links to short circuit adjacent terminals or shall be fitted with suitable holders where required. Pinch screw type terminal blocks will not be acceptable.
- Cables having the same number shall be terminated at adjacent terminals and connected by means of cable links at the terminal block. The incoming cable cores shall be terminated at the lower or outer side of the block, and the outgoing cable cores at the upper or inner side of the terminal block, and cable links on any free side.

- Terminal blocks at different voltage, shall be segregated into groups, distinctively labeled and provided with permanent rigid barriers. Terminals in groups shall have separate non-combustible transparent plastic covers.
- 100% spare terminals shall be provided on each terminal block.

xvii. Wiring Diagrams:

- Prepare construction layouts and functional wiring diagrams of all switchboards, which shall be reviewed prior to commencement of any work thereon.
- The wiring diagrams shall show control circuits separate from main circuits and shall indicate the size of each conductor and the colour, number and/or terminal connection designation of each control conductor.
- Switchboard drawings shall include a schedule of all equipment mounted therein, including make, model, and where applicable, fuse rating and set point of all variable adjusters.
- Circuit diagrams shall be mounted near the switchboard in an approved location and shall be covered with either glass or clear Perspex sheet not less than 3mm thick.

Item No 7, 8, 9, 10

Supply, fixing, testing and commissioning of On Line Flow meter 400 NB Make: ABB/E&H/Emmeson.

Supply, fixing, testing and commissioning of On Line Flow meter 200 NB Make: ABB/E&H/Emmeson.

Supply, fixing, testing and commissioning of Electrical Operated solenoid Valve 400 mm with CI bolt, SS304 Disc Make: Sude Engg/Maarck/KOR India

Supply, fixing, testing and commissioning of Electrical Operated solenoid Valve 200 mm with CI bolt, SS304 Disc Make: Sude Engg/Maarck/KOR India

xviii. Electromagnetic Flow meter:

- This specification covers the design, manufacture, calibration, inspection and testing at the manufacture's works, proper packing for transportation and delivery to site of electronic Flow Meter for use in various applications of raw water, cooling water, Sour water applications.
- **CODES AND STANDARDS**
- The design and manufacture, calibration, inspection and testing of electromagnetic flow meter shall comply with the requirements of the latest issue of the following relevant standards:
 - EN ISO 9001:2008: Quality management System
 - ISO 4064: Measurement of water flow in fully charged closed conduits.
 - EN14154: 2007: Regulation for Water Meters
 - EN61010-1:2020: Safety requirements for electrical equipment for measurement, control and laboratory use
 - EN61326-1:2006: EMC standard for electrical equipment for measurement, control and laboratory use
 - EN13480-3:2007: Pressure equipment's Directive (PED) 97/23/CE
 - 2006/95/CE: Low Voltage Directive
 - 2004/108/CE: Electromagnetic Compatibility Directive
 - ISO 20456:2017: Guidance for the use of electromagnetic flowmeters for conductive liquids

- ISO 17025:2017: General requirements for the competence of testing and calibration laboratories.
- **TECHNICAL REQUIREMENT:** The Electromagnetic Flow meters and the accessories shall be suitable for continuous operation under an ambient temperature of 0 to 55 Deg C for Transmitter and (-) 20 to 100 Deg C for Transducer and Relative Humidity of 5 – 100%.
- **SENSOR:**
 - The metering tube design shall be full bore flanged type with pulsed DC electromagnetic and fully welded maintenance free sensor.
 - Bidder shall design flowmeter as per 200MM/ 400MM line size. Design of flowmeter lower than line size with suitable reducer and expander.
 - The flow meter housing shall be minimum Carbon steel welded coil housing Hermetically sealed for Zero leakage
- **Transmitter:**
 - Bidder shall consider mounting of Transmitter shall be remote only. Integral type transmitter shall not be acceptable. The length of the cable shall be minimum 10 meter and shall be provided by bidder.
 - Bidder shall consider microprocessor based transmitter with facility of user configurable for ranges. The transmitter shall be equipped with graphic LC display.
 - Bidder shall select electromagnetic flowmeter having ingress protection rating IP66 at least.
- **Calibration of Flowmeter:**
 - Bidder shall perform the calibration of all the flowmeter in calibration rig accredited according to ISO 17025:2017 or latest and also the calibration rig shall be accredited to NABL or any other international traceability. Bidder must submit ISO compliance and NABL/international traceability accreditation certification for the calibration rig.
 - Bidder shall perform 100% wet calibration of all flowmeter as per ISO standard. Bidder must submit all calibration report prior to dispatch of flowmeters.

Makes: Forbes Marshall Pvt. Ltd, Toshniwal Instruments Pvt. Ltd. (TIPL), Yokogawa India Ltd, Siemens India Ltd, ABB India Ltd, Manas Microsystems Pvt. Ltd., L&T Valves Limited, Apollo Flow Controls, Electromagnetic Flowmeters India Pvt. Ltd Bell Flow Systems India.

Item No 3,4,24,25,26,29,31

Supply, fabrication and erection of MS Fabricated Suction manifold of 500 mms suitable for 3 no's of 60 hp pump sets for quick watering facility including fitment work.

Supply, fabrication and erection of MS Fabricated Delivery manifold of 500 mm suitable for 3 no's of 60 hp pump sets for quick watering facility including fitment work as per applicable standard IS specifications.

Supply, fixing and Installation of 200 mm M.S Pipe with painting.

Supply, fixing and Installation of 400 mm M.S Pipe with painting.

Supply, fixing and installation of MS bends 200 mm.

Supply, fixing, testing and commissioning of 200mm MS Flanges as per standard or exact suit to pipes and fittings.

Supply, fixing, testing and commissioning of 400mm MS Flanges as per standard or exact suit to pipes and fittings.

Piping.

- Scope of piping is limited to the pumping installation.
- Size of all above piping is dependent on required parameters worked out on the basis of rate of flow at maximum demand and the pressure at the pumping system.
- Pipes used should be as per the following specifications:
- MS pipe should be 'C' class duly fabricated with all fittings must be red oxide coated and finally enamel painted in suitable colours.
- Suction and delivery headers for each pumping system shall be measured per linear meter of finished length and shall include all items as given in the Bill of Quantities. Painting shall be measured per linear meter.
- MS. pipes between various equipment's shall be measured per linear meter of the finished length and shall include all fittings, flanges, jointing, clamps for fixing to walls or hangers and testing. Flanges shall include 3 mm thick insertion rubber gasket, nuts, bolts and testing. Vibration eliminators, "Y" strainers, butterfly valves, slim non return valves shall be measured by numbers and shall include all items as given in the Bill of Quantities and specifications.

Item No 30

Supply, fixing, testing and commissioning of Set of Rubber gasket + Nuts and bolts for 200 mm Flanges

Item No 32

Supply, fixing, testing and commissioning of Set of Rubber gasket + Nuts and bolts for 400 mm Flanges

Item No 13

Supply and running of 1.5 sq.mm 6 core copper cable for controls of flow meter and Auto Valves

Item No 16

Supply, installation and commissioning of 2 KVA UPS with back up of minimum 2 hr.

Item No 15

Design, install, testing and commissioning of SCADA for 500 Tab data analysis including of desk top PC, LED display 32" Keyboard, printer and licensed viewing system for Two integrated remote installed office PCs through team viewer through internet connection and allied accessories complete all as specified and as directed for controlling pumps and all electrical operated values.

Item No 11

Supply, installation, testing and commissioning of Suction Pressure Transducer and Pressure Gauges with Fittings

Item No 12

Supply, installation, testing and commissioning of Delivery Pressure Transducer and Pressure Gauges with Fittings

Item No 33

Supply, fixing/connecting of MS/GI/Fabricated Spacers like, Tee, Enlarger, reducer & spool pieces.

Item No 34

Supply of One computer table, two chairs and one small cupboard.

Item No 22 & 23

Supply, Fixing, & Installation of Open well submersible Pumps. The pump shall be of 20 hp 3 Phase 380 V with head range of 9 to 31 MTRS and flow range of 46 to 27 LPS. Pump Material of construction will be as follows: - Pump casing - SS304, pump impeller - SS 30 , Shaft -Duplex Steel. Make- Shakti, Crompton, Texmo

Supply, Fixing, & Installation of Fixed Speed smart starter for 20 hp pump (1w+1S) With Auto Cascading, Over voltage, under voltage, overload, dry run & other necessary protection. The starter will have gsm communication.

