

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
21/NIB/018



JAIPUR METRO

JAIPUR METRO RAIL CORPORATION LTD.

Price: Rs. 2360/-

NIB No.: JMRC/O&S/EL/2020-21/NIB/018

Dated:- 20.09/2020

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipments & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

BID DOCUMENT

BID DOCUMENT CONSIST OF :

- NOTICE INVITING BID (NIB)
- INSTRUCTION TO BIDDERS (ITB)
- SPECIAL CONDITIONS OF CONTRACT (SCC)
- BILL OF QUANTITY (BOQ)
- JMRC GENERAL CONDITIONS OF CONTRACT (GCC)



JAIPUR METRO

Jaipur Metro Rail Corporation Ltd.

Admin Building, Metro Train Depot, Bhriku Path, Mansarovar, Jaipur - 302020

Website: www.jaipurmetrorail.in

Email: edtem@jaipurmetrorail.in

Signature



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SECTION 1 NOTICE INVITING BID

1.1 GENERAL

JAIPUR Metro Rail Corporation (JMRC) Ltd. invites sealed open Bids from eligible Bidders for "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

Approximate cost of work	1,84,37,500/- inclusive of all taxes
Bid Security amount	3,68,750/- (2 % of the Estimated Cost) in the form of Banker's Cheque/ Demand Draft of a Scheduled Bank in favour of "Jaipur Metro Rail Corporation Ltd." payable at Jaipur.
Cost of Bid form /Tender Cost (Non-Refundable)	Rs. 2360/- including 18% GST (Cost of Bid Form is not refundable) in the form of Banker's Cheque/ Demand Draft of a Scheduled Bank in favour of "Jaipur Metro Rail Corporation Ltd." payable at Jaipur.
Tender Processing Fee	Rs. 1180/- (By Demand Draft / Bankers Cheque, payable in favour of " MD, RISL, Jaipur")
Start date and Time for Download of bid	21.11.2020 at 12:00 Hrs.
Start date and Time for Submission of bid	11.12.2020 at 12:00 Hrs.
Last date and Time of Submission of Bid	29.11.2020 at 18:00 Hrs.
Date of opening of Technical Bid	30.11.2020 at 15:00 Hrs.
Venue & Date of Physical Submission of financial instruments (Bid Security, Tender Cost, Tender Processing Fee)	30.11.2020 at 13:00 Hrs. Office of ED (Traction and E&M), JMRC Room no. - 407, 4th Floor, Admin Building, Metro Train Depot, Bhriku Path, Mansarovar, Jaipur - 302020
Place of opening of Bid	Room no. - 407, 4th Floor, Admin Building, Metro Train Depot, Bhriku Path, Mansarovar, Jaipur - 302020
Performance security	10 % of the Contract amount in the form of Banker's Cheque/ Demand Draft/ Bank guarantee of a Scheduled Bank in favour of "Jaipur Metro Rail Corporation Ltd." payable at Jaipur.
Validity of tender	90 days from last date of submission of tender
Name of website (s) for down load of Bid document and clarification (s) / Modification (s), if any	http://transport.rajasthan.gov.in/jmrc www.sppp.rajasthan.gov.in https://www.eproc.rajasthan.gov
Stipulated date of Commencement of work	Within 15 days from the date of issue of "Letter of Acceptance".
Stipulated date of work completion	Within 04 months from the date of Commencement of work

Note: Any Pre-bid query may be raised through their mail at edtem@jaipurmetrorail.in.

Signature of Authorized Signatory

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Note - Cost of Bid form, Bid Security amount shall be submitted in the form of demand draft/bankers cheque of any scheduled bank or nationalised bank in India in favour of "Jaipur Metro Rail Corporation Ltd." payable at Jaipur. The bid security may also be submitted in form of Bank Guarantee.

1.2 POINTS TO BE NOTED

- 1.2.1 Works envisaged under this contract are required to be executed in all respects up to the period of completion mentioned above.
- 1.2.2 Only those agencies, who qualified condition of clause 1.3 and special condition of contract, should submit the Bid documents.
- 1.2.3 The mere fact that the Bidders shall not imply that his bid shall automatically be accepted. The same should contain all Financial & other details as required for the consideration of Bid.
- 1.2.4 Bid document consists of the following:
- Notice Inviting Bid - consisting of
 - Notice Inviting Bid
 - Scope of Work
 - Bid prices
 - Instructions to Bidders
 - Special Conditions of Contract (SCC)
 - Bill of Quantities (BOQ)
 - General Conditions of Contracts (GCC)
- 1.2.5 The Contract shall be governed by the documents listed in Para 1.2.4 above.
- 1.2.6 The Bidders may obtain further information in respect of these Bid documents from the office of ED (Traction and E&M), JMRC Room no. - 407, 4th Floor, Admin Building, Metro Train Depot, Bhriugu Path, Mansarovar, Jaipur - 302020.
- 1.2.7 All Bidders are hereby cautioned that Bids containing any material deviation from the Bid document as mentioned in the clause of 1.2.4 of NIB which consists of NIB, Instructions to bidders, Special conditions of contract, Bill of Quantities, General conditions of contract, is liable to be summarily rejected as non-responsive.
- 1.2.8 JMRC reserves the right to accept or reject any or all proposals without assigning any reasons. No Bidders shall have any cause of action or claim against the JMRC for rejection of his proposal.
- 1.3 **Minimum Eligibility Criteria:-** The bidder should meet all the eligibility criteria as mentioned below:-

(a) Firm shall INITIALLY be filtered on the basis of following criteria

INITIAL REQUIREMENTS:-

S. No.	Criteria
1	Firm should not have abandoned any work in last five years.
2	Bidder's Contract with any organization should not ever been terminated due to poor performance.
3	Bidder's Security Deposit should not ever been forfeited by any Government/ Semi Government/PSU/MRTS.
4	Bidder should not have been involved in frequent litigation in last five years.
5	Bidder should not have suffered Bankruptcy/ insolvency in last five years.
6	Bidder should not have been blacklisted by any organization.
7	Bidder should not submit any misleading information in the application.
8	Bidder should be financially sound to perform the work.
9	Bidder's Net Worth should not be negative.
10	Bidder should be able to certify neither that no agent / middleman has been or will be engaged nor that any agency or commission has been or will be paid.

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To prove conformity to above requirements, bidder should submit an undertaking for the fulfilment of all above criteria on the letter head of the firm at the time of submission of bid (refer clause 8.1.1). At any stage if it is found that bidder has not met any of the above eligibility criteria, his bid will be summarily rejected and action shall be taken as per terms and conditions of this bid documents.

(b) Electrical Contractor License :

The firm/contractor should have valid electrical contractor licence issued by any state Govt authority in India, on the date of bid opening in his own name or in the name of firm .

Or

In case bidder is OEM or his authorised agency but he does not have electrical contractor license in his own name or in the name of firm then he may submit undertaking that he will get the work executed through an agency/contractor having a valid Electrical Contractor licence in his own name/firm's name issued by concerned authority anywhere in India . He will be required to submit such license before issue of LOA.

(c) Work Experience: : The bidder firm should have satisfactorily completed similar works during last five financial years and the period ending last day of month previous to the one in which the Bids are invited in current financial year and should be either of the following:

One "similar completed work" ** costing not less than INR 1, 47,50,000 /-.

OR

Two "similar completed works" ** costing not less than INR 92,18,750/-

OR

Three "similar completed works" ** costing not less than INR 73,75,000/- And

Specific Experience: Bidder shall be an OEM for Reactive Power compensation devices (STATCOM/APF only) having minimum experience of supplying similar equipments for minimum 5 years or the Bidder shall submit manufacturer's authorization certificate as per FORM -M .

Notes:

1. The BIDDERS shall submit details of works executed by them in the Performa of T-II of FOT, for the works to be considered for qualification of work experience criteria. Documentary proof such as completion certificates from client clearly indicating the nature/scope of work, actual completion cost and actual date of completion for such work should be submitted. The offers submitted without this documentary proof shall not be evaluated. In case the work is executed for private client, copy of work order, bill of quantities, bill wise details of payment received certified by C.A., T.D.S certificates for all payments received and copy of final/last bill paid by client shall also be submitted.
2. Value of successfully completed & commissioned portion of any ongoing work up to last day of the month previous to the month of tender submission will also be considered (Work which is not commissioned shall not be considered) for qualification of work experience criteria. For such ongoing works, BIDDERS needs to submit client certificate wherein the value of commissioned portion of the works needs to be clearly identified and mentioned along with relevant details.
3. In case of Joint venture / consortium, full value of the work, if done by the same joint venture shall be considered. However, If the qualifying work(s) were done by them in JV/consortium having different constituents, then the value of work as per their percentage participation in such JV/Consortium shall be considered.

Signature of Authorized Signatory

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4. If the above work(s) (i.e. "Similar Work" comprise other works, then client's certificate clearly indicating the amount of work done/quantum of work done in respect of the respective "similar works" shall be furnished by the BIDDERS in support of the work experience along-with their tender submissions.
5. ****Similar works**** for this contract shall be the work of "Design, Supply, Installation, testing and commissioning of STATCOMs for corrections of leading power factor of any substation of Railways /Metro Rails /Industries/PSUs or any other organizations in India."

(d) Financial Standing (Annual Turnover) :

- A. The average annual turnover of bidder during last three audited financial years should not be less than forty percent (40%) of the estimated cost given in NIB i.e. Rs. 73,75,000 /-.The bidder shall attach copies of Audited balance sheets/ Any other document mentioning the required turnover, certified by a Chartered Accountant/ Assessed ITRs/Details of payments made financial year wise against works completed in any organization listed.

1.4 Bid document issue/downloading from website :-

- 1.4.1 The complete bid document can be downloaded from the state e-procurement website <https://www.eproc.rajasthan.gov.in> in and interested bidders will have to submit their offer in electronic formats both for technical and financial proposal on this website with their digital signatures. The complete bid document can also be seen on Corporation's website <http://transport.rajasthan.gov.in/jmrc> and state procurement portal i.e., www.sppp.rajasthan.gov.in. Bidders who wish to participate in this bidding process must have registered on <https://eproc.rajasthan.gov.in>. To participate in online tenders, as per Information Technology Act, 2000, Bidders will have to obtain Digital Signature Certificate (DSC) from any agency approved by Controller of Certifying Authorities (CCA). Bidders who already have a Valid Digital Signature Certificate need not to obtain a new Digital Signature Certificate. This DSC will be used to sign the bids submitted online by the bidder. Unsigned bids will not be entertained and will be rejected out rightly.
- 1.4.2 **Corrigendum, Addendums and subsequent clarification on the bid terms, if any, can be down loaded from the above mentioned website. Intimation for change in the schedule of Bid opening etc. shall be published on above mentioned website only. Keep visiting theses website for any subsequent clarification & modifications.**

Director (O&S)
JMRC

DEFINITIONS

Agreement	The Contract Agreement to be executed between JMRC and Agency, subsequent to the Letter of Award, as per the format at Form-E of ITB.
Agency/Bidder	The Agency/Bidder engaged pursuant to this Bid for conducting the Work as per the Scope of Work defined in this Bid document.
Corporation	Jaipur Metro Rail Corporation Ltd.
JMRC	Jaipur Metro Rail Corporation Ltd.
LOA	Letter of Award – Letter form Corporation to selected Agency conveying selection and outlining the terms and rates for the work.
Bidder	The firm or company which submits proposal in response to this BID within the time prescribed for the purpose.
Technically Qualified Bidder	A Bidder whose Technical Bid is considered eligible and technically responsive by JMRC.
Contract Agreement Amount	The contract amount finally approved by JMRC for the entire work for the duration of the contract (and extended) pursuant to this Bid process, as mentioned in the LOA.

Handwritten signature and date 20/8/2020



Section 2:

Scope of work & Technical Specifications and Standards of Work

1. Introduction & Project Overview

- 1.1 The subject work is for "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited." The main objective of the work is to improve the true power factor up to 0.99 at 132KV incomer's of both RSS of JMRC. The targeted power factor is to be read 0.99 (true PF) instead of unity PF in all tender document. The equipment offered should be based on the latest state of the art technology and having maximum energy efficiency and best performance.

1.2 List of RSS and capacity of shunt reactors and STATCOM/APF

The tentative location of RSS of JMRC where Reactive Power Compensation is required is given below with tentative approximate capacities as worked out by JMRC:

S. No.	RSS Name	Reactor capacity (MVAR)	STATCOM/APF capacity (MVAR)
1	Mansarovar	1	2
2	Sindhi Camp	1	1
Total tentative capacity		2	3

However contractor shall be required to carry out detailed measurements, design and modeling, load flow studies to work out final capacities and scheme of reactive power compensation required for approval of JMRC.

2. SCOPE OF WORK

- 2.1 Design, Detail Engineering, Supply, Erection, Testing and Commissioning of 33 kV Shunt Reactor and 33kV STATCOM/APF for Reactive Power Compensation and power quality improvement along with associated equipment's & integration with existing protection and SCADA interface at Receiving Substations of Jaipur Metro Rail Corporation.
- 2.2 The Scope of work is also includes all Electrical works such as:
- 2.2.1 To design the scheme using shunt reactor and STATCOM/APF in RSS of JMRC (Fixed/Variable) for reactive power compensation and power quality improvement.
- 2.2.2 To provide 33 kV shunt reactor (Fixed/Variable) and 33kV STATCOM/APF.
- 2.2.3 To provide necessary power and control cables.
- 2.2.4 To arrange inspection by JMRCL official for routine / type test / acceptance test of various items used in project.



- 2.2.5 To undertake all required civil works (like foundations, wall opening, room ventilation, cable trays, bus ducts etc.) related to erection of equipment's except room. A covered room (size: 15X8 meter) will be provided by JMRC at both RSS. (Covered Room Drawing attached as an annexure C)
- 2.2.6 To erect / install 33 kV shunt reactor, STATCOM/APF with all associated items, and accessories.
- 2.2.7 To install and interface the existing system with 33 kV STATCOM/APF and fixed reactor at most appropriate feasible location of provision of compensator based on arrangement of RSS substation.
- 2.2.8 To interface and commission the 33 kV shunt reactor, STATCOM/APF with existing SCADA system in JMRC.
- 2.2.9 To obtain statutory approval for the installation. The scope of work shall completely cover the works such as arranging inspection of routine / acceptance / type test of material used execution and testing as per specification, packing, supply of equipment's and materials at site including insurance and transporting by road/rail/air or any other mode.
- 2.3 **The Principal Manufacturers of proposed dynamic reactive compensation device (i.e. STATCOM) are only eligible to quote for the tender. The manufacturer of same device should also have their own office in India. The principal manufacturer should have their own service centers in India. The relevant supportive documents shall be submitted along with the Bid. However, Principal Manufacturers may authorize the bidder to participate in bidding of JMRC.**
- 2.4 The BIDDERS should have service support facility located in vicinity so that the manpower and required tools/plants shall be mobilized within 24 Hr. of any log of complain. The BIDDERS should provide the address and contact details of these facility.
- 2.5 Drawing and plans pertaining to System/sub-system design, AC & DC power distribution system, network design & protection system, installation drawings including foundation and mounting arrangement drawings etc. shall be prepared and submitted to JMRC for approval. The work at site shall commence after the design and drawings are approved by JMRC.
- 2.6 The contractor shall submit the maintenance plan for each equipment supplied through this Contract and attend to any failure for a period of 24 Months (2years) (DLP) from the date of issue of Acceptance certificate entirely free of including repair and replacement of defective hardware and software, equipment, system and sub-systems and without any cost of spares.
- 2.7 **Design Works:-**

The contractor shall be responsible for all Works associated with Design, Detail Engineering, Supply, Installation, Testing and Commissioning of reactive power compensation devices. It shall be clearly understood by the BIDDERS that the description is for the purpose of guidance only and is not exhaustive.