Starters:

- Contactors used in starters shall be of Class AC3 type provided with silver alloy contacts. Auxiliary contacts shall be provided to facilitate the connection of interlocks, status indication and auxiliary controls. Unless explicitly described, a minimum of one normally open and one normally closed contact shall be provided.
- Each starter shall be completed with protection incorporating the following features:
- Overload protection in each supply phase adjustable from 80 to 120 % of full rated load.
- Manual reset
- Phase failure protection
- Ambient temperature compensation
- An auxiliary contact to signal an overload condition.
- Contactors or complete starters not mounted in switchboards shall be contained in metal or approved plastic enclosures with conduit entries, shrouded “stop” and “start”
- push buttons and a manual “reset” button, which may be combined with the “stop” button.
- Generally, reduced voltage starters of the following type shall be selected: -
- Motors from 5.5 kW to 150 KW Star delta. Motors in excess of 29KW
- Each starter of the open transition “Star-Delta” (OT.SD) type shall include the following:

- One (1) main-line contactor suitably rated for the motor.
- Star and Delta configuration contactors suitably rated for the motor, mechanically and electrically interlocked to prevent simultaneous operation.
- One (1) triple pole overload relay meeting the requirements as specified previously in this clause under ‘Generally’.
- One (1) approved time delay relay, with at least 0-30 second adjustable time delay period, to control the star to delta switching contactors.
- Closed transition reduced voltage starters shall be approved type and manufacture and shall be capable of starting the motor from stopped to full load speed without interruption and in such a manner that the torque developed by the motor increases as uniformly as practicable during the whole starting sequence.

Closed Transition “Star-Delta” Starters (CT. SD)

Each starter of this type shall include the following equipment: -

- The equipment as specified in Clause “Open Transition Star-Delta Starters (OT.SD)”.
- A suitably rated transition resistance bank such as to allow approximately full load supply current when in circuit prior to opening of the star point. The short time rating of the resistors shall also be considered in relation to the length of their “in circuit” requirements.
- A transition contactor suitably rated to facilitate connection of the resistance bank during the transition period.
- Any additional auxiliary contacts, timers, etc. required for the transition sequencing operation.

Item No 17

Supply, erection, testing and commissioning of all material, excavation, and casting of cement concrete foundation/ concreting in ratio 1:3:6.

Item No 35

Supply and fixing of 20 W LED Tube Light fittings conforming to specification Make: Havells/Syska /Crompton /Bajaj/Surya

Item No 36

Supply and fixing of 28W 1200 mm BLDC Ceiling Fan, BEE 5 star rated with remote control and all connected accessories conforming to class 1 of IS:374/1979 withamdts1 to 6 including labor charges. Make: Gorilla/Havells/ CG/Bajaj/Orient or similar.

Item No 37

Supply and fixing of Ventilating Fans (Exhaust fan) of 4 pole 300 mm sweep size with metallic body with capacitor conforming to IS No.2312/67 (Reaffirmed 2005) complete with louver and all connected accessories. Make: Havells/CG/Bajaj/Khaitan or similar

Item No 38

Provision of concealed wiring with two runs of 1.5 Sq mm 1100 Volts and one run of flexible copper conductor 1.5 Sq, mm 1100 Volts FRLS PVC insulated wires ISI marked (Phase, neutral and earth)(up to 10 meters) in the PVC conduit pipe with 6A flush modular type switch including 2 way switches where ever required, ceiling rose, bulb holder and modular type plate cover to MS switch control box including all labour charges complete for light points, ceiling fans and

exhaust fans points cat walk points and ioh service buidling points etc. accessories..

Item No 39

Supply and run of 2 nos, 2.5 sq mm, 1100 V PVC (FRLS) insulated flexible copper conductor wires and one run of 1.5 sq mm PVC (FRLS) insulated flexible copper cable for earthing in existing PVC conduit Pipe conforming to IS 1554-part 1.

Item No 40-44

Supply and run of 2 nos, 4.0 sq mm, 1100 V PVC (FRLS) insulated flexible copper conductor wires and one run of 2.5 sq mm PVC (FRLS) insulated flexible copper cable for earthing in existing PVC conduit pipe conforming to IS 1554-part.

Supply and run of 2 nos, 6.0 sq mm, 1100 V PVC (FRLS) insulated flexible copper conductor wires and one run of 2.5 sq mm PVC (FRLS) insulated flexible copper cable for earthing in existing PVC conduit/Casing and capping pipe.

Supply and concealed laying of 25 mm dia 2mm thick PVC pipe (ISI MARK) heavy mechanical stress FRLS with all required accessories including masonry work (chipping etc.) and labour charges etc.

Supply and laying of 32 mm dia 2 mm thick PVC pipe (ISI mark) concealed in roof slab and wall with all required accessories including masonry work(chipping etc.) and labour charges etc (for main to sub mains).

Supply ,erecting and laying of 4 core 10 sq mm copper cables XLPE insulated, cores laid up, PVC inner sheathed unarmored 650/1100V grade as per IS 7098(Part 1) 1988.

Item No 45-47

Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 6 module duly erected flush to wall with required chiseling and finishing with cement mortar/ POP as per required to match the back ground in an approved manner. Make: Legrand/Havells/ Schneider/GM/INDO ASIAN.

Supply and erection of modular type 5 pin 6A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete. Make: Legrand/Havells/GM/Indoasian

Supply and erection modular type switch 6/10A ISI mark approved make duly erected on provided plate and box with wiring connections complete. Make: Legrand/Havells/ GM/ Indoasian

Item No 48

Supplying and erecting single pole and neutral distribution board (SPNDB), with 2ways for

incoming and 10 ways (10 poles)for outgoing SP MCBs, with door, 1.2mmthickness surface / flush mounted, IP 43Protection on iron / GI frame as per specification no. SW-SWR/MCBDB Make: Legrand/Havells/L&T/ Indoasian

Item No 49-50

Supply, erection and marking DP MCB 16-32A, 10 kA B-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand/Havells/ L&T/Indoasian

Supply, erection and marking SP MCB 16-32A, 10 kA B-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand /Havells/L&T/ Indoasian

Item No 51

Supply and erection of earth electrode as per the enclosed specification.

Supply and erection of earth electrode as per the enclosed specification (including digging of earth pit, supply and erection of earth electrode, charcoal, salt and earth pit hollow box size (300mmx300mmx300x50mm thickness) with reinforced concrete complete with all connected materials and works including connecting the earth electrode and aerial earthing according to IS 3043 and RDSO drawing ETI/OHE/P/7021 in other than substations. The earth pit shall be constructed as per Drg. No ETI/OHE/P/7021 and RDSO specification No. RDSOTIOLKO(PSI)38/2020 dt.25.08.2021. Earth electrodes to be procured only from CORE approved sources (List enclosed). (Rites Inspection to be done for earth electrode For items above 5 Lakhs). Earth box stencilling shall be done as under:

GE or EGS	
E.P. No. :	
EP FOR :	
EP LOC :	
IER :	
CER :	
DATE :	

The background is black and letters in yellow. Stenciling to be on side wall. However, wherever boxes are concealed at PF/ground levels, stenciling to be done on cover. Earth pit to be executed shall be of 30 cm dia and charcoal, (Salt+sand) mixture shall be added as alternate layers. Salt to be mixed with river sand on the ground itself. First layer will be charcoal of 30 cm dept followed by (salt+sand) mixture of 30 cm depth and same shall be repeated till top of earth. Earth pipe shall be embedded inside the ground at bottom of pit by 30 cm. The earth electrodes shall be erected in the presence of Railway representative only

CORE APPROVED SOURCES FOR EARTH ELECTRODES:

S.No.	Firm Name	Address
	M/s Aumni Transmission industryPVT Ltd Vadodara (ID 35315)	AUMINI E- 76, GIDC Manjisar, Taluka SavliVadodara, Gujarat -391770, India

M/s Chaterjee Engineering Co-Kolkatta (ID 17708)	CEC 3/1 Chandtolla Branch Road Kolkata WestBengal -700053 India Regd Address- 216 A JC Bose Road Flat 2AKolkata west Bengal 700017, India
M/s Chatterjee & (Construction) Pvt Ltd (ID-1051029)	CCC 142/143/2 Madhusudhan paul Chowdhury Lane Howrah West Bengal 711101 India Regd Address: 216 A JC Bose Road Flat 2A Kolkata west Bengal 700017, India
M/s Dynamic Steel ForgeRajkot (ID-91949)	DSF Plot No G-2521, Near Bhumi cement. Almighty Gate GIDC Metoda Taluka – Lodhika, Rakjot Gujarat – 360021 India.
M/s Jainco Transmission Limited –Kolkata (ID- 1028544)	JAINCO Jalan complex Gate No 1 Lane 7, Jangalpur, Bombay Road (NH-6) Howrah, West Bengal - 711411, India Regd Address: Dhanshree Tower, 70, Diamond Harbour Road, Room No 3B & 3C,3rd Floor Kolkata West Bengal – 700023, India
JHR Overseas(ID-1051914)	JHR/II Village-Chhandra, chd Road Ludhiana,Punjab -141113, India Regd Address: Back side New Era machines,New Model Town, Sahnewal Ludhiana, Punjab -141120, India
M/s Khatri castings private limited – Mumbai (ID-3601)	KHATRI At valvada, Near Karmbele Railway Station, NH-8 Taluka – Umargoan Opp. Maruthi Depot Valsad Gujarat – 396001India Regd Address: 144 Narman Plaza shoppersstop Bldg S.V Road Kandivali (West), Mumbai Maharastra 400067, India
M/s KSE Electrical Pvt ltd Kolkata(ID-6285)	KSE Jalan Industrial Complex 3rd Main Road, 4thleft Lane, NH-6, PO Begri Howrah West Bengal 711411 India Regd Address: Chaterjee International Centre,33A, Chowringhee Road 7th floor Kolkata West Bengal – 700071 India
M/ Kumar Fasteners Mathura(ID -3905)	KF Mathura 5-15, Building Material Complex Site – AIndustrial Area Mathura, Uttar Pradesh - 281004, India
M/s Mosdorfer india Pvt Ltd Mumbai (ID-125222)	MIPL Plot No.196/1 and Village- Gonde DhumlaMIDC Gonde, Taluka –Igat puri, Nashik Maharashtra 422403, India Regd Address: 403C Wing B1, Marathon Innova Opp peninsula Corporate Park, lowerparel, Mumbai Maharashtra, 400013 India
M/s Nike Energy Manufacturing PvtLtd – Varanasi (ID-23941)	NIKE Plot No 279/2 Ganeshpur Tarna VaranasiUttarpradesh – 221003, India
M/s NSS stores supply agency. private limited Howrah (ID-35966)	NSSA P – 208, Banaras Road, Belgachia, P.O. Netajigarh Howrah, West Bengal – 711108,India
M/S Royal Balaji Engineering Pvt ltd –Kolkata (ID-23501)	Royal NH-6, Bombay Road, Dhulagari, Sankrail Howrah, West Bengal – 711302 India Regd Address: 153/2B, Sumukh Apartment,APC Road Kolkata, West Bengal-700006, India

	M/s Shri Ashutosh Engineering Industries Unit-II Raipur (ID-97354)	SAEI/II (Unit-II), Plot No. 156/1, 157/1, 160 & 161, New Patharidih, Urla Raipur, Chhattisgarh-492001, India
	M/s Tag corporation – Chennai (ID-1033964)	TAG Shed No. 4 & 5, SIDCO Industrial Estate, Thirumudivakkam Chennai Tamil Nadu- 60004, India Regd Address: No91, Thiruneermalai RaodChrompet undefined Chennai, Tamil nadu -600044, India
	M/s Transmission Line products –Kolkata (ID 5692)	TLP-H NH-6 Sankrail Industrial Park P.O Dhulagarh PS Sankrail, Howrah, west Bengal – 711302, India Regd Address: 102 central plaza 2/6 SaratBose Road Kolkata, West Bengal -70020 India

Item No 52

Supply and running of 8 SWG GI wire is to be laid for earth continuity

Item No 53

Supply and fixing of 30W 400 mm BLDC Wall Mounting Fan, Energy Efficient with remote control and all connected accessories conforming to class 1 of IS: 555/1979 with Amdts. including laborcharges. Make: Gorilla/Havells/CG/Bajaj/Usha

Item No 54-60

Supply, fixing and connecting of 2 pole 2 module 32A 30 mA Lexic RCBOs conforming to IEC 61009-2-1 as advised by the site supervisor with all necessary accessories complete or equivalent make.

Supply and fixing of 40 W LED type weather proof street light fitting complete with all accessories and conforming to specification. Make: Bajaj/Havells/ Philips.

Supplying and erecting triple pole and neutral distribution board (TPNDB) with door surface/flush mounted with 4 ways for incoming and 12 ways for outgoing SP/TP MCB's on iron frame/laminated board as per specification No. SW-SWR/MCB DB with required chiselling and finishing with cement mortar/POP as per required to match the background in an approved manner Make: Legrand/Havells/L&T.

Supply, erection and marking TPN MCB 63A, 10 kA C-series in provided distribution board as per specification No. SW-SWR/MCB Make: Legrand/ Havells/L&T.

Supply, fixing , connecting and commissioning of Master control 32A TPN MCB as per the direction of the Engineer at site.

Supply, fixing and connecting of 4 pole 63A 100 mA Lexic RCBOs conforming to IEC 61009-1 as advised by the site supervisor with all necessary accessories complete.

Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 12 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner. Make: Legrand/Havells/ Schneider/GM/INDO ASIAN

Item No 61-67

Supply and laying of 4 core 50 sq mm cross linked polyethylene (XLPE) insulated LT UG cable,

PVC outer sheathed, armored with galvanized round steel wire or steel strip and with aluminium conductor suitable for rated voltage at 1100 volts grade and conforming to IS:7098(Part-1)/1988 with amdt.no. 1, 2 & 3 (reaffirmed 2005) or latest. including supply and fixing of cable lugs, glands and through joints wherever necessary and all other accessories suit with for switch gear and accessories make: Polycab/KEI/Havells/Finecab /Finolex.

Supply, erecting and laying of HDPE pipe of PE80 grade in PN-4 outer dia of HDPE pipe 63 mm (nearest 2" dia) and wall thickness minimum 2.5 mm maximum 2.8 mm with "T" joints, bends, elbows etc. including all other connected accessories. Make: M/s.Sudhakar/ Nagarjuna polymer/Nandi/Plasto.

Supply, erecting and laying of HDPE pipe of PE 80 grade in PN-4 outer dia of HDPE pipe 110 mm (nearest 4" dia) and wall thickness minimum 4.1 mm maximum 4.3 mm with "T" joints, bends, elbows etc. including all other connected accessories. Make: M/s. Sudhakar/ Nagarjuna polymer/Nandi/Plasto.

Supply, erecting, laying, connecting, testing and commissioning of 4 core 25 mm² LT XLPE UG Aluminium Cable, 1100 Volts as per IS:7098/Pt.I/1988 or latest including supply and fixing of cable lugs and through joints wherever necessary and all other accessories suit with for switchgear and accessories make: Polycab /KEI/Havells/Finecab/Finolex.

Supply, Installation, Testing and commissioning of maintenance free earthing comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250-micron molecular copper bonded earthing rod of Length 3m along with 25 kg Carbon based environment friendly back fill ground enhancing compound required to fill up the excavated earth with required quantity complete as per RDSO specification No. RDSO/PE/SPEC/PS/0109(Rev.0)-2008.

Supply and fixing of 25 x 3 mm EC grade copper strip for connecting earth terminal to the bus bar in for maintenance earthing as per RDSO specification No. RDSO/PE/SPEC/PS/0109 (Rev.0)-2008 (Amdt. 1) or latest.

Supply, laying, connecting, testing and commissioning of 4 core 240 mm² LT XLPE UG Aluminium Cable, 1100 Volts as per IS:7098/Pt. I/1988 or latest make: Polycab/KEI/Havells/Finecab/LS/Gloster.

Item No 68

Excavation of cable trench 30 cm wide x 90 cm deep in all types of soils for HT/LTUG cable as per specification No. Y/E. cable laying/6/99 annexed.

Item No 69

Cutting of esphated road/ concrete/ cement/under the track etc., and excavation of cable trench 30 cm widex90cm deep oad etc., for laying of HT/LTUG cable. After laying of cable the trench should be brought to its original position by providing tar/ concrete/ cement as per the site conditions and as per directions of Rly. Engineer.