As per initial assessment done by the Employer, the optimum requirement for Reactive power compensation device at each RSS has been identified. The quantum of Shunt reactors (Fixed and Dynamic (STATCOM/APF)) at each RSS has been detailed in the Specification.

The scope of design under this contract shall include network modeling, load flow analysis etc. to arrive at techno-economic requirement for fixed and dynamic reactive power compensation devices at each RSS. The compensation requirement shall be worked out based on the actual fixed load such as HV and



MV cables and dynamic load during different operating conditions i.e. during peak hour, non-peak hours, non - revenue hours etc.

The contractor is required to verify the same through actual measurement with power analyzers and load flow analysis through simulation on commercially available simulation software such as ETAP, MI power or equivalent. The contractor is required to prepare and submit design reports along with network model for each RSS from grid level to 415 V level in the JMRC substation (ASS at station level) including 33kV and 25 kV cable network for employer's approval.

After finalization of design contractor shall supply network model for each RSS along with latest version of simulation software used for modeling with license for minimum 5 years (2 users) with update and maintenance support.

The contractor shall be responsible for preparation of working drawings for RSS layout and SLD and other construction drawings for facilitating installation during execution stage.

Contractor shall be responsible for submission of As-built layout and SLD and all other construction drawings along with relay coordination & protection schemes (if modified) after execution of work along with operation and maintenance manuals.

2.8 Training

Contractor shall provide training to Employer's staff on software, model so that minor modification can be carried out.

2.9 Comprehensive Annual Maintenance Contract (CAMC)

Employer may award the Comprehensive AMC to the successful BIDDERS for 5 years beyond Defect Liability Period. Scope of maintenance work will be same as during DLP (Maintenance Requirement).

The cost of spare parts required for maintenance during CAMC period beyond DLP will be deemed to be inclusive in the prices for CAMC.

Employer reserves the right to enter into a separate CAMC contract for further 10 Years, beyond 5 Years CAMC, considering the Price quoted in BOQ as base rate.

3. Technical Specifications

3.1 General specifications

3.1.1 All the material supply/ installed shall be new and as per relevant IS / IEC specifications.

3.1.2 Any defect in the material or workmanship detected shall be rectified at no extra cost to JMRC for a period of two year from the date of commissioning or handing over of the system, whichever is later.

3.1.3 For execution of the above work shutdown will be arranged and no extra rates are applicable for any delay on account of JMRC to affect shutdown or time loss due to reasons beyond the control of JMRC.

3.2 33 kV Air Core shunt reactor

3.2.1 General.



- 3.2.1.1 The 33KV Air Core shunt reactor with accessories is to be installed at JMRC Receiving substations (RSS) in JMRC network. The following protection shall be provided for the 33kV reactor:
- Over current protection (51-DMT & 50- IDMT)
 - Earth fault (51N-DMT E/F & 50N-IDMT E/F)
 - Over voltage Protection
 - Surge suppression Circuit
 - Lightning Arrester.
- 3.2.1.2 A digital Energy Meter (110V DC aux. supply) which displays KWH, KVAH, KVARH, KVA, KW, KVAR to be provided and install at both 33KV feeders used for connecting compensation devices.
- 3.2.1.3 33 kV shunt reactor be designed, manufactured and tested as per standard IEC 60076-6 (latest version).
- 3.2.1.4 Heat load calculation shall be carried out and proper cooling system shall be provided, if natural cooling is insufficient.
- 3.2.1.5 The Rating of 33kV shunt reactor shall be as per approved design.
- 3.2.1.6 Switching of reactor shall be achieved by the circuit breaker coupled with the existing 33kV panels at both RSS.
- 3.2.1.7 Earthing station if any required for the 33kV shunt reactor shall be provided separately and shall be interlinked with the existing Substation grid.
- 3.2.1.8 Credential for proposed manufacturer of shunt reactor shall be submitted along with the bid submission. The shunt reactor shall be supplied from the manufacturer having sufficient testing facility as per relevant standards and up-to required BIL level.
- 3.2.1.9 The proposed manufacturer must be having minimum 5 years of experience in manufacturing medium voltage reactors.
- 3.2.1.10 The contractor shall be responsible for the performance of the whole system.
- 3.2.2 Air Core Reactor**
- 3.2.2.1 Reactors shall be air core, dry type, be suitable for outdoor installation. No tapings on reactor shall be accepted. The insulation level shall be adequate. The contractor shall demonstrate compliance with the requirement of insulation co-ordination specified.
- 3.2.2.2 The insulation of the reactor shall be class F and hot spot temperature rise shall not exceed 105 deg. C above ambient temperature. Winding temperature rise shall not exceed 80 deg. C above ambient temperature.
- 3.2.2.3 The reactor shall be designed to withstand thermal dynamic shocks and mechanical shocks while in service and during erection.
- 3.2.2.4 The reactor shall fully conform to the relevant IEC standard.
- 3.2.2.5 The reactor shall be designed to withstand overloading due to over voltage as specified and shall also be subjected to excitation by harmonics; the reactor must be able to withstand such events without deterioration in normal life.
- 3.2.2.6 All internal (with in a reactor coil) current carrying connections shall be welded / Brazed or compressed joint.
- 3.2.2.7 All terminals shall be either tin plated or silver plated.
- 3.2.2.8 Lifting lugs shall be provided for handling of the reactor.
- 3.2.2.9 The reactor shall be vertically mounted.
- 3.2.2.10 The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.
- 3.2.2.11 Tests on Reactors: The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.



3.3 STATCOM/APF

3.3.1 GENERAL

- 3.3.1.1 The scope of the works shall completely cover the works such as routine / acceptance of materials used, execution and testing as per specification, packing forwarding, supply of equipment's and materials at site including insurance and transporting by road / Rail / Air or any other mode.
- 3.3.1.2 Carry out the power analysis study before supply, to decide the rating of STATCOM/APF and extent of reactive power compensation required.
- 3.3.1.3 The STATCOM/APF are to be provided at the LV Side (ASS) or HV side (RSS/AMS/TSS) as per requirement. In case of HV side Suitable coupling transformer to be provided.
- 3.3.1.4 To Supply the necessary power and control cables, CAT6e cables, Ethernet cables etc required for existing SCADA connectivity.
- 3.3.1.5 To undertake all required works (except room) in related to erection of STATCOM/APF with all necessary accessories including supply of cable with terminations, Earthing arrangement and Air conditioning (if required).
- 3.3.1.6 To interface the STATCOM/APF with existing SCADA system in JMRC to Control and monitor the equipment with necessary hardware and software support.

3.3.2 Definitions

- 3.2.2.1 RSS : Receiving substation ASS: Auxiliary substation at stations
- 3.2.2.2 Point of common coupling (PCC): Point on a public power supply system, electrically nearest to a particular load, at which other loads are, or could be, connected. The PCC is a point located upstream of the considered installation.
- 3.2.2.3 Notch depth: The average depth of the line voltage notch from the sine wave of voltage.
- 3.2.2.4 Notch area: The area of the line voltage notch. It is the product of the notch depth, in volts, times the width of the notch measured in microseconds.
- 3.2.2.5 Total demand distortion (TDD): As per IEEE-519.
- 3.2.2.6 Total harmonic distortion (THD): As per IEEE-519.

3.3.3 Technical specifications of STATCOM/APF:

- 3.3.3.1 The main features required in STATCOM/APF are:
 - a. Voltage regulation due to reactive power
 - b. Dynamic & step less reactive power compensation
 - c. Reduction of apparent power
 - d. No over compensation
 - e. Minimum active power consumption
 - f. Low response time
 - g. Low start-up time
 - h. Harmonics Compensation
 - i. Unbalance compensation
 - j. Other requirement are detailed in specifications
- 3.3.3.2 The Enclosure shall have minimum IP 42 rating with self-ventilation arrangement for cooling and provide the Air conditioning if ventilation is not adequate.
- 3.3.3.3 The STATCOM/APF shall be of the shunt configuration and of 3-wire/4 wire type to filter harmonics and control the power factor in the all three phases so as to maintain Harmonic limits as per IEEE-519 and 0.99 power factor at 132KV incomer of JMRC.
- 3.3.3.4 The STATCOM/APF shall have bottom cable entry or top cable entry as per site conditions.
- 3.3.3.5 The STATCOM/APF shall be able to work on utility fed power supply.

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- 3.3.3.6 The STATCOM/APF shall be able to do reactive power compensation (both Capacitive (-) kVar and Inductive (+) KVar. Target power factor must be settable up to unity at PCC.
- 3.3.3.7 The STATCOM/APF shall be able to do load balancing. The STATCOM/APF shall measure the network currents allowing for closed loop control. Standard current transformers of class 0.2 accuracy shall be sufficient for proper filter operation.
- 3.3.3.8 The STATCOM/APF power inverter shall be based on IGBT technology / or any other technology subject to approval of JMRC. It shall employ a PWM modulation technology using a fixed switching frequency. The communication between the main controller board and the individual power modules must occur through an optical link to ensure maximum galvanic isolation.
- 3.3.3.9 The STATCOM/APF shall monitor all three phases of the low voltage line current in real time and process the measured harmonics by means of a Digital Signal Processor (DSP) based system. The output of the DSP based system shall be a pulse width modulated (PWM) signal to control power modules that shall be controlled as a current source.
- 3.3.3.10 The control of the power modules and associated reactors shall be such that harmonic currents of exactly the opposite phase of those to be filtered are injected into the source of supply to the filter so that the harmonic currents flowing in the line are reduced to levels that can be individually programmed by the user.
- 3.3.3.11 The system shall be operated under closed loop control. The control system shall be such that the STATCOM/APF cannot be overloaded. The STATCOM/APF shall be able to co-exist with tuned and detuned capacitor banks.
- 3.3.3.12 The STATCOM/APF shall be of a fully proven design which is in production currently as a standard product or which is based on an STATCOM/APF generation that has been in production for more than five years.
- 3.3.3.13 Each STATCOM/APF shall undergo a functional filtering test before leaving the product's originator factory. All the STATCOM/APF components like IGBTs, AC & DC Capacitors, and Inductors etc. shall undergo routine tests as per respective International standards IEC, NEMA etc. before leaving factory.
- 3.3.3.14 The STATCOM/APF shall be able to filter individual harmonic components so that THD (voltage and current) can be minimized up to limits as per IEEE 519.
- 3.3.3.15 The degree of filtering shall be programmable, for each harmonic, in terms of percentage of load RMS fundamental current.
- 3.3.3.16 The STATCOM/APF shall allow for different filter modes to be set expressing the priority to be given to the filtering of harmonics and the generation of reactive power and load balancing. The priority will be decided by JMRC.
- 3.3.3.17 Filtering efficiency and equipment efficiency shall be typically not less than 97%.
- 3.3.3.18 The STATCOM/APF shall be able to do reactive power compensation and aim to compensate for a target displacement power factor ensuring correct operation in the presence of harmonics. The user must be able to choose this target power factor in a range based on the power analysis study.
- 3.3.3.19 In addition to power factor targeting the STATCOM/APF shall also be able to generate/absorb a fixed amount (due to cable capacitance) of reactive power within the STATCOM/APF's current capabilities on the user's request based on power analysis study.



- 3.3.3.20 The STATCOM/APF shall have intelligent control technology that minimizes the STATCOM/APF switching losses for each operating point. The heat loss from each STATCOM/APF operating at full load shall not be more than 3% of the module rating per module.
- 3.3.3.21 The STATCOM/APF shall be provided with password protected HMI (7 inch LED graphic coloured display) suitable for programming, monitoring and controlling the performance of the unit mounted on the front of each STATCOM/APF.
- 3.3.3.22 The HMI shall allow at least for monitoring network and filter parameters; Programming the harmonic reactive power and balancing requirements; Setting up the hardware configuration parameters along with priority.
- 3.3.3.23 The operator interface shall allow for the logging of the time during which selected network parameters have been higher than a pre-set value and also for the storing of the maximum value recorded during a logging session.
- 3.3.3.24 The operator interface shall allow for the setting up of programmable warnings and alarms that may be associated with a selection of network parameters.
- 3.3.3.25 The STATCOM/APFs shall supply with potential free contacts for remote alarm monitoring facility. They should be able to communicate through MODBUS / RTU or any other open protocol (profibus).
- 3.3.3.26 The operator interface shall give numerical data of the following parameters:
- a SLD of respective substation
 - b RMS phase to phase voltages and Line currents
 - c Fundamental of all phase to phase voltages and Line currents
 - d Total Harmonic Distortion of all phase voltages and Line currents
 - e Active, reactive and apparent power
 - f Power factor, displacement power factor
 - g Voltage imbalance
 - h Network frequency
 - i Percentage of filter capacity used,
 - j IGBT and control board temperatures
 - k Voltage present on the DC bus
 - l Operating hours of the filter fan
 - m Operating hours of the filter system
 - n Waveform analysis and spectrum displays in bar graph and value table form of:
 - o All the phase voltages, Line voltage
 - p All the line currents,
 - q Event and faults that have occurred, presented in an event log with real time stamp.
 - r Any other critical parameters as desired by JMRC.
- 3.3.3.27 The STATCOM/APF shall incorporate its own protection devices that ensure protection against at least over current, short-circuit, thermal overload, IGBT bridge abnormal operation, network voltage phase loss, network synchronization loss and DC capacitor over- and under voltage, Network synchronization loss, phase loss, unstable grid etc.
- 3.3.3.28 Suitable earthing to be provided and integrated with existing substation.
- 3.3.3.29 All the cables/wires used shall be FRLSH type.
- 3.3.3.30 Clean agent based gas-flooding system to be provided for STATCOM/APF panels.
- 3.3.3.31 Suitable No. of CT's, summation CT's of class 0.2 type are to be provided for feedback from both 132KV Incomers.

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- 3.3.3.32 STATCOM/APF provided at RSS level shall come with Transformers. These Transformers shall be capable of handling the Harmonics. They should come with suitable K-factor.
- 3.3.3.33 The STATCOM/APF supplied at station level (ASS) or RSS level are such that they keep current distortion limits (TDD) and Voltage Distortion limits as per IEEE 519 at PCC.
- 3.3.3.34 In case of the STATCOM/APF provided at stations (ASS) the STATCOM/APFs shall take the feedback from CT's, PT's at SS and control the Power factor at stations so as to maintain 0.99 or user configurable power factor at RSS (PCC).
- 3.3.3.35 STATCOM/APF shall also control the notch depth in Line-line voltage due to the switching etc. to an acceptable level as per IEEE 519.

The HMI (human machine interface) installed in the STATCOM/APF shall have the following features:

- I. A 7-inch, colored touch screen LCD interface
- II. Start, stop and trip condition (with code) of the STATCOM/APF
- III. Trip code and nature of fault indication
- IV. Internal CAN communication with the DSP controller
- V. The HMI must display the following (minimum) numerical parameters
 - a) Arms - All 3 phase currents + Neutral
 - b) Alrms (Fundamental Current) - All 3 phase currents
 - c) iTHD (%) - All 3 phase current harmonic distortion
 - d) Aunb (%) - All 3 phase current unbalance
 - e) Vrms - All 3 phase voltages
 - f) Urms - All 3 line voltages
 - g) Vlrms (Fundamental Voltage) - All 3 phase voltages
 - h) vTHD (%) - All 3 phases voltage harmonic distortion
 - i) Vunb (%) - All 3 phase voltage unbalance
 - j) Grid Frequency
 - k) Active Power (kW) - All 3 phases + Total
 - l) Reactive Power (kVAR) - All 3 phases + Total
 - m) Apparent Power (kVA) - All 3 phases + Total
 - n) Power Factor (PF) - All 3 phases + Total
 - o) Displacement Power Factor (dPF) - All 3 phases + Total
 - p) Apk - Peak Current of 3 phases of each stack
 - q) Utilization (%) - Utilization percentage of 3 phases of each stack
 - r) Vdc - DC bus voltage of each stack
 - s) Stack Temperature - Temperature of 3 phase IGBTs of each stack
 - t) PCB Temperature
 - u) System Running hours
 - v) Fan Running hours
- VI. The HMI must provide graphical information for the following (minimum) data
 - a Individual harmonic bar chart of 3 phase currents - upto 51st order
 - b Individual harmonic bar chart of 3 phase voltages - upto 51st order
 - c Graphical display of 3 phase currents and 3 phase voltages on single window with user select-able options
- VII. The HMI must save a minimum of 50,000 time stamped event logs
 - a) The logs view must be password protected
 - b) The logs should capture system events like System On/Off
 - c) System trip event should be logged with associated trip code

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- d) User entry into settings should get logged
- e) Any failed user login attempt (wrong password) should be logged
- f) Logs must be accessible day-wise for ease of navigation
- g) Logs must be arranged in First In - Last Out fashion to display the latest events on top
- h) User must be able to export the logs to an external USB storage device

VIII. HMI must have provision for Ethernet communication

3.4 Protection Relay and SCADA compatibility

3.4.1 JMRC RSS are provided with substation automation system based on IEC61850 protocol. The relay shall be configured by the contractor if any other modifications are required. The contractor shall enable communication to the servers located at Operation control centre (OCC) through the already existing JMRC network for purpose of monitoring and controlling through SCADA (to operate display measurement values and generate alarms).

3.4.2 All the operations, events, alarms, measurement and SLD related to Reactive Power Compensation devices should be configured at RSS and OCC level also.

3.4.5 All Communication channels like RS232 and/or OFC from STATCOM to JMRC SAS server shall be provided by contractor.

Other accessories:

Coupling Transformers:

One coupling transformer of 3150KVA, 33KV/0.415KV will be supplied and commissioned by JMRC at its own cost at Mansarovar RSS. Another dry type coupling Transformer of suitable capacity considering 1MVA extra spare capacity for future requirements for SICP RSS will have to be supplied and commissioned by contractor. The cost of coupling Transformer required at Sindhi Camp RSS as above shall be inclusive in the cost of BOQ Item 1.2. The type of transformer (indoor/outdoor) will be decided as per the site requirement with the prior approval of JMRC. The tentative detailed specification of same is given in FORM - F.

33KV Power Cable:

Power cable of 33KV to feed Shunt Reactor and coupling Transformer will be provided by contractor. The power cable should have adequate current capacity as per requirement. The tentative detailed technical specifications of same are given in FORM - F.

LT Bus Duct:

LT bus duct to connect coupling transformer and STATCOM/APF shall be provided by contractor. LT ducts should be capable to carry full compensation current and future requirements.

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3.5 Civil works

The Contractor shall carryout modification (if required) of STATCOM room which is already available in both RSS. Contractor shall also provide adequate force ventilation facility in STATCOM room. All civil work (except construction of STATCOM/APF room) required for installing Shunt Reactor and STATCOM/APF, cable laying and other associated works shall be done by the contractor as part of equipment erection. The civil layout of the receiving substations is provided in tender drawings. Contractor shall propose the suitable location of the 33kV shunt reactor and STATCOM/APF based on existing arrangement and shall carry out any modification to existing arrangement which include but not limited to construction of base frame and foundation of STATCOM/APF and Shunt Reactor, development of cable trench, fixing of cable support, sealing cable entries if the cable has to leave the substation building to avoid any seepage of water through the cable entry.

All modification made by Contractor shall have had best finish and shall in-line with existing finishing and shall be done in accordance with relevant rules and regulations, testing procedures etc.

4. Technical Sheet

GTP of Air core Reactor

Basic design information		
Design technology	air-core, dry-type reactors	
Impregnation	epoxy-impregnated cylindrical coil technology	
Cooling method	AN	
Temperature class of the winding insulation system	F	
Max. average winding temperature rise	acc. to class F	
Winding conductor material	Aluminum	
Winding surface treatment	high performance insulation varnish	
Reactor colour	RAL 7040	
Mounting arrangement	As per site conditions	
Concrete platform reinforcement	standard steel reinforcement	
Type of Insulators	porcelain	
Colour of insulators	brown	
Protection class	IP 00	
Standards	IEEE C57.21/IEC 60076-6/IS2026-6	
Site condition		
Installation	-	outdoor



Altitude above sea level	m	≤1000
Max. ambient temperature of shunt reactor	°C	50
Pollution level acc. to IEC 60815-1	-	heavy
Unified specific creepage distance	mm/kVph-gr	43.3
Wind	m/s	40
System data		
Nom. system voltage	kVrms	33
Max. system voltage	kVrms	36.3
Fundamental frequency	Hz	50
Technical data		
Number of coils per phase	-	1
Number of coils per reactor unit	-	1
Number of phases per reactor unit	-	1
Rated three-phase power	Mvar	1
Rated impedance per phase	Ohm	1089
Over voltage factor		1.1 times
Rated Impulse Voltage	KVp	250KVp
Rated current (Ir) excl. harmonic currents	Arms	17.5
Max. current (Imax) incl. Harmonics	Arms	19.25
Max. S/C current (therm.)	kArms	25KA
Max. S/C current (therm.) duration	s	1
LIWL across reactor	kVpeak	250
LIWL to ground	kVpeak	250
Minimum insulator creepage distance to ground.	mm	907
Max. losses/phase at Ir and 75°C	kW	19
Total weight of reactor incl. Insulators approx.	kg	1560

1. The detailed STATCOM/APF specification

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S.No.	Particulars	Details and Ranges
1	Installation location	Indoor installation on firm foundation in a clean environment
2	Connection Method	3P or 4P / 3W or 4W
3	Altitude	Nominal output at 0 to 1000m (3300ft) above sea level
4	Minimum temperature	0°C non-condensing
5	Maximum temperature	50°C
6	Relative humidity	Max. 95% non-condensing.
7	Equipment Efficiency	>97% (typical)
8	Filtering Efficiency	Min 97%
9	Compensation Modes	Leading, Lagging, harmonic, mitigation and load balancing
10	Internal Protection	Suitable Door interlock ACB/MCCB with necessary protection like SC, Over current, under voltage etc. as per BOQ
11	DC Capacitors used in DC Link	Film capacitors
12	Communication between Controller/ Driver	Optical
13	PWM Reactors	Low noise single phase toroidal coil with Class 'H' insulation.
14	Controller Design	DSP 32 bit or 64 as per requirement
15	IGBT Max Junction Temperature	>175 deg C
16	IGBT Guaranteed life	Minimum 20 years
17	Internal system power consumption	<3% (typical)
18	Semiconductor Converters	IEC 60146
19	Dynamic Var Compensator installation information	
20	Standard degree of protection	Cubicle version: IP30 (IP20 open door)
21	Dimensions per power unit (appr.)	Contractor to specify
22	Weight per power unit of Dynamic	Contractor to specify

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23	Color	RAL 7035 (light grey)
24	Mechanical installation	Floor fixation, lifting lugs
25	Cable Entry	Bottom /top cable entry cubicle based on site requirement.
26	CT requirements	As per scheme requirement
27	Airflow requirements	As per site requirement
28	Network voltage characteristics	
29	Network voltage tolerance	+/- 10 %
30	Network frequency	50 Hz
31	Network voltage:	33kV
32	Dynamic Var Compensator characteristics	
33	RMS output current per power unit type (50Hz network).	As per capacity of STATCOM
34	STATCOM voltage	As per the manufacturer design to connect with 33 kV bus
35	Modularity	Up to 32 units of the same rating.
36	Redundancy	For full redundancy combine individual units of same rating
37		If any unit in a master-master Dynamic Var Compensator system fails, the other units should keep running.
38	Response time	< 2 ms instantaneous
39	Environmental Testing	IEC 60068
40	Harmonics and Inter-harmonics	IEC 61000, IEEE 519
41	Panel	IEC 61439
42	MCCB	IEC60947-2
43	Contractors	IEC 60947-4-1
44	AC Capacitors	IS 13340-1993
45	Reactors	IEC 60289, IEC 5553
46	DC Capacitors	IEC 60068-1, 60384-4, 60068-2-6

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47	Gate Driver Card	IEC 60068-1
48	Sensor	EN 50178
49	Reactive power	DYNAMIC/dynamic Power factor programmable from 0 (inductive) to 0 (capacitive); Programmable dual power factor settings. Full capacity of STATCOM to be utilised based on system VAR requirements.
50	Load balancing	3 phase Line to line balancing
51	Start and stop settings	Energy save mode functionality /standby functionality Auto restart after power outage functionality.
52	Dynamic Var compensator losses (maximum values)	< 3%
53	Communication	Through HMI.
54	Configuration	Through HMI.
55	Cooling Arrangements	Separate forced air cooling for individual phase IGBT stacks ensuring best cooling performance
56	Audible Noise Level	Less than 65 dB (At 1meter)
57	IP41 execution	

GUARANTEED TECHNICAL PARTICULARS OF TRANSFORMER

Sr.No.	DESCRIPTION	UOM PARTICULARS
1.	Type of Transformer :	CAST RESIN (Encapsulated)
2.	Service :	INDOOR
3.	Reference Standard :	IS-2026,IS-11171
4.	Kva Rating (HV / LV Winding) :	KVA (As per requirement)
5.	Rated Voltage	
	(A) H.V. Winding VOLT :	33000
	(B) L.V. Winding (0.433KV) VOLT :	415
6.	Rated Frequency Hz :	50
7.	No Of Phases :	3
8.	Connections With Symbol:	
	(A) H.V. Winding	DELTA - D
	(B) L.V. Winding	STAR - y
9.	Vector Group	Dyn11
10.	Tappings On HV	
	(A) Type	Off Circuit Tap Links
	(B) Number Of Steps	4 steps 5 positions
	(C) Tap Range	+ 5% to -5% @ 2.5%

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11.	Winding Material	COPPER
12.	Insulation Class	F
13.	Type Of Cooling	AN
14.	Temp. Rise Over Reference Amb. Temp. Of 500°C In Winding By Resistance	°C
15.	Total Loss At Rated Voltage On Principal Tappings & Rated Frequency Component Losses	KW
	(A) No Load Loss @ Rated Volts & Frequency (IS Tol)	KW
	(B) Load Loss @ Rated Current & Frequency At 750C (IS Tol)	KW
16.	Impedance At Principal Tap (IS TOL)	%
	(A) Reactance	%
	(B) Resistance At 75°C	%
17.	Insulation Level	
	(A) Separate Source Power Frequency Voltage Withstand	
	(I) HV Winding	KV RMS
	(II) LV Winding	KV RMS
	(B) Induced Over voltage Withstand	
	(I) HV Winding	KV RMS
	(II) LV Winding	KV RMS
	(C) Full Wave Lighting Impulse Withstand Voltage	
	(I) HV Winding	KV PEAK
	(II) LV Winding	KV PEAK
18.	Efficiency At 75° C & Unity Power Factor	
	(A) At Full Load	%
	(B) At 3/4 Full Load	%
	(C) At 1/2 Full Load	%
	(D) At 1/4 Full Load	%
19.	Efficiency At 75° C & 0.8 Power Factor	
	(A) At Full Load	%
	(B) At 3/4 Full Load	%
	(C) At 1/2 Full Load	%
	(D) At 1/4 Full Load	%
20.	Regulation At Full Load & 75°C	
	(A) At Unity Power Factor	%
	(B) At 0.8 Power Factor Lagging	%
21.	Terminal Arrangements	
	(A) HV Side	Cable Box
	(B) LV Side	Cable Box
22.	Approx. Overall Dimensions	
	(A) Length	mm
	(b) Width	mm
	(C) Height	mm
23.	Approx. Weight	
	Total Mass	Kg
24.	Enclosure Protection class	

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5. Spares

The BIDDERS shall furnish an un-priced list of spares for maintenance and repair for a period of ten years from the date of taking over. The Employer at his discretion, during a period of ten years from the date of taking over of the whole works, purchase as any kits / items of spare parts as required by him.

Requirements for BIDDERS's Technical Proposals

- A. Requirements for BIDDERS's Technical Proposals
- A1. The BIDDERS's attention is drawn to the List of Definitions and List of Abbreviations in the Employer's Requirements and to Clause 1 of the General Conditions of Contract in which terms are defined.
- A2. The BIDDERS's Technical Proposals shall comply or, subject to reasonable development, be capable of complying with the Employer's Requirements in all respects. The BIDDERS's Technical Proposals shall demonstrate such compliance. The BIDDERS's Technical Proposals shall establish the intended safety standards followed and installation and testing practices.
- A3. The following paragraphs list the minimum documentation that shall be supplied by the BIDDERS to enable technical evaluation of the tender. The BIDDERS shall include any further information necessary to demonstrate the suitability of his proposal.
- B. General Requirements
- B1 The BIDDERS should clearly identify how following major activities, covered in the scope of work, are proposed to be executed: -
- (i) Design and assessment of reactive power requirement.
 - (ii) Supply and Installation of 33 kV Fixed shunt reactors and 33 kV STATCOM.
 - (iii) Integration with existing SCADA system.
 - (iv) Cabling
 - (v) The above works include all other works required to make fully functional system.
 - (vi) Services to be offered during DLP, AMC (if applicable)
 - (a) Maintenance Regime
 - (b) Spare Management
 - (c) Training Support
- B5. Proposal for construction Machinery The BIDDERS should clearly bring out the minimum plant and machinery he possess or would be available through sub contractor or through hiring for the purpose of the contract. The list should specifically explain mobilization of plant and machinery for the following activities: -
- (i) Design, Supply, Installation, testing and commissioning of Shunt Reactor and STATCOM.