WIRING SPECIFICATION (Wherever applicable)

1. All light points, fan points with 2 Nos. of PVC insulated 1.5 Sq.mm copper conductors and 5 pin 6A plug sockets should be wired with 2 Nos. of PVC insulated 2.5 Sq.mm copper conductor.
2. All power circuits should be wired with 2 Nos. of PVC insulated 4 Sq.mm copper conductors. The individual circuit should be taken from nearest MDB/SDB as per the directions of Engineer at site.
3. The PVC insulation should confirm to IS: 694/77 or latest and copper conductor should confirm to IS: 8130/84 or latest.
4. All cables/conductors make should be of Polycab/Havells/Finolex or other makes ISI certified and approved by Sr. DEE/M/NED.
5. Wiring should be done in PVC conduit pipe.
6. All the lights, fans, 6A plug sockets should be controlled by a Piano type of Legrand/Havells/Schneider make.
7. The Piano type bell push should be of Legrand/Havells/Schneider make.
8. All the lights and Fans shall be connected with 2 Nos of PVC insulated copper flexible wire.
9. All the fittings should be earthed properly with tinned copper wire. The size of earthling wire should be half of the conductor.
10. The 6/16A power plug should be of Legrand/Havells/Schneider make.
11. The 5 pin 6 Amp. The power plug should be of Legrand/Havells/Schneider make.
12. All the switches should be fixed on modular switchboards.
13. The LED fitting shall be fixed on 2 No. of TW round box and connected with PVC insulated flexible copper conductor.
14. The entire sub-Mains should be with 2 Nos.6 sq. mm. PVC insulated confirming to IS 694/77, copper conductor confirming to IS 8130/84 or latest. (Circuit mains should be with 2 Nos. of 10 sq. mm. Cu cables.)
15. Conformity with Indian Electricity Rules:

The insulation shall be generally carried out in conformity with the requirement of Indian Electricity Rules 1956 as amended from time to time.

Materials: All the materials fittings, equipment and other accessories used in the Electrical installation shall conform to relevant Indian Standard specification whenever they exist and should or approved make. In

case of an Indian standard does not exist the materials and other items shall be those approved by the competent Authority.

Workmanship: good workmanship is an essential requirement for compliance of the wiring of installations. The work of electrical installation shall be carried out under the supervision of a person holding a certificate of competency issued by a recognized authority.

The LT UG cables shall conform to the IS specification as mentioned in the tender schedule/ Specification/ Scope of work.

Cable trenches (ordinary): Excavation of cable trenches of different sizes in all types of soils. The bottom of trench is leveled freed from stones and sharp edges of rock. A layer of 10 cms thick sand is laid at the bottom of trench after laying the cable, it is covered once again with 10cms. thick sand and covered with well burnt country bricks at the rate of 9 to 10 bricks per meter depending upon width of brick for each cable without leaving any gap in between so as to prevent damages to the cables due to crow bars etc. during any excavation at a later date and one brick to be placed in between the cables at every one meter of regular interval and duly filling the trench with earth after positioning the cable markers and ramming well in stages to bring the surface in level with original surface. If two separate feeders are to be laid in the same trench a horizontal interval spacing is advisable to reduce the effect of mutual heating and to ensure that a fault accruing on one cable will not damage the adjacent one.

If single core cables are used for forming a three-phase circuit, the three cables are laid in triangular formation (trefoil).

The sizes and cable trench details may be verified in the drawing No. A3/E/STD/6.

Road Crossing: Cutting of roads, excavation of the cable trench of different sizes and laying of RCC Hume pipes and jointed with collars in an approved manner. The pipes are required to be laid to keep the cable at one meter below the ground level. The pipes shall be extended upon 2 metres below on either side of the road, measured from the edge of the road. The pipes shall be positioned to maintain a slope of about 1 in 30 to allow drainage of seepage water. No bricks or sand are required to be placed at such places. As many numbers of pipes are to be laid for as many numbers of cables, if required. The cable trench can be closed with the excavated earth and ramming well in stages to bring the surface in level with the original and making the road as earlier.

The cables can be drawn through pipes without disturbing the traffic, when once the above arrangement is made.

The cable markers can be placed on either side of the road to identify the cable route.

The sizes and road crossing details may be verified in drawing No. A3/E/STD/6.

Track Crossing: Removing of existing ballast, excavation of the cable trench of different sizes under the track and laying of RCC Hume pipes and jointed with collars in an approved manner. The pipes are required to be laid to keep the cable at minimum one meter below the track or formation level. The pipes shall be laid up to the Railway boundary at both ends up to the point as prescribed by the Railways. The pipes used shall be of long length and the pipes shall be positioned to maintain a slope of about 1 in 30 to allow drainage of seepage water. No bricks or sand are required to be placed at such places. As many numbers of pipes are to be laid for as many numbers of cables, if required. The cable trench can be closed with the excavated earth and ramming wall in stages to bring the formation/cutting as per the original and replacing the removed ballast

as earlier. The cables can be drawn through pipes without disturbing the traffic, once the above arrangement is made. The cable markers can be placed on either side of the track at a convenient place to identify the cable route.

The sizes and track crossing details may be verified in the Drg. No. A3/E/STD/6.

6. Laying of cables on Racks and Cleats: Inside buildings, workshops, sheds, sub-stations, it is sometimes necessary to lay the cables on racks or brackets, spaced at regular intervals or sometimes they are required to be cleated directly on the walls/ trusses/ beams or MS structures fixed on walls.

The cables are laid direct upon trays with or without spacers sometimes instead of using metal trays, the cables are required to be supported and clamped on brackets spaced at such regular intervals to prevent under sag.

For horizontal runs, brackets or supports made from angle iron are grouted in the walls and they are arranged in a single plane when only a few cables are involved, when large number of cables must be laid over the same route the brackets are fixed as per formation.

For horizontal run of one or two cables the cables can be clamped/cleated directly on walls/beams preferably with the non-magnetic materials like Aluminium - wood etc. For vertical runs, the cables are clamped/cleated on walls/columns or on MS flats or on Angle Irons fixed on walls and they are required to be spaced at such intervals to prevent buckling of cables and creepage of load.

All steel work shall be painted with one coat of red oxide and finished with suitable color anti-corrosive paints.

Cables along the structures: The G.I. pipes shall be fastened to the structures upto 2.5metres from ground level by suitable MS clamps at an interval of not more than one meter with suitable bolts, nuts, washers etc., the cables shall be drawn through the G.I. pipe. Both the ends of G.I. pipe shall have PVC/wooden bushes to avoid abrasion to the cable. In addition, the top shall be sealed with cable compound to arrest ingress of rainwater.

8. The cable shall be run above pipe level up to cable termination end through suitable teak wood cleats duly clamped to the structure by suitable clamps, bolts, nuts, washers etc.

9. Inside the sub-stations, repair sheds, workshops etc., suitable sizes of masonry trenches will be constructed by the Railways. The cable shall be laid in the trenches and covered with RCC slabs/MS sheets/Aluminum chequered plates as per the schedule and instructions of Engineer at site.

Boards: The cable trench shall be straight as far as possible without bends and at places where obstacles are encountered there shall be no abrupt bends or if unavoidable, the cable shall be following specifications.

Bending radius for PVC cables: While installing/laying PVC cables, the following minimum handling radial should be observed in order that the cables, especially insulation may not undergo damage. Voltage grades of cable - Recommended minimum bending radius

- a) Up to 11kv - 15 x D
- b) Above 11kV - 15 x D for multicore cables.

20 x D for single core cables where D is over all diameter of cable.

SLOPE: The slope of the cable trench according to the formation of the land shall be made to keep the bend of the cable minimum as stated in item 10 above.

Looping of cable: The cable at the foot of the structures shall be looped to the lengths of 5 meters to allow for the future requirement to coil diameter shall be not less than minimum bending radius as stated in item 10 above. The excavation at structures shall be done suitable and covered with sand, bricks and earth as detailed under item 4 above. At each end termination near the panel board a 5 Mtr. loop shall be kept as an allowance and loop ring shall be formed circular and as recommended by the cable manufacturers.

Accessories/Materials:

Cable route indicators: Cast Iron cable route indicators markers manufactured as per the drawing No. A3/E/STD/6 and cemented. The cable markers shall be positioned, fixed firm and in a manner acceptable to the Engineer at site. The M.S. steams shall be dipped in hot and dried before they are fixed. The cable marker shall be painted with 3 coats of red oxide. One coat before providing at site and another after positioning and cementing. The spacing of the markers shall be not more than 6 meters in a straight run.

Contrary bricks:

General: Country bricks must be free from cracks, large, chipped surfaces and broken corner stones and lumps inclusions of burnt kenkar if of small extent may be permitted. The brick surface should be so hard as not to get scratched by the fingernail. From charged surface should not have cavities to any appreciable.

Quality and sizes: Country bricks may be slightly over burnt but not under burnt in any case. The color may be dull red or even reddish yellow, provided it is not due to under burnt material and is only a feature of type of molding clay used. The normal size of country brick should be 225mm x 115mm x 75mm. The size of the frog in the upper face should be same as per first or second-class bricks.

Sand: The sand shall be preferably river sand or as per the quality required by the Engineer at site. The sand shall be from lumps of earth, clay etc. and screened.

RCC Hume Pipes: RCC Hume pipes supplied shall be the size of internal dia. of 200mm external dia. to the standard lengths. Necessary collars for joining the above pipes shall also be supplied. The pipes and collars should conform to relevant latest IS specification and same should be approved by the Engineer at site before laying in the trenches.

Clamps, bolts etc: Clamps shall be made from aluminum of HS plate. The bolts used shall be of suitable dia and of sufficient length, One MS hose nut and a check nut with one spring washer between two nos of flat washers shall be used for tightening the bolts. The MS clamps shall be painted with one coat of red oxide and two coats of aluminum paint.

GI Pipes: The G.I. Pipes shall be of 'B' class of 50mm dia., 100mm dia., 3.4dia thickness to the standard lengths. Necessary collars, bends etc., for jointing the above pipes shall also be supplied. The pipes and accessories shall be approved by the Engineer at site before using the same.

Outdoor end termination: The kit should essentially contain the following contents:

1. Required quantity of cable jointing compound.
2. Required quantity of hardener.
3. Plastic mould.
4. Mould adhesive cum solvent.
5. Earth continuity connection.
6. Stress grading paste.
7. Self-banding insulating tape.
8. Insulators.
9. Copper binding wire.

10. Aluminum oxide tape.
11. Nylon string for cutting XLPE insulation.
12. Polyester tape.
13. Semi conducting self-bonding tape.
14. 'M' Seal (Fast setting) epoxy putty.
15. Instruction Sheet.

Door end terminations: The kit should essentially contain the following contents.

1. Required quantity of cable jointing compound.
2. Required quantity of hardener.
3. Plastic mould.
4. Mould adhesive cum solvent.
5. 'M' Seal (fast setting) epoxy putty.
6. Earth continuity connection.
7. Stress grading paste.
8. Self-bonding insulating tape.
9. Copper binding wire.
10. Aluminum Oxide tape.
11. Nylon string for cutting XLPE insulation.
12. Semi conducting self-bonding.
13. Instruction Sheet.

LT Cable end boxes/kits to use with 11kV PVC cables for indoor & outdoor end terminations: The kit should essentially contain the following contents.

1. Required quantity of cable jointing compound.
2. Required quantity of hardener.
3. Plastic mould.
4. Mould adhesive cum solvent.
5. M-Seal (fast setting) epoxy putty.
6. Earth continuity connection.
7. Spacer.
8. Instruction Sheet.

Weatherproof Junction Boxes: These shall be made from MS sheet Iron with weatherproof x-type with suitable terminals looking arrangements knock out arrangement suitable entry holes etc. The box shall be painted with one coat of red oxide and two coats of grey colour paint. These shall be made and provided as per the instructions of the Engineer at site.

Cable Gland: The cable gland shall be of brass with fixing check nuts etc. The correct size of gland shall be used for the size of cable. The glands to be used should be approved by the Engineer at site.

Cable Jointing Lugs: These shall be made of aluminum crimping type (E.E., solder less) and bolted type and shall have adequate current carrying capacity. The lugs to be used are to be approved by the Engineer at site.

Cable Markers of track crossings: These shall be made of cast iron. The design shall be approved by Railways. The following information shall be clearly marked on the marker.

- a. Electric - Volts.
- b. Number - Cables.
- c. Danger - English, Hindi and the vernacular of the district.
- d. Depth of cable - Below ground level between the toe of bank and Rail facing.

Cable markers used where No. of feeders involved: These shall be made of cast iron. The design shall be approved by Railway. The following information shall be clearly marked off the market.

- a) Electric Cable - Volts.
- b) No sizes of cables.
- c) Length of cable
- d) Origin & destination of cable.

General:

Test certificates shall be produced for the cables supplied.

All materials/accessories supplied should have the approval of the site Engineer before using the same.

1. The method of laying the cables shall be generally as indicated in Drg. No. A3/E/STD/6. The cable routes shall be measured at site and the requirements assessed before the supplies are affected. No joints in straight runs will be permitted. Measurements for cables will be taken as straight runs and from gland to gland. Covering of trenches shall be carried out only after measurements are taken and recorded. Insulation resistance tests shall be repeated after laying the cable and before the terminations are made in the presence of the Engineer-in-charge at site.

2. While connecting the cables to OH Mains/Switch panels, the cable end boxes shall be used as per the directions of the Engineer at site.

3. Cables required to be laid in existing trenches within the unit/sub-stations/shop bays, the contractor shall ensure that this is done by removing the existing slabs and replacing the same after laying, duly cleaning the trench wherever warranted.

4. Wherever the cables enter or leave the buildings, they shall be passed through walls in 150mm dia. RCC/GI pipes with collar as directed by the Engineer-in-charge at site including civil works.

5. The cables shall be treated through RCC pipes at all road and rail line crossings and at all other service line crossings like drainpipes, sewage, and water mains as per the instructions of the Engineer-in-charge at site.

6. Where track crossings are involved in the two cable markers shall be fixed at both ends of the underground crossing as directed by the Engineer at site.

7. Where we must deal with a number of feeders like workshops, repair shops, substations etc. Approved type CI cable route indicators shall be grouted in concrete along with the route of the cable at intervals of 20 meters in straight runs and at every diversion point and at every entry and exist-points of buildings, sheds etc., these shall be used along with the types of cable markers as directed by the site in-charge to check at site.

8. All cable ends shall be provided with cable glands and each lead provided with crimped Aluminium shoes of suitable sizes.

9. Any foundation/drainage/walls/masonry structure will be re-made with a good shape after passing the cable by the contractor, pipes will be provided by the contractor.

CABLE TERMINATIONS:

- a) All the exposed cable runs in shops floors particularly being terminated on SDBs, fuse boxes, shall be encased in a suitable size of GI pipe and secured to the pillars/ columns by means of clamps.
- b) Termination of cable shall be carried out using approved crimping type "Dowells" aluminum lugs and

- approved type of crimping tools.
- c) The method of termination shall be as per the procedure laid down in the relevant manufacturer's literature.
- d) The prices quoted shall include all the necessary supply materials such as glands, lugs, consumables etc.
- e) Every piece of cable shall be tested before taking up the termination work and after completion of the same and the results of such tests shall be recorded.
- f) All testing shall be carried out in the presence of the Engineer-in-charge at site.

Item No 70-74:

Supply, erection, testing and commissioning of vertical type, 5 star energy efficient, ISI marked submersible pump set suitable to operate at duty point of 109 Mtr head approx .and 1.8 LPS discharge approx 5 HP approx., 3-phase motor, 14 stage complete with all accessories suitable as per IS 8034:2002 for 150 mm dia borewell and outlet 50 mm dia equivalent to waterman model no: AR01 14 3PC GOLD.

Supply, Fabrication and fixing and commissioning of pump panel suitable for 5 Hp pump comprising of motor protection circuit breaker, DOL starter, electronic timer, ammeter, voltmeter, pilot lamps and capacitor complete with all other connected accessories.

Supply and running of 3core 4sq.mm. 1100 V submersible flat cable conforming to IS:1554.

Supply and fixing of Non return valves of 50 mm dia (As advised by the site supervisor) with conforming to IS 778 . material of body: brass with all connected accessories complete.

Supply and fixing of Rope for lifting and lowering of pumps inside the bore.

Item No 75:

Provision of 200 KVA Transformer and Load extension to 120 KVA as per MSEDCL Estimate and scope. This amount to be paid to MSEDCL Based on scope received from MSEDCL (attached in documents). The sanction cost of work includes all charges and no extra amount will be paid from Railways.

Item No 18:

Supply, transportation, installation, testing and commissioning of 250 KVA DG set 3 phase with AFM control panel with CPCB -IV + compliance and Specification as per model No : M250DR of mahendra powerol or its equivalent.

Item No 19:

Supply, running and connecting of 4 core 16 sq.mm. PVC insulated and PVC Round Sheathed, Multicore Annealed Bare Copper Conductor (flexible) industrial cable for Voltage Grade 1100 Volt, Conforming to IS 694 : 2010 or its latest amendment."