- (ii) Transportation.
- (iii) Other Activities.

B6. Proposal for Transfer of Technology

The BIDDERS to identify items which he proposes to import and what methodology will be adopted by the BIDDERS for transfer of technology to ensure availability of spares and services for service life of the equipment.

B8. Proposal for equipment / systems

The BIDDERS should indicate the details of the sources from which the following equipment's/systems are proposed.

1. Fixed shunt Reactors
2. STATCOM.
3. Measuring & Protection equipment's (CT, PT etc).
4. XLPE/FRLS Cables (33kV/LT Cables/Control Cables)
5. Coupling Transformer (33kV)
6. Motorised Isolators
7. Circuit Breakers /Interruptioners

The BIDDERS should note that the submission of details, in respect of providers of equipments/systems, does not mean approval of the vendor. The successful bidder will be required to submit proposal for vendor approval for various equipments, assemblies, sub-assemblies, systems and sub-systems after award of the contract. The vendor detail submission at this stage is only from the point of view of understanding of the offer of the bidder.



Section :3

1. Content of Statement of Prices

3. 1. Pricing Document

The Pricing Document for base tender is divided in to separate statements of Prices as follow: -

Statement No.1 Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor & STATCOM) at 33kV level along with associated equipment's & integration with existing protection and SCADA system at Receiving Substations of Jaipur Metro Rail Corporation Limited

Statement No.2 Comprehensive Annual Maintenance Contract (AMC) for 5 years beyond Defect Liability Period.

Statement No.3 Prices for the unconditional withdrawal of deviations, conditions, qualifications, etc. separately for each deviation, condition, qualification etc.

Statement No.4 Price for Spares and tools for 10 years beyond 2 years DLP and 5 years AMC.

2.2. Measurement and Payments

The Statements do not generally give a full description of the plant and equipment to be supplied and the services to be performed under each item. BIDDERSs shall be deemed to have read the Employer's Requirements to ascertain the full scope of requirements included in each item prior to filling in the rates and prices. The Contractor shall carry out all the work necessary to meet the Employer's Requirements.

If BIDDERSs are unclear of any item, they shall seek clarification in accordance with the Instructions to BIDDERSs prior to submitting their tender.

- (i). This Contract is primarily a re-measure contract with items that are described herein. For the re-measure items the total price paid for a



- work item will be varied by the quantities actually performed. The contract also contains some lump sum items for which special payment terms are described.
- (ii). The measurement and payment described is for the purpose of making a valuation of the work acceptable to the Engineer, and Interim Payments to the Contractor, as work proceeds. The works as executed will be measured for assessment of progress for interim payments in accordance with the method adopted in the Specification, the Statement of Prices and under the items as set forth notwithstanding any custom to the contrary.
- (iii). Building works will be measured in accordance with the local practice as proposed by the Contractor and accepted and approved by the Employer. For the measurement of "Numbers" and "Sets" these shall be by count, using dimensions and contents as described in the specifications.
- (iv). For the purposes of making interim payment for Lump Sum items and line items not subject to re-measure, such as described as "Lot" OR "Lump Sum", the Contractor shall submit with his tender a breakdown of the rates making up the total for those items for which the Contractor may wish to receive interim payments. These breakdowns shall be subject to the approval of the Engineer, and no interim payment shall be made on such items until the breakdown has been approved, with the approval of Engineer. The items described as "set" may also be broken down in a maximum of two lots for the purpose of interim payment under exceptional circumstances when it is established that the contractor is not able to complete the "set" for reasons not attributable to him.
- (v). Notwithstanding anything stated herein the Engineer retains the right to withhold payment on any pay item due for payment when the service to be performed is not performed, or is not carried out to the Engineer's satisfaction.

2.3. Terms of Payment

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(i) In accordance with the provisions of contract the Employer will pay the Contractor in the following manner and at the following times on the basis of the Prices given in the Statement of Prices. Retention money will be deducted from the payments due in accordance with the Conditions of Contract.

(ii) Payments will be made to the Contractor in the currency or currencies indicated for each respective Statement item. Notwithstanding anything stated herein the

"Engineer" retains the right to withhold payment on any pay item due for payment when the service to be performed is not performed, or is not

carried out to the "Engineer's" satisfaction.

2.3.1. Statement No.-1: - "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

The amount entered shall be the total price to be paid for the design, manufacture, Supply Installation Testing and Commissioning of Reactive Power Compensation device, Including Integrated Testing and Commissioning and/or procurement of all equipment's together with all ancillary equipment and components to be supplied.

The stage payment under this statement will be released as per the following milestones :

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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S.No	Milestone No	Activity	%age of Unit Rate*
1	Milestone No-1	Acceptance of Design and Detail engineering	5%
2	Milestone No-2	Supply of equipment at site (Bidder may submit item wise breakup for this item after approval of design).	75%
3	Milestone No-3	Installation, Testing and Commissioning including integration with SCADA at OCC level	10%
4	Milestone No-4	Supply of O&M Documentation, Transfer of Technology and all other items required by the Tender Documents, Training of Employer's Staff	5%
5	Milestone No-5	Successful completion of DLP and validation of Simulation results	5%#

*Note-1 :- *the amount payable will be rounded off to nearest 100 (Hundreds) for Milestones - 1 to 4, [say the amount payable works out to be INR 21,529 then the payment will be made for INR 21,500 and the balance of INR 29, will be released in the last milestone, i.e. Milestone -5].

**Note-2 :- Stage Payment

- Application for payments in respect of part deliveries of completed items may be made by the contractor as the work proceeds.
- Notwithstanding anything stated herein the employer's representative retains the right to withhold payment on any item due for payment when the services is to be performed is not performed, or is not carried to satisfaction of employers satisfaction.
- Stage Payment shall be made as detailed in BOQ.

As explained above, Balance amount will be released in the last payment of Milestone - 5.

A. Milestone-1:- 5% (Five) of Statement of Price-1 (Milestone-1) of the price for each Reactive Power Compensation shall be payable when

- a "Notice of No Objection" or "Notice of No Objection subject to" has been issued by the "Engineer" in respect of the design and other documents (Simulation report etc.) for "Reactive Power Compensation

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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device". The Compensation shall include for the preparation, submission, and all subsequent revisions, changes required and re-submittals as necessary during the design phase as required by the "Engineer" for documents, drawings, design calculations, test procedures etc. and finalization of the scheme.

- (b) Issue of "No-Objection" or "No-Objection subject to" For the vendor and Technical proposal of all major equipment's.
- B. **Milestone-2: - 75% (seventy five) of Statement of Price-1 (Milestone-2)**

of the price for each Reactive Power Compensation device shall be payable when

- (a) The price under this milestone shall include for the establishing and carrying out of manufacture/procurement; operation of quality assurance programme at places of manufacture; carrying out of type tests, prototype tests, factory acceptance tests, tests before shipment; inspection, packing, crating, shipping to Port of entry India, including insurances, bank guarantees, and transfer from offshore factory to port and all storage costs at factory and port etc.
- (b) Compensation for items listed in this milestone, shall include for all costs incurred in procurement/manufacture, testing, inspection, shipping, hauling, off-loading, storing at site in Jaipur.
- (c) Compensation under Milestone -2 shall include for the all also custom clearance activities including all formalities, liaising with the custom authority / custom house agents as well as transportation of goods to the site at Jaipur. This also includes price payable for Port Handling, Port Clearance, Local Transportation to Jaipur, Storage in approved Warehousing, loading at storage points or warehouses and transportation to site, offloading and moving to the point of installation.
- (a) Payment will be made for the items delivered and stored in a place and manner approved by the Engineer as per billing breakup approved by the Employer for this item.

- C. **Milestone-3: - 10% (Ten) of Statement of Price-1 (Milestone-3) of the price for each Reactive Power Compensation device shall be payable.**

- (a) The compensation under Milestone -3 shall be full compensation for the Prices for Installation, Testing and Commissioning and integration with SCADA at OCC level of plant and equipment supplied under the Contract in accordance with the drawings and specifications. Compensation shall include for preparation, submittal, and revisions as required by the Engineer of testing plans and procedures; co-ordination with other Designated Contractors, JMRC; conduct of approved tests as directed by the Engineer on equipment, sub- systems, and systems; revisions, re-testing, fault finding, adjustments and reworking as necessary; submittal of all test reports and other documents all to the approval of the Engineer.

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Payment will be made for each substation after certification by the Contractor and acceptance of the

Employers representatives that the sub-systems and systems, including all equipment have successfully completed the test procedures, and have been set-to-work and all test results and other documentation, as described in the specifications.

- (b) The above milestone shall include Deployment of Maintenance staff at the operational stations during installation stage to avoid any disruption in the service. The maintenance staff shall be provided at each location round the clock where the installation work has been undertaken by Contractor. This shall be continued until the system have been successfully commissioned and control and monitoring are available at OCC level
- (c) Prices for installation/erection of items of plant and equipment shall be for the full compensation for the installation/erection of plant and equipment in accordance with the drawings and specifications. Compensation shall include for all costs incurred for transporting to location, off-loading and moving to point of installation/erection; provision of specified foundations; preparing for installation/erection and mounting on foundations; supply of left out items, aligning, fastenings and securing devices; adjusting as necessary, making good and clearing the location on completion, all to the approval of the Engineer.
- (d) Testing and commissioning shall be full compensation for the testing and commissioning of Plant and equipment forming the Works in accordance with the specifications. Compensation shall include for all testing and putting-to- work of all equipment, sub-systems, and systems; re-testing, fault finding, adjustments and reworking as necessary; submittal of all test reports and other documents all to the approval of the Engineer. Payment will be made after certification by the Contractor and acceptance by the Engineer that the sub- systems and systems, including all equipment have successfully completed the test procedures, and have been set-to-work and that all test results and other documentation, as described in the specifications, have been approved by the Engineer.
- (e) The payment under this milestone shall be paid after issue of Taking Over Certificate by the Employer for each substation.

D. Milestone-4:- 5% (five) of Statement of Price-1 (Milestone-4) of the Price for each Reactive Power Compensation device shall be payable.

Prices under this milestone shall be full compensation for the training of Employer's staff in different disciplines overseas and inside India in accordance with the specifications. (Minimum 20 man-days) Compensation shall include for preparation, submittal and revisions as required by the Engineer of training manuals and curricula, employment of approved training staff and all associated costs and travel costs; provision of all manuals for each training course; provision and maintenance of training facilities.



- (b) Full compensation for the provision of As- Built drawings in accordance with the specifications. Compensation shall include for the preparation, submission, and all subsequent revisions, changes required and re-submittals as necessary as required by the specifications until accepted by the Engineer. Payment shall be made when all the As-Built drawings for each discipline have been reviewed and accepted by the Engineer.

E. Milestone-5:- 5% (five) of Statement of Price-1 (Milestone-5) of the price for each Reactive Power Compensation device shall be payable.

- (a) Full compensation for the maintenance by the Contractor staff including DLP spares and tools for the plant and equipment supplied under the contract in accordance with the specifications during defect liability period. Compensation shall include for the approval of the supervisors and replacement as required by the Employer, employment of approved staff including salaries, overtime, airfares, lodging allowances, their office expenditure, telephones/mobile bills, local travel costs to and from site, training materials, income tax and other taxes deducted at source. Payment shall be made on half yearly basis on certification by the Employer for completion of maintenance activity as per approved DLP maintenance schedule.

2.3.2. Statement No.2:- Price Annual Comprehensive Maintenance Contract (AMC) for 5 years beyond Defect Liability Period.

2.3.3. Statement No.3:- Prices for the unconditional withdrawal of deviations, conditions, qualifications, etc. separately for each deviation, Condition, qualification etc.

The Price quoted under this statement shall be added in to the amount stated in Statement -1 and Statement-2 of the BOQ to arrive at L-1 Bidder during bid evaluation.

2.3.4. Statement No.4:- Recommended Spare Parts and tools for 10 years beyond 2 years DLP and 5 years AMC, with a unit price for each spare part with rate of escalation per year over base year, if any.

Prices for spares shall be full compensation for supplying the spare parts for the equipment, sub-systems, and systems provided under the Contract in accordance with the specifications Manufacturers recommendation and as stipulated in the Installation and maintenance manual from the manufacture. Compensation shall include provision of all spare parts and lists as required by the specifications complete in every respect, fully catalogued and marked for identification purposes for each discipline and to the approval of the Engineer. Payment shall be made when all spare

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parts and have been delivered to the Employer and accepted by the Engineer.

(b) Prices for Tools shall be full compensation for supplying all tools, special tools and special test instruments and equipment in accordance with the specifications, Manufacturers recommendation and as stipulated in the Installation and maintenance manual from the manufacture. Compensation shall include provision of tools etc., as required by the specifications, complete in every respect with operating instructions as necessary.

(c) Payment shall be made when all spares and tools & associated documentation have been delivered to the Employer and accepted by the Engineer.

2.3.5. Statement No.5: - Unit Price for metering arrangement at grid substation.

Payment under this statement shall be made after successful completion and acceptance thereof from the Power Supply authority for the metering arrangement.

C24 Pre-Bid queries:

Pre-bid queries, if any may be raised through their mail at edtem@jaipurmetrorail.in latest by 09.09.2020.

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Handwritten signature

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INSTRUCTIONS TO BIDDERS

1.0 GENERAL

1.1 INTRODUCTION

Sealed open Bids are invited for "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipments & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited." herein after called the Employer, for Works in accordance with this Bid Package.

The Bid papers consist of the following documents, along with their annexes, appendices, addenda and errata if any.

- Notice Inviting Bid (NIB)
- Instructions to Bidders (ITB)
- General Conditions of Contract
- Special Conditions of Contract (SCC)
- Bill of Quantities

Bids shall be prepared and submitted in accordance with the instructions given herein.

1.2 Relevant address for correspondence relating to this Bid is given below:

ED (Traction and E&M), JMRC Room no. - 407, 4th Floor, Admin Building, Metro Train Depot, Bhriku Path, Mansarovar, Jaipur - 302020

1.3 Some essential data/requirements pertaining to this Bid along with reference to Clause number of this volume where full details have been given are detailed below.