Item No 21:

"Fabrication and erection of 14 SWG CRCA sheet steel enclosure of suitable size for outdoor distribution Panel with IP 54 protection, plinth mounted with Double Door, including cutting, bending drilling, welding and revetting etc, complete with cleaning with 7 tank process and painting with EPOXY powder coating including cost and conveyance of all materials and labour charges. The MDBs shall be mounted on suitable required size of CC plinth (CC plinth cost will be paid separately)/ wall

mounted and secured with bolts, nuts and washers as advised by Engineer at site. The panel comprising of 1600A tinned Copper Bus Bar RYB & N of same size) as per IS 613: 2000 or latest amendment required shape supported with appropriate DMC / SMC barriers and colour coded with heat shrinkable sleeves, LT 3 Phase Digital Multifunction energy meter with 3 lines LCD display for measuring all the parameters(Voltage/ Current/ Power/Frequency/power factor /kw/kwh/ kvar/kvarh) , Current T/Fs, indication lamps for incoming & outgoing feeders. support insulators, neutral links, Incoming & outgoing terminals, suitable cable termination glands , grommets, lugs, connecting wires and all other accessories with the following switchgear and accessories. Suitable busbars has to provided for the incomings of all the MCCB's from main bus bar The cables should be properly terminated in the switchgears with necessary lugs and all necessary accessories complete. The panel should conform to IS/IEC 61439 or its amendment in all respects. The panel should comprise of the following Switchgear:

1. Supply and installation of ACB 800 Amps 36KA-2 nos,
2. Supply and installation of on load change over switch of 800A of conforms to IS/IEC:60947-3 or its latest amendments -1 nos,
3. Supply and installation of microprocessor based release; Icu =50KA ; 400A 4 Pole MCCB conform to IEC 60947-2 or latest amendments communication capable for energy management with spreader links (2 sets), phase barriers-2 nos,
4. Supply and installation of 320 A 4P MCCB, 36 KA, Micro processor based adjustable with LSIG protection communication capable conform to IEC 60947-2 or it's equivalent with extended ROM, spreader links(2 sets)-2 nos.
5. Supply and installation of 250 A4P MCCB, 36 KA, Microprocessor based adjustable with LSIG protection communication capable conform to IEC-60947 -2 or its latest amendments model no 4205 39 of legrand make or its equivalent with extended ROM, spreader links (2 sets)-2 nos,
6. Supply and installation of DPX3 160 thermal magnetic based release; Icu = 36KA; 100A 4 Pole MCCB conform to IEC 60947 - 2 or its latest amendments of model no. 4200 95 of legrand make or equivalent make with extended ROM, spreader links (2 sets)-4 no.
7. Supply and installation of DPX3 160 thermal magnetic based release; Icu=36K; 63A 4 Pole MCCB conform to IEC 60947-2 OR ITS LATEST AMENDMENT OF MODEL NO. 4200 93 OF LEGRAND MAKE OR IT'S EQUIVALENT WITH EXTENDED rom, spreaser links (2 sets) -4 nos,
8. Supply and fixing of 40/50/63A A 4P MCB C Curve, 10 KA capacity with necessary connections and all accessories complete-2 nos,
9. Supply and erection of LT 3 phase Digital Multifunction energy meter with 3 lines LCD Display for measuring all the parameters (Voltage/ Current/ Power/ Frequency/power factor/kw/kwh/kvar/kvarh) on existing box panel board- 14 sets of 3 nos. The LT control panel should manufactured by CPRI approved manufactures only. "

IMPORTANT NOTE:

- a) The electrical equipment shall properly be earthed.
- b) The wiring undertaken shall comply with IE rules and acts.
- c) The execution of work shall be carried out in conformity with latest instructions and maintenance manuals of Railways with the approval of Railways nominated engineer/supervisor.
- d) After excavation and laying of the cable in every type of soil, ground surface leveling must be done and it should be concreted if it is a road crossing and wherever required.
- e) The cable route markers/indicators shall be strictly laid as per the specification/ drawing and instructions of the Railway site Engineer.
- f) Materials to be supplied as per latest RDSO Specification wherever applicable. Manufacturer's test certificate should be submitted duly proving the RDSO's Specification.
- g) In case any contradiction with RDSO Specification, the RDSO specifications will prevail.
- h) Materials to be supplied as per the corresponding specification/standards (latest at the time of opening of tender) of each item (wherever applicable).
In this regard a test certificate issued by Govt. Recognized institute shall be submitted along with the material before execution of the work stating that the material is in line with the

corresponding specification/standards (latest at the time of opening of tender). (Wherever applicable).

- i) Necessary charges for RITES inspection shall be at contractor's cost only.
- j) The tenderer / contractor must make his own arrangements for loading, handling, transportation and unloading of the materials to the work spot.
- k) The latest updated specifications are available at RDSO website www.rdsso.gov.in.
- l) The tenderers may verify the RDSO Specification/Draft specification available at Sr. DEE/NED's office.
- m) **If any deviation arises in specification/ scope of work, Sr. DEE/M/NED's decision will be the final.**
Tenderer shall go through the detailed specification/scope of work as mentioned above and ensure that the work will be executed, supply and install the above material as per the specification laid down for the concerned item.

ANNEXURE- III

APPLICABLE CODES, STANDARDS AND PUBLICATIONS

All equipment, supply, erection, testing and commissioning shall comply with the requirements of Indian Standards and code of practices. All equipment and material being supplied by the Contractor shall meet the requirements of IS., Tariff advisory committee's regulation (fire insurance), electrical inspectorate and Indian Electricity rules and other Codes/Publications as given below.

SP : 6 (1)	Structural steel sections
IS : 27	Pig lead
IS : 325	Three phase induction motors
IS : 554	Dimensions for pipe threads where pressure tight joints are required on the threads.
IS : 694	PVC insulated cables for working voltages up to and including 1100 V.
IS: 778	Specification for copper alloy gate, globe and check valves for water work purposes
IS : 779	Specification for water meters (domestic type)
IS: 14846	Specification for sluice valves for water works purposes
IS : 782	Specification for caulking lead
IS : 800	Code of Practice for general construction in steel
IS : 1068	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium
IS : 1172	Code of basic requirements for water supply drainage and sanitation
IS:1239 (Part 1)	steel tubes, tubular and other wrought steel fittings: Part 1 steel tubes
IS:1239 (Part 2)	steel tubes, tubular and other wrought steel fittings: Part 2 steel tubular and other wrought steel pipe fittings
IS : 1367 (Part- 1)	Technical supply conditions for threaded steel fasteners: Part1 introduction and general information.

IS : 1367 (Part- 2)	Technical supply conditions for threaded steel fasteners: Part 2 product grades and tolerances.
IS: 1520	Specification for horizontal centrifugal pumps for clear cold fresh water
IS : 1554 (Part- 1)	PVC insulated (heavy duty) electric cables: Part 1 for working voltages up to and including 1100V.
IS : 1554 (Part- 2)	PVC insulated (heavy duty) electric cables: Part 2 for working voltages from 3.3 kV up to and including 11KV
IS: 1703	Specification for copper alloy float valves (horizontal plunger type) for water supply fittings
IS : 1726	Specification for cast iron manhole covers and frames
IS : 1742	Code of practice for building drainage.
IS: 2002	Steel plates for pressure vessels for intermediate and high temperature service including boilers
IS : 2064	Selection, installation and maintenance of sanitary appliances – Code of practice.
IS : 2065	Code of practice for water supply in buildings.
IS : 2104	Specification for water meter boxes (domestic type)
IS : 2373	Specification for water meters (bulk type)
IS : 2379	Colour code for identification of pipe lines
IS : 2527	Code of practice for fixing rainwater gutters and down pipes for roof drainage.
IS : 2629	Recommended practice for hot dip galvanizing on iron and steel
IS: 2825	Code for unfired pressure vessels
IS : 3114	Code of practice for laying of cast iron pipes
IS: 3950	Specification for surface boxes for sluice valves
IS : 4111 (Part 1)	Code of practice for ancillary structures in sewerage system: Part 1 manholes
IS : 4127	Code of practice for laying glazed stoneware pipes.
IS: 4853	Recommended practice for radiographic inspection of fusion welded butt joints in steel pipes
IS: 5312 (Part 1)	Specification for swing check type reflux (non return) valves: Part 1 Single door pattern
IS: 5312 (Part 2)	Specification for swing check type reflux (non return) valves: Part 2 Multi door pattern
IS : 5329	Code of practice for sanitary pipe work above ground for buildings.
IS : 5455	Cast iron steps for manholes.
IS : 6159	Recommended practice for design and fabrication of material prior to galvanizing

IS: 6392	Steel pipe flanges
IS: 6418	Cast iron and malleable cast iron flanges for general engineering purposes
IS : 7558	Code of practice for domestic hot water installations
IS: 8034	Specification for submersible pump sets for clear, cold and fresh water
IS : 8321	Glossary of terms applicable to plumbing work
IS: 8418	Specification for horizontal centrifugal self-priming pumps
IS : 9668	Code of practice for provision and maintenance of water supplies and firefighting.
IS : 9842	Preformed fibrous pipe insulation
IS : 9912	Coal tar based coating materials and suitable primers for protecting iron and steel pipe lines.
IS : 10221	Code of practice for coating and wrapping of underground mild steel pipelines
IS : 10234	Recommendations for general pipeline welding.
IS : 10446	Glossary of terms relating to water supply and sanitation.
IS : 11149	Rubber Gaskets
IS : 11790	Code of practice for preparation of butt-welding ends for pipes, valves, flanges and fittings.
IS : 12183 (Part 1)	Code of practice for plumbing in multistoried buildings: Part 1 Water supply
IS: 12992 (Part 1)	Safety relief valves, Spring loaded: Part 1 Design
IS: 13095	Butterfly valves for general purposes

PROFORMA***ENGINEERING ORGANISATION AVAILABLE ON HAND.***

Sl. No.	Name & Designation of Employee	Qualification	Previous Experience	Working From To
01	02	03	04	05
A				
B				
C				
Z				

ENGINEERING ORGANISATION PROPOSED TO BE ENGAGED FOR THIS WORK FROM ABOVE.

Sl. No.	Name & Designation of Employee	Qualification	Previous Experience	Remarks
01	02	03	04	05
A				
B				
C				
Z				

ENGINEERING ORGANISATION PROPOSED TO BE ENGAGED FOR THIS WORK FROM OUTSIDE.

(A SUITABLY WORDED CONSENT LETTER FROM SUCH A PERSON SHOULD BE OBTAINED AND ENCLOSED).

Sl. No.	Name & Designation of Employee	Qualification	Previous Experience	Remarks
01	02	03	04	05
A				
B				
C				
Z				

SIGNATURE OF THE BIDDER (S):
NAME OF THE BIDDER:

1. PLANT & MACHINERY AVAILABLE ON HAND.

Sl. No.	Particulars of machinery, Plant & equipment	No. of Units	Kind and make	Capacity	Age and Condition	Approx. cost in Rs. in lakhs	Purchase Bill No. & Date and Registration particulars
01	02	03	04	05	06	07	08
A							
B							
C							
Z							

2. PLANT & MACHINERY PROPOSED TO BE INDUCTED FROM ABOVE.

Sl. No.	Particulars of machinery, Plant & equipment	No. of Units	Kind and make	Capacity	Age and Condition	Approx. cost in Rs. in lakhs	Purchase Bill No. & Date and Registration particulars
01	02	03	04	05	06	07	08
A							
B							
C							
Z							

3. PLANT & MACHINERY PROPOSED TO BE INDUCTED FROM OUTSIDE.

Sl. No.	Particulars of machinery, Plant & equipment	No. of Units	Kind and make	Capacity	Age and Condition	Approx. cost in Rs. in lakhs	If to be purchased give likely date of receipt and supplier's Name.
01	02	03	04	05	06	07	08
A							
B							
C							
Z							

SIGNATURE OF THE BIDDER (S):
NAME OF THE BIDDER:

LIST OF COMPLETED WORKS BY THE BIDDER

Sl. No.	Name of work	Agreement No. and date	Designation and address of agreement signing authority	Agreement value in lakhs	Completed value of work (in lakhs)	Date of completion	Remarks
Railway works							
A							
B							
C							
D							
E							
Z							
State Govt. Works							
A							
B							
C							
D							
E							
Z							
Public Sector Undertaking Works							
A							
B							
C							
D							
E							
Z							

SIGNATURE OF THE BIDDER (S):**NAME OF THE BIDDER**

LIST OF WORKS ON HAND WITH THE BIDDER

Sl. N	Name of work	Agreement No. and date	Designation and address of agreement signing authority	Agreement value in lakhs	Bill amount paid so far in lakhs	Due date of completion	Number of extensions taken
Railway works							
A							
B							
C							
D							
E							
Z							
State Govt. Works							
A							
B							
C							
D							
E							
Z							
Public Sector Undertaking Works							
A							
B							
C							
D							
E							
Z							

SIGNATURE OF THE BIDDER (S):

NAME OF THE BIDDER

EXPERIENCE CERTIFICATE

S. No.	Work Details	Details
1	Name of Work	
2	Agreement Number, date, and Name of the Agency.	
3	Agreement Value in Rupees (in words and figures)	
4	Due date of completion	
5	Number of Extensions granted	
6	Actual date of completion of work	
7	Value of Final Bill if passed (in words)	
8	Work completed but Final measurements not recorded a) Amount paid so far as in CC Bill No.	
9	Work completed; Final measurements recorded with negative variation. a) Amount so far paid as in CC Bill No.	
10	Work completed if Final measurements recorded with positive variation which is not sanctioned yet original agreement value or last sanctioned agreement value whichever is lower	

Note:

- 1) This certificate in this proforma is to be issued only for physically **Completed work**.
- 2) This certificate to be issued by an officer not below the rank of JA Grade or bill passing officer in Railways and Bill passing Officer/Executive In-charge of work in other government department/Govt. bodies /Public sector undertaking. The certificate should bear the signature and seal of the issuing officer, name of the department etc.

Signature :
 Name of Officer :
 Designation :
 Address :
 Office Seal :
 Phone/Fax No. :
 Date :

CERTIFICATE FROM CHARTERED ACCOUNTANT IN THEIR LETTER HEAD**TO WHOM SO EVER CONCERNED**

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)				
S.N.	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.

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 :

Name of CA :

Registration No
::

CHECK LIST OF DOUCEMENTS TO BE SUBMITTED ALONG WITH TENDERS.

1	Bidder details:	
1.1	Name of the Bidder	
1.2	Identification of Bidder i. In case of Partnership Firm: The Bidder shall submit (i) a copy of partnership deed (ii) a copy of power of attorney (duly registered as per prevailing law) in favor of an individual to sign the tender document and create liability against the firm. ii. In case of JV: The Bidder shall submit documents as mentioned in clause No.17 of the tender form (second sheet) of IRSGCC, April-2022 iii. In case of Company: The Bidder shall submit (i) the copies of MOA (Memorandum of association) AOA (Articles of association) of the company and (ii) a copy of authorization/power of attorney issued by the company (backed by the resolution of board of directors) in favor of the individual to sign the tender on behalf of the company and create liability against the company. iv. In case of proprietary Firm: A copy of registration/ Income tax/PAN No for filling returns self-attested.	
2	Particulars of on-line payment/RTGS submitted towards cost of tender form	
3	Particulars of on-line payment/RTGS submitted towards EMD	
4	Engineering Organization in Annexure “A”	
5	List of plants and machinery in Annexure “B”	
6	List of works completed during the last 3 Financial Years Annexure ‘C’	
7	List of works on hand with tenders in Annexure “D”	
8	Attested copy of Experience Certificate in Annexure ‘E’	
9	Attested copy of certificate showing contractual amount received during the last three financial years and current financial year Annexure ‘F’.	
10	NEFT Mandate form	
11	Registration number of GST/ VAT	
12	Any other information / Certificates required as per Tender document.	
13	Total number of annexures submitted (Number of pages)	

Address

Phone No:

NEFT FORM

To,
The Sr. DFM/Nanded Division,
SOUTH CENTRAL RAILWAY,
NANDED.

Sir,

We prefer to the National Electronic Fund Transfer (NEFT) being followed by South Central Railway, NED Division, for remittance of our payments using RBI's NEFT scheme. In confirmation to this, I/We agree to receive our payments being made through the above scheme to our under-noted Account.

S.No.	Details to provide by Bidder	Details to be filled up by the Bidder
1	Name of Bidder	
2	Full postal Address with PIN Code	
3	Email Address of Bidder	
4	PAN number of Bidder	
5	Bank's Name & Branch	
6	Full Address of Bank	
7	Name of City	
8	Bank Code No.	
9	Bank Telephone/Fax No. & Email	
10	Bank's IFSC Code for NEFT	
11	Bank's IFSC Code for RTGS	
12	Bank's MICR Code	
13	Bidder Bank Account Number	
14	Type of Bank Account	
15	Bidder Name as per Bank Account	
16	Telephone Nos. of Bidder BSNL/Landline: Mobile/Cell Phone: Fax Number:	

(Bidder should note that the above particulars are necessarily to be provided for return of EMD, SD & Other payments due to the Bidder during execution and on completion of work).

Certified that the above indicated particulars are true.

Request letter from Executive branch to Account's office for opening of LC

Office of....
Railway
 Dtd:-

No.....

The PFA/Sr.DFM/Dy.FA
 HQ/Division/Workshop/Cost

Sub:- Opening of LC
 Ref:- Supply order/Contract Agreement No.