- a) "Bid Security" to be furnished by the Bidders: Amount as per NIB.
- b) The complete bid document can be downloaded from the state e-procurement website <https://www.eproc.rajasthan.gov.in> and interested bidders will have to submit their offer in electronic formats both for technical and financial proposal on this website with their digital signatures. The complete bid document can also be seen on Corporation's website www.jaipurmetro.in and state procurement portal i.e., www.sppp.rajasthan.gov.in
- c) Bidders who wish to participate in this bidding process must have registered on <https://eproc.rajasthan.gov.in>. To participate in online tenders, as per Information Technology Act, 2000, Bidders will have to obtain Digital Signature Certificate (DSC) from any agency approved by Controller of Certifying Authorities (CCA). Bidders who already have a Valid Digital Signature Certificate need not to obtain a new Digital Signature Certificate. This DSC will be used to sign the bids submitted online by the bidder. Unsigned bids will not be entertained and will be rejected out rightly.

2.0 PRE QUALIFICATION REQUIREMENTS

2.1.1 This invitation to Bid is open to only those agencies having valid electrical license to work in Rajasthan and having experience of Work experience of new earth formation, Repairing of existing stations/pits with formation of inspection chamber of concrete box with wall and top cover of concrete lid with pulling hooks, Supplying, laying and connections of earthing strip from earthing pit to desired equipment/mast as mentioned in BOQ (Bill of quantities) or any earthing related work in electrical installation and systems

2.1.2 Each agency shall submit only one Bid either himself or as a lead partner /Lead Constituent in a joint venture/consortium for the work. The Bid who submits more than one Bid for the same work will be disqualified.

All Bids submitted shall include the following information:

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- 2.1.3 General information on the Bidders shall be furnished in Form T-I. Copies of original documents defining the constitution and legal status, certificate of registration and ownership, principal place of business of the company, corporation, firm or partnership or, if a joint venture including consortium, of each party thereto constituting the Bidders will also be required to be furnished. All the group members in a joint venture will be jointly and severally responsible for the performance under the contract.
- 2.1.4 In the case of Bid by a joint venture of two or more firms or companies as partners or as members of a consortium as the case may be, joint venture data must be furnished in the format prescribed (Form T-I) along with the documents as mentioned therein. The following requirements shall also be complied with.
- The Bid, and, in the case of a successful Bid, the Form of Agreement, shall be individually signed so as to be legally binding on all partners/constituents as the case may be.
 - In case of partnership, one of the partners shall be nominated as being In-charge as Lead or Prime Partner and this authorization shall be evidenced by submitting a power of attorney signed by the partners or legally authorized signatories of all the partners. In case of consortium, it will similarly authorize a person to be In-charge and this authorization shall be evidenced by a power of attorney in favour of that person.
 - The partner In-charge or the person In-charge as aforesaid shall be authorized to incur liabilities and receive instructions for and on behalf of any and all the partners of the joint venture or constituents of the consortium and the entire execution of the contract including payment shall be carried out exclusively through the partner In-charge of Joint Venture and person In-charge of a consortium.
 - All partners of the joint venture or constituents of the consortium shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Bid and the Form of Agreement (in case of a successful Bid).
 - In the event of default by any partner in the case of a joint venture and constituent in the case of a consortium in the execution of his part of the Contract, the partner/person In-charge will have the authority to assign the work to any other party acceptable to the Employer to ensure the execution of that part of the Contract.
 - A copy of the agreement entered into by the joint venture/ consortium partners shall be submitted along with the Bid.
- 2.1.5 In case the Bidders is an Association, Consortium or Joint Venture, the Bidders shall provide the following:
- The Memorandum of Understanding/Joint Venture Agreement duly notarized indicating:
 - Nomination of one of the members of the Association, Consortium or Joint Venture to be In-charge or Lead Member. The legally authorized signatories of all members of the Association, Consortium or Joint Venture shall issue this authorization.
 - Details of the intended percentage participation given by each member, with complete details of the proposed division of responsibilities and corporate relationships among the individual members.
 - Each member of the Association, Consortium or Joint Venture shall be jointly and severally liable for the undertaking of this Contract.
- 2.1.6 The Bidders to qualify for award of Contract shall submit a written power of attorney authorizing the signatory (ies) of the Bid to commit the Bidders or each member of the partnership, consortium or joint venture.
- 2.2 Each page of Bid shall be signed by the authorized signatory of the Bidders. Power of Attorney in favour of the signatory will be required to be furnished as detailed in Clause 13.0.
- 2.3 Cancellation or creation of a document such as Power of Attorney, Partnership deed, Constitution of firm etc., which may have bearing on the Bid/contract shall be communicated forthwith in writing by the Bidders to the Engineer and the Employer.


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- 2.4 Details of information submitted by the applicants at the stage of Techno-Commercial bid shall be considered for qualification of this Bid. Any information found incorrect or suppressed, the Bid may not be considered or contract will be cancelled without any financial claim/arbitration from the Bid. The applicant is required to certify in the statement placed at Annexure B.
- 2.5 Each Bidders, or any associate will be required to confirm and declare in the Bid submittal that no agent, middleman or any intermediary has been, or will be, engaged to provide any services, or any other items of work related to the award and performance of this contract. They will have to further confirm and declare in the submittal that no agency commission or any payment, which may be construed as an agency commission, has been, or will be paid and that Bid price will not include any such amount.

3.0 COST OF BIDDING

- 3.1 The Bidders shall bear all costs associated with the preparation and submission of his Bid and the Employer will in no case be responsible or liable for these costs.
- 3.2 In case the tender is annulled in any case, the bid cost and tender processing fees will not be refunded in any case.

4.0 SITE VISIT

- 4.1.1 The Bidders is advised to visit and examine the Site of Works and its surroundings at his/their cost and obtain for himself on his own responsibility, all information that may be necessary for preparing the Bid and entering into a Contract.
- 4.1.2 The agency shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site in the preparation and submission of the Bid.

BID DOCUMENTS

5.0 CONTENTS OF BID DOCUMENTS

- 5.1.1 The Bidders is expected to examine carefully all the contents of the Bid documents as mentioned including instructions, conditions, forms, terms, specifications and take them fully into account before submitting his offer. Failure to comply with the requirements as detailed in these documents shall be at the Bidders own risk. Bids that are not responsive to the requirements of the Bid documents will be rejected.

6.0 AMENDMENT TO BID DOCUMENTS

- 6.1 At any time prior to the deadline for the submission of Bids, the Engineer may, for any reason, whether at his own initiative or in response to a clarification or query raised by a prospective Bidders, modify the Bid documents by an amendment/addendum.
- 6.2 Any amendment/addendum as per clause 6.1 above shall also be the part of this Bid. The said amendment in the form of an addendum will be sent to all prospective BIDDERSs who have received the tender documents, on or prior or last date mentioned in NIB. These prospective BIDDERSs should promptly receipt thereof by email to the Engineer. Bidders may remain in touch with the E-Proc portal <https://www.eproc.rajasthan.gov.in> and JMRC's website <http://transport.rajasthan.gov.in/jmrc> or state procurement portal www.sppp.rajasthan.gov.in for any kind of latest Information, Addendum, Clarification, etc.
- 6.3 In order to afford prospective Bidders reasonable time for preparing their Bids after taking into account such amendments/addendums, the Engineer or the Employer may, at his discretion, extend the deadline for the submission of Bids in accordance with Sub-clause 15.0.

PREPARATION OF BIDS

7.0 LANGUAGE OF BID

- 7.1 The Bid prepared by the Bidders and all correspondence and documents relating to the Bid exchanged between the Bidders and the Employer/Engineer shall be in the English language.



8.0 DOCUMENTS COMPRISING THE BID

8.1 BID PACKAGE

The Bid shall be submitted in two parts as 1. Technical Bid (Envelope-A) and 2. Price Bid (Envelope-B) in sealed covers separately duly super scribed from the bidders and both the sealed covers (Envelope-A & Envelope-B) are to be put together in a bigger cover which should also be sealed and super scribed with name of bidder and name of the work.

8.1.1 Technical Bid :

This part should contain the Technical Bid consisting of a PDF copy of this bid document with each page digitally signed by the Bidder in acceptance of the terms and conditions therein, along with scanned copy of all the required documents, comprising the following:

a. Tender cost, bid security and Tender processing fee

- These original instruments should be submitted with forwarding letter mentioning the NIT no, Name of Work and particulars of these financial instrument.
- At the backside of every instrument, firm needs to mention Name of Firm, NIT no and Mobile No. Of the authorized signatory of the firm.
- Scanned copy of tender cost, Bid security and Processing Fee Instruments need to be submitted with the online tender and these original instruments are to be submitted as per schedule.
- If firm fails to submit the original instrument in the desired form and amount by the stipulated date and time then its financial bids shall not be opened and it shall be summarily rejected.
- If scanned copy of any or all of these instruments (i.e. Cost of Bid, Processing fee and Bid security) submitted with Technical bid does not match with the original instruments submitted by the firm physically then its financial bids shall not be opened and it shall be summarily rejected.

- b. Copy of Bid Document: The Bidder shall enclose digitally signed and stamped (lead member in case of consortium) Bid Document along with copies of the PAN. No. under Income Tax Act, latest GST Registration certificate. In the absence of registration detail with GST, EPF authority, payment shall not be released. "PF registration number and ESI Registration No. Code No., as per ESI Act. shall be indicated by the Bidders in the Bid document and also a copy of registration to be submitted. The contractor shall also be responsible to comply instructions as per applicable Labour laws.

c. Bid documents as listed below:

- Notice Inviting Bid
- Instructions to Bidders.
- Special Conditions of Contract
- JMRCs General Conditions of Contract (It is integral part of this Bid document but this need not to be submitted along with Bid documents, it is deemed that bidder is accepting the GCC at the time of submission of bid. Successful bidder has to signed GCC documents at the time of signing agreement.
- Annexure A1 & B, B1
- Statement of deviations from Bid documents (Form C).
- General Information in the form prescribed (Form T-I) and Experience record of similar works during the last three years and in progress on date may be furnished in the format prescribed (Form T-II).
- Attested Copy of Power of Attorney to submit Bid.
- Financial data (Form T - V)
- Form of Bid and Appendix thereof (Form A).
- Copy of all the documents to satisfy the eligibility criteria including Electrical License (Refer clause 1.3 of NIB).
- The undertaking from bidder for confirmation of the fulfilment of the eligibility criteria (refer clause 1.3 (a) of NIB).
- All the addendums/amendments issued regarding this tender and uploaded by JMRC on the website.
- Any order documents, contractor deem fit but not the financial Bid/BOQ.

Note:-No price bid should be indicated at any place in the Technical Bid, otherwise the proposal shall be summarily rejected.

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8.1.2 Financial Bid – Bill of Quantities

- a) The financial bid shall be submitted online through the prescribed website as per the instructions on the website therein. The prices shall be submitted online the Financial Bid Format given as **FINANCIAL BID (BILL OF QUANTITIES)** of Tender enclosed. These prices should include all costs associated with the contract.
 - b) Utmost care is taken to upload Financial Bid. Any change in the format of financial Bid file shall render it unfit for bidding. Following steps may be followed in submission of Financial Bid :
 - i. Download format of financial bid in XLS format (Password protected file).
 - ii. This XLS file is password protected file. Don't unprotect the file. Price has to be filled in this file and the same has to be uploaded.
 - iii. Fill Bidder Name, Percentage rate (Less/Excess) to the estimated cost in down loaded Financial Bid Format as specified (in XLS format only) in green back ground cells. Don't fill in any other back ground cells.
 - iv. Save filled copy of downloaded financial bid file in your computer and remember its name & location for uploading correct file (duly filled in) when required.
 - (iii) Documents to be submitted by the Bidders under technical and financial packages have been described under the respective Clauses 8.1 of ITB. This list of documents has been prepared mainly for the convenience of the Bidders and any omission on the part of the Employer shall not absolve the Bidders of his responsibility of going through the various clauses in the Bid Documents including the specifications and to submit all the details specifically called for (or implied) in those clauses.
- 8.3 All documents issued for the purposes of Bidding as described in Clause 1.2.4, and any amendments issued in accordance with Clause 6.0 shall be deemed as incorporated in the Bid.
- 8.4 In case of a joint venture/consortium, information as required under clause 2.2, in respect of each partner/company including Forms T-I to T-VII will be required to be furnished. Additional sheets may be used wherever necessary.
- ### 9.0 BID PRICES
- 9.1 The Bidders is required to quote for all the items as per Bid documents.
- 9.2 Price quoted by the Bidders shall be inclusive of all taxes/duties/levies etc. The contractor shall ensure full compliance with tax laws of India with regard to this contract and shall be solely responsible for the same. The contractor shall submit copies of acknowledgements evidencing filing of returns every year and shall keep the Employer fully indemnified against liability of tax, interest, penalty etc. of the contractor in respect thereof, which may arise.
- 9.3 The Bidders shall keep the contents of his Bid and rates quoted by him confidential.
- 9.4 The rate quoted shall be reasonable and not unbalanced. If the Engineer came across any unbalanced rates, he may require the Bidders to furnish detailed analysis to justify the same. If after its examination, the Engineer still feels the rates to be unbalanced, he may ask the Bidders other safeguards to protect Employers interest against financial loss. If the Bidders fail to comply with this, his Bid shall be liable to be rejected by the Employer.
- 9.5 The Bidders shall utilize Indian labour, staff and materials to the maximum extent possible in execution of Works.
- 9.6 The successful Bidders should arrange for refund of taxes and duties paid or would have been paid to the fullest extent JMRC is entitled.. All records for payment of sales tax on works contract, VAT, custom duty and Excise duties paid by the successful Bidders during execution of contract will be maintained to facilitate refund of taxes and duties for JMRC (if applicable). In case the amount of any of these taxes/duties actually paid and exemption availed by the successful Bidders is less than what has been indicated by them in your offer, the difference of the same will also be paid to JMRC. The effect of variation in quantities both +ve and -ve will be dealt separately.



10.0 CURRENCIES OF THE BID

10.1 Bid prices shall be quoted in Indian Rupees only.

11.0 BID VALIDITY

11.1 The Bid shall remain valid and open for acceptance for 90 days from the date of submission of Bid.

11.2 In exceptional circumstances, prior to expiry of the original Bid validity period, the Employer/the Engineer may request the Bidders for a specified extension in the period of validity. The request and the response thereto shall be made in writing or by telefax. A Bidder may refuse the request without forfeiting his Bid security. A Bidders agreeing to the request, shall not be required or permitted to modify his Bid but will be required to extend the validity of his Bid security correspondingly.

12.0 BID SECURITY

12.1 The Bidders shall furnish, as Bid security, an amount as mentioned in NIB.

12.2 The Bid securities will be in the form of Demand Draft/Bankers cheque in the name of "Jaipur Metro Rail Corporation Limited" payable at Jaipur.

12.3 Any Bid not accompanied by an acceptable Bid security will be summarily rejected by Employer/Engineer considering the bid as non-responsive.

12.4 The Bid securities of unsuccessful Bidders shall be discharged/returned by the Employer as promptly as possible as after the expiration of the period of Bid validity as defined in Clause 11.0. In this connection, Clause 25.3 may also be referred to.