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

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

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

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

(Signature)
 Name:
 Designation:
 Official Seal

**LCDA No. (18 DIGIT IPAS GENERATED
NO.)**

Dated:

DOCUMENT OF AUTHORIZATION

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

**(ii) Inland Letter of Credit No.....
dated.....**

**The document is issued against contract No..... (FROM IREPS).....
dated..... For supply/work of (DESCRIPTION OF
GOODS/WORK FROM IREPS).....**

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

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

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

THIS PAYMENT:-.....\$\$\$.....

LC BALANCE AFTER THIS PAYMENT:.....

(Signature of authorized Railway authority)

Name:

Designation:

Official Seal:

MODEL FORM OF PERFORMANCE GUARANTEE

To,

Senior Divisional Finance Manager,
Nanded division,
South Central Railway.

In consideration of the President of India acting through Senior Divisional Electrical Engineer/Maintenance Nanded division, South Central Railway (herein after called “the Government”) having awarded to (M/s.....) {herein after called the said contractor(s)} the contract No..... dated valued at Rs..... for the work of “.....” (herein after called as the “Agreement” and the contractor having agreed to provide a Performance Guarantee for the faithful performance of the contract equivalent to 5% of the value of the contract i.e., for Rs..... (Rupeesonly) to the Government.

2) We.....(indicate the name of the bank) hereafter referred to as “the bank” at the request of (Contractor(s)) do hereby under take to pay the Government an amount not exceeding Rs.....(in words Rs.....) against any loss of damage caused to suffered or would be caused suffered by the Government reason of any breach by the said contractors of any of the terms or conditions contained in the said agreement.

3) We undertake to keep the performance guarantee in force till the satisfactory completion of the work and maintenance period is over i.e., (mention date...) adding contract period + maintenance period).

We,.....(name of the bank) do hereby, undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said contractor(s) of any of the terms and conditions contained in the said agreement or by reason of the contractor(s) failure to perform the said contract. 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 is restricted to an amount not exceeding `.....

4) We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

5) We,.....(name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of contract 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 Senior Divisional Electrical Engineer/Maintenance Nanded Division. South Central Railway, Nanded. Ministry of Railways certifies that the terms and conditions of the said contract have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the ... (date), we shall be discharged from our liability under this guarantee thereafter.

6) We.....(name of the bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor(s) or for any forbearance act or omission on the part of the Government or any indulgence by the Government to the said contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the bank or the contractor(s) supplier(s)

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

Notwithstanding anything contained herein above:

Our liability under this Bank Guarantee shall not exceed Rs _____
(Rupees _____)

This Bank Guarantee shall be valid up to _____.

8. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and if only you serve upon us a written claim or demand on or before _____.

For _____ (Bank)
(With seal and address signed by
authorized signatory of the Bank)

Witness:

.....
.....

Note: Each page should be signed by the banker if the bond is in several pages.

INDEMNITY BOND

1. This deed of Indemnity is executed on the day of _____ by M/s: _____, which expression includes his successors and assignees, in favor of the President of India acting through Sr. Divisional Electrical Engineer/Maintenance the Purchaser, South Central Railway, Secunderabad (herein after called the 'Railway').
2. Whereas the parties hereto have entered into an agreement vide acceptance letter/Agreement No. _____ dt _____ for the purpose of executing the said contract until such time the materials herein after mentioned are fully erected or otherwise and handed over to the Railway.
3. Whereas we, M/s: _____ are required to hold in custody for and on behalf of the Railway in trust give here the list of items for the purpose of executing the said contract until such time the materials are duly erect and or handed over to Railway.
4. Whereas we, M/s: _____ are required to furnish an Indemnity Bond.
5. Now by this Indemnity Bond we hereby undertake that we hold in my custody for and on behalf of the President of India and his property in trust of the said materials handed over to us for the purpose of execution of the said contract until such time the materials are duly erected or otherwise handed over to the Railway.
6. We shall be entirely responsible for the safe custody and protection of the said materials against all risks till they are duly erected and or otherwise delivered to the concerned depots or to any other Officer as he may direct otherwise, and shall Indemnify the Railway against any loss, damage, or deterioration in respect of the said materials which are in my possession.
7. The said materials shall always to open for inspection by any authorized officer of the Railway.
8. Should any loss or damage or deterioration occur or refund becomes due, the President of India shall be entitled to recover from us compensation for such loss or damage or deterioration the amount is to be refunded without prejudice to any other remedies available to Railway and also by deduction from any sum due or any sum which at any time hereafter may become due to us for this work or under any other contract with any other department of the Railway.
9. The value of the above materials for the purpose of indemnity Bond that can be claimed under this Indemnity Bond shall not exceed Rs. _____/-(Rupees only).
10. In the event of any loss or damage or deterioration as aforesaid the assessment of such loss or damage or deterioration, the assessment of compensation therefore would be made by the President of India or by his authorized Nominee and the said assessment shall be final and binding upon us.
11. In witness whereof we, M/s: _____ have executed this Indemnity Bond on the date, month and year final written at _____ dated this _____.

Signature of Tenderer

ANNEXURE-V(A)

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

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

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

Seal and Signature
of the constituent firm/constituent partner

Place:

Dated:

* * * *

Insurance Surety Bond for Performance Security

Name of the issuer of surety bond:

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

Railway.

Date:.....

Surety Bond No:

Amount of Bond:
.....

Issue Date:.....

Expiry Date:.....

WHEREAS, In consideration of the President of India acting through
.....(*Designation & address of contract*
signing authority),.....Railway,....., (hereinafter
called “The Railway”) having accepted the bid of M/S _____ hereinafter called the
contractor, for the work of _____” under invitation for bids No _____ Dated
_____, Vide Letter of Acceptance No.....

AND

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

2

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. _____ contractor, agreed
to give Bond for performance security/ additional performance security as hereinafter contained:

1. KNOW ALL MEN by these present that I/We, the undersigned *[Insert name(s) of authorized representatives of the Surety]*, being fully authorized to sign and incur obligations for and on behalf of the Surety, confirm that the Surety, hereby, unconditionally and irrevocably Bond to pay the Railway the full amount in the sum of (Rupees
Only) as above stated.
2. The Surety undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Surety shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/pending before any Court, tribunal, arbitration or any authority or any threatened litigation by the Bidder or Bank.
3. On payment of any amount less than aforementioned full amount, as per demand of the Railway, the Bond shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the Railway.
4. The Surety shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the contractor and without the Railway being required to show grounds or give reasons for its demand or the amount demanded.
5. The Surety Bond shall be unconditional and irrevocable.
6. The Bond hereinbefore shall not be affected by any change in the constitution of the Surety or in the constitution of the Contactor.
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 issue)*.
The Bond and our obligations under it will expire on *(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 instances will be valid until either the aforementioned full amount is paid to the Railway or the Bond is released by Railway before the Expiry date.
10. The Surety agrees that its obligation to pay any amount demanded by the Railway before the expiry of this Bond will continue until the amount demanded has been paid in full.
11. The expressions Surety and Railway hereinbefore used shall include their respective successors, administrators and assigns.
12. The Surety hereby undertakes not to revoke the Bond during its currency, except with the previous consent in writing of the Railway. This Bond is subject to the Uniform Rules for Demand Bonds, ICC Publication No. 758.
13. We, the Surety Insurer, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, tribunal, arbitrator or any other authority.
14. The Bond shall be in addition to and without prejudice to any other security Bond (s) of the contractor in favour of the

Railway available with the Railway. The Surety, under this Bond, shall be deemed as Principal Debtor of the Railway.

Notwithstanding anything to the contrary contained in these presents,

- a. Our liability under this Surety Bond shall not exceed _____ **(Rupees Only).**
- b. This Surety Bond shall be valid up to _____ *(being the date of expiry)*;
- c. Unless the bank is served a written claim or demand on or before _____ *(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 2024

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

Place.....

Bank's Seal and authorized signature(s)

(Name in Block letters) _____

(Designation with Code No) _____

(P/Attorney) No.

Witness

1.

2.

(Bid Security)

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

Name of the Bank: -----

President of India,

Acting through,

..... Railway,

Beneficiary Railway

Date:.....

Bank Guarantee Bond No.:

Date:-----

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

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

AND

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

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

hereby, waives any requirement for notice of any such change, addition or modification made by Railway at any time.

6. This guarantee will remain valid and effective from.....[insert date of issue]till

.....[insert date, which should be minimum 90 days beyond the expiry of validity of Bid]. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.

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

IFSC CODE	:	
IFSC TYPE	:	
BANK NAME	:	
BRANCH NAME	:	
CITY NAME	:	
ADDRESS	:	
DISTRICT	:	
STATE	:	
BC ENABLED	:	

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.