12.5 The Bid security of the successful Bidders shall be returned upon the Bidders executing the Contract Agreement after furnishing the required performance guarantee for performance, as mentioned in Clause 27.0

12.6 The Bid security shall be forfeited:

1. If a Bidders withdraws his Bid during the period of Bid validity, or
2. If the Bidders does not accept the correction of his tendered price in terms of Clause 22.0 or
3. In the case of a successful Bidder, if he fails to:
 - a. Furnish the necessary performance guarantee for performance as per Clause 27.0 and/or
 - b. Enter into the Contract within the time limit specified in Clause 26.0
 - c. Commence the work as per terms and conditions of Bid after issuance of LOA.

12.7 No interest will be payable by the Employer on the Bid security amount cited above.

13.0 FORMAT AND SIGNING OF BIDS

13.1 If the Bid is submitted by a proprietary firm it shall be signed by the proprietor above his full name and the full name of his firm with its current address.

13.2 If the Bid is submitted by a firm in partnership, it shall be signed by a partner holding the power of Attorney for the firm. A certified copy of the Partnership deed and power of attorney shall accompany the Bid. Alternatively, all the partners shall sign it.

13.3 If the Bid is submitted by a limited company or a limited corporation, it shall be signed by a duly authorized person holding the power of attorney for the firm. A certified copy of the power of attorney shall accompany the Bid.

13.4 The documents are required to be submitted by the Bidders will be as described under clause 8.0 herein.

13.5 Each page of such document should be signed in full at the bottom by person submitting the Bid along with the date of signing. Each page of printed documents should be initialled at the bottom by the person submitting the Bid along with the date of initialling.



- 13.6 The complete Bid shall be without alterations, overwriting, interlineations or erasures except those to accord with instructions issued by the Employer, or as necessary to correct errors made by the Bidders. All amendments/corrections shall be initialed by the person signing the Bid.
- 13.7 All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

14.0 SEALING AND MARKING OF BIDS

Online tenders will have to be digitally signed and submitted in a time stamped electronic sealed box on <http://eproc.rajasthan.gov.in>.

PREPARATION FOR ONLINE SUBMISSION :

To participate in online bidding process, BIDDERS must procure a Digital Signature Certificate as per Information Technology Act-2000 using which they can digitally sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCS, safecrypt, Neode, etc. BIDDERS who already have a valid Digital Signature Certificate (DSC) need not procure a new DSC.

The BIDDERS should get himself registered on procurement portal (<https://eproc.rajasthan.gov.in>) and create users and assign roles on this portal. Further to this, bidder shall download Notice Inviting Bids (NIB) and copy of the Bid Document from this site.

Deadline for Submission of Bids :- Tenders shall be received online on website <http://eproc.rajasthan.gov.in> with uploading of all relevant document not later than the time and date communicated by the department or extended date thereof.

15.0 SUBMISSION OF BIDS

- 15.1 The tenders will be submitted online only at web site <http://eproc.rajasthan.gov.in>. In no case tender will be submitted physically.

15.2 ONLINE SUBMISSION :-

- 15.2.1 BIDDERS shall submit their tender in electronic format digitally signing the same. BIDDERS (authorised signatory) shall submit their offer on-line in Electronic formats both for Technical and Financial Bid. The Technical Bid should also contain scanned copy of Financial Instruments (Cost of Bid Form, E-tender Processing Fee & Bid Security). However, the original financial instrument for Cost of Bid Form, E-tender Processing Fee & Bid Security should be submitted physically at the following address of JMRC by the scheduled date and time as per NIT.

Executive Director (Traction and E&M)
4th Floor, Admin Building, Metro Train Depot,
Bhripath, Mansarovar, Jaipur - 302020

- 15.2.2 All pages of tender document and the addendums/amendments uploaded by the JMRC on the website <http://eproc.rajasthan.gov.in> shall be deemed to have been initialled and accepted by the persons signing the bid when they submit their electronic bid.
- 15.2.3 The documents listed in ITT along with the addenda uploaded till the date of tender submission, shall be filled by the BIDDERS to bind the BIDDERS to the contract. All the pages of the tender and documents shall be digitally signed.
- 15.2.4 The uploaded documents for technical-bid or earnest money or tender fee or processing fee or any other document required for e-tendering cannot be changed after closing date of tender and same documents are to be produced in original physical form in the office whenever asked to do so.
- 15.2.5 Utmost care be taken to name the files/documents to be uploaded on portal. There should not be any special character or space in the name of file, only underscores are permissible. All Tenders in which any of the prescribed conditions are not fulfilled or which have been vitiated by errors in calculations, totalling or other



discrepancies or which contain over-writing in figures or words or corrections not digitally initialed/initialed and dated, may be liable to rejection.

- 15.2.6 Tenders sent telegraphically or through other means of transmission (Email, Tele-fax etc.), which cannot be delivered in a sealed envelope, shall be treated as defective, invalid and shall stand rejected.
- 15.2.7 The uploaded documents for e-bidding cannot be changed after closing date of bid and same documents are to be produced in original physical form in the office whenever asked to do so.

16.0 LATE BIDS

- 16.1 Any bid after prescribed date and time as per NIT, will not be received on website. JMRC will not be responsible for delay in online submission due to any reason. For this, bidders are requested to upload the complete bid well advance in time so as to avoid last minute issues like slow speed; choking of web site due to heavy load or any other unforeseen problems.

BID OPENING AND EVALUATION

17.0 BID OPENING

- 17.1 The bids will be opened online on website at the time and date as per schedule specified in the Notice Inviting Bid in the presence of Bidder(s) or their authorized representative(s) who may choose to be present at the time of bid opening, if the bidder wishes. Participating bidders can view and access the outcome of technical bid online also. The tenders shall be opened in two stages. In first stage the pre-qualification bid shall be opened and evaluated. The financial part shall be opened of responsive BIDDERS pre-qualified by competent authority, at a later date, which will be informed to all responsive and pre-qualified BIDDERS.

- 17.2 In first stage, Techno Commercial Bid of the Bids will be opened. The Bidders' names, the presence (or absence) of Earnest Money, and other details such as deviations proposed in Covering letter, financial & technical eligibility etc. will be announced by the Bid Opening Committee at the time of opening or same shall be available at the web-site.

- 17.3 Preliminary Examination of Bids, the contents of the Techno Commercial Bid, documents of the individual Bids will be examined summarily in order to assess their formal conformity and agreement with the instructions and guidance to the Bidders and the completeness. Any Bid not conforming to any of these requirements may be disqualified forthwith at the discretion of JAIPUR METRO RAIL CORPORATION.

- 17.4 Financial Bid of all technically qualified bidders, who qualify the technical evaluation will be opened on the date and time intimated to all such bidders separately by email. BIDDERS are also advised to keep abreast of the website for announcement of the date.

18.0 PROCESS TO BE CONFIDENTIAL

- 18.1 Except the public opening of Bid, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.
- 18.2 Any effort by a Bidders to influence the Employer/Engineer in the process of examination, clarification, evaluation and comparison of Bids and in decisions concerning award of contract, may result in the rejection of the Bid.

19.0 CLARIFICATION OF BIDS

- 19.1 To assist in the examination, evaluation and comparison of Bids, the Engineer / Employer may ask Bidders individually for clarification of their Bids, including breakup of prices. The request for clarification and the response shall be in writing or by telefax but no change in the price or substance of the Bid shall be sought, offered or permitted except as required to confirm correction of arithmetical errors discovered by the Engineer during the evaluation of Bids in accordance with Clause 22.0 herein.



20.0 DETERMINATION OF RESPONSIVENESS

- 20.1 Prior to the detailed evaluation of Bids, the authorised committee of JMRC will determine whether each Bid is responsive to the requirements of the Bid documents.
- 20.2 For the purpose of this Clause, a responsive Bid is one which confirms to all the terms, conditions and specifications of the Bid documents without material deviation or reservation. "Deviation" may include exceptions, exclusions & qualifications. A material deviation or reservation is one which affects in any substantial way the scope, quality, performance or administration of the works to be undertaken by the Bidders under the Contract, or which limits in any substantial way, the Employer's rights or the Bidders obligations under the Contract as provided for in the Bid documents and / or is of an essential condition, the rectification of which would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids at reasonable price.
- 20.3 If a Bid is not substantially responsive to the requirements of the Bid documents, it will be rejected by the Employer, and will not subsequently be permitted to be made responsive by the Bidders by correction or withdrawal of the non-conformity or infirmity. However minor clarification if required may be asked from the Bidders.
- 20.4 The decision of the Engineer/Employer as to which of the Bids are not substantially responsive or have impractical / methods or Programme for execution shall be final.

21.0 EVALUATION OF BID

- 21.1 The Employer will, keeping in view the contents of Clause 1.3 and 8.1.1, carry out Techno Commercial Evaluation of submitted Techno Commercial Bid to determine that the Bidders has a full comprehension of the work of the contract. Where a Bidders Techno Commercial proposals submitted has a major inadequacy his Bid will be considered to be non-complaint and will be rejected.
- 21.2 Technically acceptable Bids will be eligible for consideration of their financial proposals (Price Bid Envelope – B).
- 21.3 The evaluation of financial proposals by the Employer / Engineer will take into account, in addition to the Bid amounts, the following factors:
- Arithmetical errors corrected by the Employer/Engineer in accordance with Clause 22.0
 - Such other factors of administrative nature as the Employer/Engineer may consider to have a potentially significant impact on contract execution, price and payments, including the effect of items or unit rates that are unbalanced or unrealistically priced.
- 21.4 Offers, deviations and other factors, which are in excess of the requirements of the Bid documents or otherwise will result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in Bid evaluation.
- 21.5 Price adjustment provisions applicable during the period of execution of the contract shall not be taken into account in Bid evaluation.
- 21.6 Evaluation of financial proposal will be based on pricing schedule/quantities in Bill of Quantity (BOQ) and rates quoted. Any alteration in BOQ will not be given any cognizance.
- 21.7 The duly authorized Engineer / Committee reserves the right to ask for submission of the source of procurement for the materials for which the bidder has quoted his rates before the bid can be considered for acceptance. If the bidder, who is called upon to do so, does not submit within a reasonable time of written order to do so, JAIPUR METRO RAIL CORPORATION shall be at liberty to forfeit the said earnest money absolutely.



22.0 CORRECTION OF ERRORS

- 22.1 The original financial Bid or the revised financial Bid as the case may be, of all qualified bidders determined responsive will be opened at a date notified to all qualified bidders. The authorized Bid opening committee of JAIPUR METRO RAIL CORPORATION, Jaipur will open the price bid. Errors will be corrected by the Employer / Engineer as follows:
- Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - Where there is a discrepancy between the unit price and the total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted will normally govern unless in the opinion of the Employer / Engineer there is an obviously gross misplacement of the decimal point in the unit price, in which event, the total amount as quoted will govern.
- 22.2 If a Bidder does not accept the correction of errors as outlined above, his Bid will be rejected and the Bid Security forfeited.

AWARD OF CONTRACT

23.0 AWARD CRITERIA

- 23.1 Subject to Clause 9.3 and 21.0, the Employer will award, the Contract to the Bidders, whose Bid has been determined to be substantially responsive, technically & financially suitable, complete and in accordance with the Bid documents.
- 24.0 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**
- 24.1 Notwithstanding Clause 23.0, the Employer reserves the right to accept or reject any Bid, and to annul the Bid process and reject all Bids, at any time prior to award of Contract,

25.0 NOTIFICATION OF AWARD


- 25.1 Prior to the expiry of the period of Bid validity prescribed by the Engineer/Employer, the Engineer/Employer will notify the successful Bidders by telegram or telefax, to be confirmed in writing by registered letter, that his Bid has been accepted. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Acceptance') shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion of the works by the Contractor as prescribed by the Contract (hereinafter and in the conditions of Contract called the Contract Price'). The "Letter of acceptance" will be sent in duplicate to the successful Bidders, who will return one copy to the Employer duly acknowledged and signed by the authorized signatory, within three days of receipt of the same by the him. No correspondence will be entertained by the Employer from the unsuccessful Bidders.
- 25.2 The Letter of Acceptance will constitute a part of the contract.
- 25.3 Upon "Letter of acceptance" being signed and returned by the successful Bidders as per Clause 25.1, the employer will promptly notify the unsuccessful Bidders and discharge / return their Bid securities.

26.0 SIGNING OF AGREEMENT

- 26.1 The Employer shall prepare the Agreement in the Performa (Form E) included in this Document, duly Incorporating all the terms of agreement between the two parties. The work should be commenced as per time mentioned in LOA (Letter of Acceptance).

27.0 PERFORMANCE SECURITY

- 27.1 Within 15 days of receipt of the letter of Acceptance the successful Bidders shall furnish performance Security @ 10% of the estimated cost, as per clause 4.2 of General Conditions of Contract. If bidder chooses to submit BG as performance security, the form of Bank Guarantee should be as per Form D of ITB.



Signature of Authorized Signatory

- 27.2 The Bank guarantee (BG) submitted by the contractor should be sent to By the issuing bank under Registered Post.

ED (Traction and E&M), JMRC,
4th Floor, Administrative Building,
Bhriagu Path, Mansarovar,
Jaipur- 302020

- 27.2 In case the original BG is submitted through the contractor, the issuing bank should requested to immediately send by Registered Post an unstamped duplicate copy of the bank guarantee directly to **ED (Traction and E&M), JMRC, 4th Floor, Administrative Building, Bhriagu Path, Mansarovar, Jaipur- 302020.**
- 27.2 Performance security shall be furnished in any one of the following forms: -
- a. Bank Draft or Banker's Cheque of a scheduled bank;
 - b. Bank guarantee/s of a scheduled bank. It shall be got verified from the issuing bank. Other conditions regarding bank guarantee shall be same as mentioned in the bidding document for Bid Security.
 - c. Fixed Deposit Receipt (FDR) of a scheduled bank. It shall be in the name of procuring entity on account of Bidder and discharged by the Bidder in advance. The procuring entity shall ensure before accepting the FDR that the Bidder furnishes an undertaking from the bank to make payment/ premature payment of the FDR on demand to the procuring entity without requirement of consent of the Bidder concerned. In the event of forfeiture of the performance security, the Fixed Deposit shall be forfeited along with interest earned on such Fixed Deposit.
- 27.2 Performance security furnished in the form specified shall remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the Bidder, including warranty obligations and maintenance and defect liability period.
- 28.0 **Cancellation of Letter of Acceptance (LOA) and Form of Bid**
- 28.1 In case successful Bidders fails to commence the work (for whatsoever reasons) as per terms and conditions of Bid after issuance of LOA then the LOA shall be cancelled and the Bid security shall be forfeited.

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Appendix - 1

CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE BID
COMPILED FROM THE PROVISIONS IN THIS VOLUME

Sl. No.	Document	No. of sets to be submitted	Reference to Clause No. of Instructions to Bidders
	BID PACKAGE COMPRISING OF:		
1	Bid documents including addendums/amendments – In Envelope A	One in Original	8.1.1
2	Power of attorney for individuals signing on behalf of Company/Firm or Power attorney in favour of the leading member of Joint venture/Consortium – In Envelope A	One in Original	13.0
3	Bid cost instrument (Non-refundable) (in case of downloaded tender) – In Envelope A	One in Original	1.1 & 8.1.1 (a)
4	Bid security instrument – In Envelope A	One in Original	8.1.1 (b) & 12.0
5	Annexure B, A1, B1 – In Envelope A	One in Original	8.1.1 (d) (vi)
6	Form T-I, T-II, T-V – In Envelope A	One set in Original	8.1.1
7	i. PAN No. as per Income tax act ii. PF registration No. iii. GST registration No. – iv. Valid Electrical license	In Envelope A Self-Attested Copy	8.1.1 (c)
8	Statement of deviations from Bid Documents (Form C) – In Envelope A	One in Original	8.1.1 (c)(f) & 20.2
9	Form of Bid and Appendix thereof (Form A) – In Envelope A	One in Original	8.1.1
10	Copies of all the documents to satisfy the eligibility criteria – In Envelope A	Self-Attested Copies	8.1.1
11	Undertaking regarding eligibility criteria – In Envelope A	One set	8.1.1
12	Any other documents, contractor deem fit but not the financial Bid – In Envelope A	Self-Attested Copies	8.1.1
13	Bill of Quantities – In Envelope B	One in Original	8.1.2 & BoQ
14	Compulsory Forms- F to Q	One in Original (each)	



INDEX ON
PROFORMA OF FORMS

1. PROFORMA OF FORMS GENERAL

(Items (iv) (v) applicable only for successful Bidders)

FORM

- | | |
|---|---|
| i. Form of Bid with Appendix | A |
| ii. Performa for Statement of Deviations | C |
| iii. Form of Performance Security (Guarantee) by Bank | D |
| iv. Form of Agreement | E |

2. PROFORMA OF FORMS - QUALIFICATION PARTICULARS

FORM

- | | |
|------------------------|------|
| i. General Information | T-I |
| ii. Experience Record | T-II |
| v. Financial Data | T-V |

Signature



JAIPUR METRO

FORM - A
PAGE 1 OF 2

FORM OF BID

- Note
- i. The Appendix forms part of the Bid
 - ii. Bidders are required to fill up all the blank spaces in this Form of Bid and Appendix.

Name of Work: "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

To,

ED (Traction and E&M),
JMRC, 4th Floor, Administrative Building,
Bhriku Path, Mansarovar, Jaipur- 302020

Having visited the site and examined the General Conditions of Contract as well as Special Conditions of Contract, Specifications, Instructions to Bidders, for the execution of above named works, we the undersigned, offer to execute and complete such works and remedy defects therein in conformity with the said Conditions of Contract, Specifications, and Addenda for the amount indicated in BOQ.

1. We acknowledge that the Appendix forms an integral part of the Bid.
2. We undertake, if our Bid is accepted, the time of completion of contract is four month which may be extended further for 3 months on mutual acceptance on same terms and conditions of contract.
3. If our Bid is accepted, we will furnish at our option a Performance security for the due performance of the Contract. The amount and form of such security will be in accordance with Clause 4.2 of the General Conditions of the Contract.
4. We have independently considered the Clauses of the General Conditions of Contract as liquidated damages and agree that they represent a fair estimate of the damages likely to be suffered by you in the event of the work not being completed in time.
5. We agree to abide by this Bid for a minimum period of 90 days (for subsequent years, as per clause 11.0 of ITB) from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiry of that period or any extended period mutually agreed to.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We declare that the submission of this Bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related to the award and performance of this Contract. We further confirm and declare that no agency commission or any payment, which may be construed as an agency commission has been, or will be, paid and that the Bid price does not include any such amount.
8. We acknowledge the right of the Employer, if he finds to the contrary, to declare our Bid to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
9. We understand that you are not bound to accept the lowest or any Bid you may receive.
10. If our Bid is accepted we understand that we are to be held solely responsible for the due performance of the Contract.

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
21/NIB/018



FORM - A
PAGE 2 OF 2

Dated thisday of..... 2020

Signature

Name.....in the capacity of.....duly authorised to sign

Bids for and on behalf of

Address

Witness - Signature

Signature

Name

Address

Occupation



Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
21/NIB/018



(APPENDIX FORM - A)

PAGE 1 OF 1

APPENDIX TO THE FORM OF BID

Condition of
Contract/
Clause No.

- | | |
|---|------------------------------------|
| i. Amount of Bank Guarantee as Performance Security | Clause 27 of ITB/clause 4.2 of GCC |
| ii. Contract Period | As per NIB |
| iii. Penalty for Non completion of work or poor quality of work | Clause 15.4 of SCC |
- rd

Signature of authorized
Signatory on behalf of Bidders

Date.....
Place.....

Name.....
Address.....

dp

Signature of Authorized Signatory

Page 48 of 76

FORM - C
PAGE 1 OF 1

PROFORMA FOR STATEMENT OF DEVIATIONS

1. The following are the particulars of deviations from the requirements of the Bid specifications.

S. No.	Clause	Deviations	Remarks (including justification)	Price adjustment for withdrawal of each deviation/s

The following are the particulars of deviations from the requirements of the "Instruction to Bidders", "General Condition of Contract" and "Special Conditions of Contract".

S. No.	Clause	Deviations	Remarks (including justification)	Price adjustment for withdrawal of each deviation/s

Signature of Bidders

NOTE

- Where there is no deviation, the statement should be returned duly signed with an endorsement indicating 'No Deviations'.
- The Bidders shall indicate price adjustment against each deviation, which he shall like to add to the Bid price for withdrawing unconditionally his deviations if the same are unacceptable to the Employer.

(Handwritten signature)

Signature of Authorized Signatory



FORM - D

PAGE 1 OF 2

FORM OF PERFORMANCE SECURITY (GUARANTEE) BY BANK

(Refer Clause 27.0 of "Instructions to Bidders")

1. This deed of Guarantee made this day of _____ 2020 between Bank of _____ (hereinafter called the "Bank") of the one part, and Jaipur Metro Rail Corporation Limited (hereinafter called "the Employer") of the other part.
2. Whereas Jaipur Metro Rail Corporation limited has awarded the contract for "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited." of Jaipur Metro Rail corporation (hereinafter called "the Contract") to M/s _____ (Name of the Contractor) (hereinafter called "the Contractor")
3. AND WHEREAS the Contractor is bound by the said Contract to submit to the Employer a Performance Security for a total amount of Rs. _____ (Amount in figures and words).
4. Now we the Undersigned _____ (Name of the Bank) being fully authorized to sign and to incur obligations for and on behalf of and in the name of _____ (Full name of Bank), hereby declare that the said Bank will guarantee the Employer the full amount of Rs. _____ (Amount in figures and Words) as stated above.
5. After the Contractor has signed the aforementioned Contract with the Employer, the Bank is engaged to pay the Employer, any amount up to and inclusive of the aforementioned full amount upon written order from the Employer to indemnify the Employer for any liability of damage resulting from any defects or shortcomings of the Contractor or the debts he may have incurred to any parties involved in the Works under the Contract mentioned above, whether these defects or shortcomings or debts are actual or estimated or expected. The Bank will deliver the money required by the Employer immediately on demand without delay without reference to the Contractor and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Contractor. The Bank shall pay to the Employer any money so demanded notwithstanding any dispute/disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator/s relating thereto and the liability under this guarantee shall be absolute and unequivocal.
6. Performance security furnished in the form specified shall remain valid for a period of 60 days (Sixty days) beyond the date of completion of all contractual obligations of the Bidder, including warranty obligations and maintenance and defect liability period.
7. At any time during the period in which this Guarantee is still valid, if the Employer agrees to grant a time extension to the Contractor or if the Contractor fails to complete the Works within the time of completion as stated in the Contract, or fails to discharge himself of the liability or damages or debts as stated under Para 5, above, it is understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by the Employer and at the cost of the Contractor.
8. The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Contractor.
9. The neglect or forbearance of the Employer in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by the Employer for the payment thereof shall in no way relieve the bank of their liability under this deed.
10. The expressions "the Employer", "the Bank" and "the Contractor" hereinbefore used shall include their respective successors and assigns.

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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21/NIB/018



FORM - D
PAGE 2 OF 2

In witness whereof I/We of the bank have signed and sealed this guarantee on the _____ day of _____ (Month) 2020 being herewith duly authorized.

For and on behalf of the _____ Bank.

Signature of authorized Bank official

Name :

Designation : I.D. No :

Stamp/Seal of the Bank :

.ti

Signed, sealed and delivered

for and on behalf of the Bank

by the above named _____

In the presence of :

Witness 1. Signature

Name.....

Address

Witness 2. Signature

Name

Address

.t*

.et

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
21/NIB/018



FORM - E
Page 1 of 2

FORM OF AGREEMENT

(Refer Clause 26.0 of "Instructions to Bidders")

This Agreement is made on the _____ day of _____ 2020 Between Jaipur Metro Rail Corporation Limited, Administrative Building, Mansarovar Depot, Bhargu Path, Mansarovar, Jaipur 302020 hereinafter called "the Employer" of the one part and _____ (Name and Address of Contractor) hereinafter called "the Contractor" of the other part.

Whereas the Employer is desirous that certain Works should be executed, viz "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited." of Jaipur Metro Rail corporation Limited hereinafter called "the Works" and has accepted a Bid by the Contractor for the execution and completion of such works (as well as guarantee of such works) and the remedying of defects therein.

Now THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) Letter of acceptance
 - (b) General Conditions of Contract
 - (c) Special Conditions of Contract
 - (d) Notice Inviting Bid
 - (e) Specifications
 - (f) Bill of Quantities
 - (g) Form of Bid with Appendix
 - (h) Addendums, if any
 - (i) Other conditions agreed to and documented as listed below:
 - (I) Statement of deviations (if applicable)
 - (ii) Any other item as applicable
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works by **_____ and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of defects therein, the Contract Price of **Rs _____ being the sum stated in the letter of acceptance subject to such additions thereto or deductions there from as may be made under the provisions of the Contract at the times and in the manner prescribed by the Contract.
5. OBLIGATION OF THE CONTRACTOR

The contractor shall ensure full compliance with tax laws of India with regard to this contract and shall be solely responsible for the same. The contractor shall submit copies of acknowledgements evidencing filing of returns every year and shall keep the Employer fully indemnified against liability of tax, interest, penalty etc. of the contractor in respect thereof, which may arise.

Signature of Authorized Signatory

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FORM - E
PAGE 2 OF 2

6. JURISDICTION OF COURT

The Courts at JAIPUR shall have the exclusive jurisdiction to try all disputes arising out of this agreement between the parties.

IN WITNESS WHEREOF the parties hereto have caused their respective Common Seals to be hereunto affixed / (or have hereunto set their respective hands and seals) the day and year first above written.

For and on behalf of the Contractor

For and on behalf of the Employer

Signature of the authorized official

Signature of the authorized official

Name of the official

Name of the official

Stamp/Seal of the Contractor

Stamp/Seal of the Contractor

SIGNED, SEALED AND DELIVERED

By the said _____

By the said _____

Name _____

Name _____

on behalf of the Contractor in the presence of

on behalf of the Employer in the presence of
Witness _____

Witness _____

Name _____

Name _____

Address _____

Address _____

Note :

- * To be made out by the Employer at the time of finalization of the Form of Agreement.
- ** Blanks to be filled by the Employer at the time of finalization of the Form of Agreement.

CP

Signature of Authorized Signatory

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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FORM T-I
PAGE 1 OF 1

GENERAL INFORMATION

Notes:

- (i) Attach an attested photocopy of Certificate of Registration and ownership as well as of Constitution and legal status.
 1. Names of participating members
 - (a)
 2. Address, telephone, telefax, cable numbers
 - Registered Office
(a)
(b)
(c)
 - Office for correspondence
 3. Contract person's address, telephone etc.
 - (a)
(b)
(c)

Handwritten signature

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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FORM T-II
PAGE 1 OF 1

**FORM OF TENDER -
WORK EXPERIENCE**

BIDDERS's Legal Name

Date.....

JV/Consortium Member's Legal Name.....

Page Of Pages

Work Experience		
Similar Contract Description		
Contract Identification		
Award date		
Completion date		
Employer's Name		
Employer's Address:		
Telephone / Fax number:		
E Mail:		
Role in Contract (Individual/JV-Consortium member/sub-contractor)	Individual/ JV/Consortium Member / sub-contractor Tick appropriate	
Completion Cost	Amount (as stated in Clients Certificate)	

NOTE:

1. Only the value of contract as executed by the BIDDERS / member in his own name should be indicated. Where a work is undertaken by a group, only that portion of the contract which is undertaken by the concerned applicant/member should be indicated and the remaining done by the other members of the group be excluded. This is to be substantiated with documentary evidence clearly mentioning the amount of 'similar work'.
2. The quantum of 'Similar work' as per clause 1.3 (Note-5) A shall be clearly indicated. This is to be substantiated with documentary evidence.
3. For carried out work documents such as copy of work order, bill of quantities, bill wise details of payment received certified by C.A., T.D.S certificates for all payments received and copy of final/last bill paid by client shall also be submitted other than completion/performance certificate etc. from client.
4. Separate sheet for each work along with Clients Certificate and supporting documents to be submitted.

Signature of Authorized Signatory

Page 55 of 76

[Handwritten signature]

FINANCIAL DATA

(Refer Clause 8.1.1)

Name of the applicant (constituent member in case of Group)	Total number of works in hand	Number of contracts of each type		Number for which applicant went in for		Number of contracts in which date of completion given in the original has already burst	**Total value of balance works yet to be done in Rupee equivalent as on 31/03/2020		
				Arbitration	litigation		2017-2018	2018-2019	2019-2020

* Applicant should provide information on their current commitments or all contracts that have been awarded or for which a letter of intent or acceptance has been received or for contracts approaching completion but for which a completion certificate is yet to be issued.

** This figure should also include the year-wise break-up of part value of works to be executed in the two years period even if completion of such works spills over beyond this two years period.



SECTION - 4
SPECIAL CONDITIONS OF CONTRACT

Terms and Condition

1. Work shall be carried out as per guidance of engineer in-charge. All safety precaution shall be observed.
2. The contractor shall not Sub-contract/ Transfer or assign the contract to a third party.
3. Quantity may vary by +/- 25%. Or As per RTPPR
4. Some part of the work will be carried out only during non-revenue hours (night hours)/ under power block and nothing shall be paid extra for this.
5. Work under power block may be stopped in emergency at any time during exigencies for which nothing shall be paid extra.
6. Work should be carried out with the coordination of JMRC staff. All safety precaution shall be observed.
7. Coordination with other agencies other than JMRC will be the responsibility of the Contractor. However JMRC shall provide the necessary reference letters etc.
8. Any damage/breakage of the JMRC property during the execution of work will be at the risk & cost of the contractor & in this regards the JMRC decision will be final regarding amount of damage/breakage etc. The amount will be deducted from contractor's bill.
9. If any of the work is not completed properly or found of poor quality penalty may be imposed up to 10% of the total cost of the contract.
10. The contractor during the execution of work shall follow the Indian Electricity rules, Indian Electricity Act & all other statutory Rules, Regulations & Act as available on date & during the period of contract.
11. Contractor shall give field/class room training to JMRC officers/ staffs in all technical aspects of testing of relays & CBs, setting of relay/CBs & other activities related to testing etc. , so that independent work may be carried out by these trained officers/staffs in other location of JMRC.
12. The Contractor shall also provide the detailed analysis reports of testing with all technical aspects covered along with recommendation in both hard and soft copy.
13. ***The testing equipment available with JMRC i.e. CRM Kit, Time Interval testing kit, Relay Testing Kit (Secondary Injection Kit), Power Analyzer may be provided to contractor. The proper handling and use of JMRC instrument/ tools are sole responsibility of contractor. However any specialized tools required for the above mentioned work shall be arranged by Contractor. No extra cost shall be paid for this. Testing equipments should be calibrated.
14. Only authorized staff of contractor having proper Photo Identity Card issued by the contractor and with permission granted by JMRC, shall be permitted to work for Annual Contract for manpower supply for various Maintenance Activities in Electrical Maintenance section, the Contractor will have to submit the list of the Authorized staff along with a set of the Photo Identity Cards to whom permission will be required to be issued by JMRC.
15. The JMRC may make minor alterations/additions/substitutions in the specification/scope of work or issue instruction that may be deemed necessary during the period of contact and the contractor shall carry out the work in accordance with the instructions which may be given to him by authorized JMRC representative. No extra payment shall be payable on this account.
16. The contractor will ensure proper co-ordination with JMRC staff and for any query shall contact to JE/PSI -Mr. Bharat Lal Mali (7728895614) or nominated JMRC representative.
17. Contractor must ensure proper safety during work execution. Safety helmet, maintenance lights, suitable ladders, safety shoes, hand gloves etc. shall be arranged by the contractor to their workers to avoid any accident. JMRC will not be responsible for any accident/casualty during the work execution and it will be solely the responsibility of the contractor.

Signature of Authorized Signatory



18. Accidents - It shall be the entire responsibility of the contractor to adopt all the safety measures in deploying personnel who are adequately trained in safety. If any accident occurs due to negligence on the part of the contractor's personnel, it shall be the full responsibility of the contractor.
19. Contractors employees and representatives shall wear Identification Badges (cards), uniforms, helmets, gum boots other safety/protection wear as directed and to be provided by the Contractor or his representative. Badges shall identify the Contractor and show the employees name and number and shall be worn at all times while at site.
20. Contractor shall be responsible for insurance and safety of the labor involved in executing the scope of work of this BID.
21. **SPECIAL ATTENTION**
- 21.1 The Contract will be awarded to the Bidders whose responsive Bid is determined to be the lowest evaluated Bid and who satisfies the appropriate standards of capacity and financial resources. Clause 23.0 and 24.0 of "Instructions to Bidders" may be referred to in this connection.
- 21.2 Rates should be quoted in such a way that last three digit of estimated cost of items does not match with last three digits of quoted rates of that items. This has been done to avoid tie.
22. **SUFFICIENCY OF BID**
- 22.1 The Bidders shall be entirely responsible for sufficiency of rates quoted by him in his Bid.
- 22.2 The Contractor (Successful Bidders) shall be paid for only at quoted/accepted rates for the activities given in the BOQ.
23. **DEDUCTIONS TO BE MADE FROM CONTRACTORS BILL**
- 23.1 Tax deduction at source from each on-account progress bill shall be made by the employer as per the provisions of the statutes/acts of statutory bodies/local authorities etc.
24. **PAYMENT**
As per Section -3 of this bid document.
25. **ADVANCES**
No advances shall be paid to the Contractor
26. **PRICE VARIATION CLAUSE**
No price variation during the agreement period / extended period of agreement.
27. Contractor shall be solely responsible for insurance cover under the following requirements:
(a) All of the contractor staff shall have to be covered under ESI. The Contractor shall take insurance policy as specified in the workmen's compensation act for the contractor's staffs are not covered by the ESI and shall arrange ESI coverage on priority.
(b) The contractor shall insure against liability to third parties in the joint name of the Employer, and the contractor for any loss, damage, death or injury which may occur to any physical property (except things insured otherwise) or any person (except person insured by employer), staff of other contractor working in the premises, which may arise out of the performance of the contract..
28. **Right to vary quantity -**
- 1) If the procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the bidding documents.
- 2) Orders for extra items may be placed by the procuring entity in accordance with the Schedule of Powers of JMRC to the extent permitted under RTPPR 2013(up to latest amended). Orders for additional quantities may be placed, if allowed in the bidding documents, on the rates and conditions given in the contract and the original order was given after inviting open competitive bids. Delivery or completion period may also be proportionately increased.
29. **Refund of Performance Guarantee -**
The performance guarantee shall be refunded after two months of the completion date of work completion including warranty and other contract obligations as recorded by Engineer-in-charge.

Signature of Authorized Signatory

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tr



"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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Annexure-B

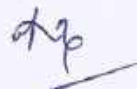
Certificate

This is certify that the information/details given at the time of Techno-Commercial Bid in the Bid document for qualification for the work "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited." still holds good. If there is any change in the information's /details the same would be required to be submitted.

Signature of Bidders

Note:

1. If change is proposed in the personnel for the work the new personnel should be of same or higher calibers.
2. If change is proposed in the machinery and equipment for the work, the new machinery and equipment should be of same or higher capacity.
3. Irrespective of the above information as asked in various performs & otherwise in this Bid the information will have to be submitted.

A handwritten signature in blue ink, appearing to be 'Jp' or similar, with a horizontal line underneath.

Signature of Authorized Signatory

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Annexure A1

Compliance with the Code of Integrity and No Conflict of Interest

Any person participating in a procurement process shall -

- (a) not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process;
- (b) not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
- (c) not indulge in any collusion, Bid rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process;
- (d) not misuse any information shared between the procuring Entity and the Bidders with an intent to gain unfair advantage in the procurement process;
- (e) not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
- (f) not obstruct any investigation or audit of a procurement process;
- (g) disclose conflict of interest, if any; and
- (h) disclose any previous transgressions with any Entity in India or any other country during the last three years or any debarment by any other procuring entity.

Conflict of Interest:-

The Bidder participating in a bidding process must not have a Conflict of Interest. A Conflict of Interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

i. A Bidder may be considered to be in Conflict of Interest with one or more parties in a

Bidding process if, including but not limited to:

- a. have controlling partners/ shareholders in common; or
- b. receive or have received any direct or indirect subsidy from any of them; or
- c. have the same legal representative for purposes of the Bid; or
- d. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Procuring Entity regarding the bidding process; or
- e. the Bidder participates in more than one Bid in a bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the Bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one Bid; or
- f. the Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Goods, Works or Services that are the subject of the Bid; or
- g. Bidder or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as engineer-in-charge/ consultant for the contract.

Signature of Agency (Authorized Signatory)

Signature of Authorized Signatory

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Annexure B1

Declaration by the Bidder regarding Qualifications

Declaration by the Bidder

In relation to my/our Bid submitted to for procurement of in response to their Notice Inviting Bids No.....Dated I/we hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012, that:

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the Bidding Document;
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/we do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date:

Place: 31/

Signature of bidder

Name:

Designation:

Address:



"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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Form-F

Proposal for equipment's / systems(vendors)

S. No.	Name of the equipment/system	Name of vendor	Address of the vendor	Contact Details
1	Fixed Shunt Reactor			
2	STATCOM			
3	Measuring & Protection equipment's. (CT, PT etc.)			
4	XLPE/FRLS Cables (33kV / LT Cables / Control Cables)			
5	Coupling Transformer (33kV/ 415V)			
6	Motorised Isolators			
7	Circuit Breakers/Interrupters			

SIGNATURE OF THE
BIDDERS

Signature of Authorized Signatory

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Handwritten signature

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
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Form-G

Undertaking for Transfer of Technology

We hereby certify that we will make credible arrangement for ensuring availability of critical spares and technical support for maintenance and up gradation of equipments/systems/M&P/Software/Manuals during their service life.

Signature of authorised
representative

Seal

Date _____

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
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Form-H

CERTIFICATE OF COMPLIANCE

(On BIDDERS's Letter head)

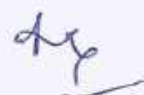
This Certificate is issued in the full knowledge that the Technical Proposals submitted by us, are in Clause by Clause Compliance with the Employer's Requirements and other specifications, including Addenda thereon, except as noted in Appendix 13 (Statement of Deviations) accompanying this Certificate.

Signed

Authorised Representative

Seal:

Date:

A handwritten signature in blue ink, appearing to be 'dhp' followed by a horizontal line.

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
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Form-I

Construction Machinery usage undertaking

S. No.	Construction Machinery	No.
1		
2		
3		
4		
5		
6		
7		
8		

We confirm that above minimum requirement of construction machinery will be mobilized by us for the work in addition to other machineries, tools, plants and testing equipments required.

We also confirm that this is minimum project specific mobilization and these will be suitably augmented, as required for achieving the tender requirements.

(Signature of the BIDDERS)

Seal

Date:

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
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Form-J

Interface requirement undertaking

We hereby confirm that our offer is fully compliant with the interfacing requirement with other Designated Contractors/Power Supply Authorities/other authorities.

(Signature of the BIDDERS)

Seal

Date:

A handwritten signature in blue ink, appearing to be 'd3' followed by a horizontal line.

Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-
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Form-K

ELECTRICAL CONTRACTOR LICENSE

To be enclosed else, If the bidder does not have electrical license then it will have to submit the undertaking that the same will be submitted after the award of contract.

(Signature of the BIDDERS)

Seal

Date:

Note: If not submitted at tender submission stage, then it shall be submitted before the commencement of site work.

Signature of Authorized Signatory

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Form-L

REQUIREMENTS FOR TENDER PROGRAMME

- 1) The Tender Programme shall show how the BIDDERS proposes to organise and carry out the Works and to achieve Stages and complete the whole of the Works by the given Key Dates.
- 2) The Tender Programme or Programmes shall be developed as a critical path network using suitable software. The network must be fully resourced and show the co-ordination with System wide Contracts. The Works Programme shall show achievement of all Key Dates and Works Area Access Dates.
- 3) The Tender Programme shall include of the BIDDERS's Design Submission Programme and should indicate, wherever possible, dates and periods relating to interfaces with and between others including dates for submission of further documents required by the Contract and periods for their acceptance.
- 4) The Tender Programme shall contain sufficient detail to assure the Employer of the feasibility of the plan and approach proposed by the BIDDERS.
- 5) The BIDDERS should have regard to the possibility, as referred to in paragraph C8 of the Instructions to BIDDERSs that during the tender evaluation period the Tender Programme may be developed into a Programme which, in the event of award, would be the initial submission of the Works Programme. To facilitate this process, the BIDDERS shall, in the preparation of the Tender Programme, take due account of the provisions of the Employer's Requirements in so far as they concern the Works Programme.
- 6) The Tender Programme shall be accompanied by a narrative statement that shall describe Programme activities, assumptions and logic, and highlight the BIDDERS's perception of the major constraints and critical areas of concern in the organisation, construction and completion of the Works. This narrative statement shall also indicate which elements of the Works the BIDDERS intends to carry out off-Site and/or outside India with details of the proposed locations of where any such work is to be carried out, the facilities available.
- 7) The BIDDERS shall prepare logic diagrams providing the philosophy for shared access, shared areas with co-incident and adjacent work areas and submitted as part of his Tender. These logic diagrams shall be developed and submitted along with the Works Programmes as submitted during the course of the Works.
- 8) All programmes shall include design, procurement periods, major material, offsite production/ prefabrication, temporary construction, interface and periods for system wide, utility and adjacent contractors etc.



Signature of Authorized Signatory

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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Form-M

MANUFACTURER'S AUTHORIZATION

"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

Date:

To:



Director (O&S),

Jaipur Metro Rail Corporation,

4th Floor, Administrative Building,

Bhriugu Path, Mansarovar, Jaipur- 302020

WHEREAS

We (Insert the name of manufacturer)who are official manufacturers of (insert name of manufacturing products)having factories at (insert location / address of manufacturing facility) do hereby authorize M/s (Name of Bidder) to submit a bid for Tender "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality Improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

Descriptions of goods



We hereby extend our full guarantee and warranty in accordance with the clause of the General conditions of contract, with respect to the goods offered by the above firm.

Signature: _____


Name:  _____

Title: _____

Duly authorized to sign this authorization on behalf of: _____

Date on: _____ Day of: _____

Note: If manufacturer for STATCOM and Shunt Reactor are not same, then manufacturer's authorization for both shall be furnished.


Signature of Authorized Signatory

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Form-N

SCHEDULE OF KEY DATES

All number refer from Commencement Dates of the works

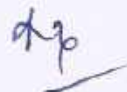
Key Dates	Description	Key Date in Months for both the RSS.
	Tentative Date for Award of LOA	
KD-1	Design of Shunt Reactor and STATCOM	0.5 Months
KD-2	Supply of Shunt Reactor and STATCOM	0.5 Months
KD-3	Installation of Shunt Reactor and STATCOM	2.0 Months
KD-4	Testing and commissioning and handing over	1.0 Months

Note:

- All key dates shall be referred from the commencement date of contract.
- The site shall be made available progressively and if some part is not made available then the extension of time shall be allowed only to the work / KD of that particular part.

Signature of Authorized Signatory

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Form-O

OUTLINE SAFETY, HEALTH & ENVIRONMENT PLAN

The BIDDERS shall submit as part of his Tender an Outline Safety, Health & Environment Plan which shall contain sufficient information to demonstrate clearly the BIDDERS's proposals for achieving effective and efficient compliance to the conditions of contract on SHE and SHE manual. The Outline Plan should include an outline of the procedures and regulations to be developed and the mechanism by which they will be implemented for ensuring safety as required by Clause 4.16 and 4.17 of the GCC.

The Outline Plan shall be headed with a formal statement of policy in relation to safety, Health & Environment protection and shall be sufficiently informative to define the BIDDERS's plans and set out in summary an adequate basis for the development of the Site Safety, Health & Environment Plan to be submitted in accordance with Clause 4.16 and 4.17 of the GCC.

The BIDDERS may be requested to amplify, explain or develop his Outline Safety, Health & Environment Plan prior to the date of acceptance of the Tender and to provide more details with a view to reaching provisional acceptance of such a plan.



Form-P

Bio-Data of Key Staff

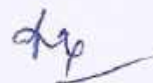
Applicant's legal name Date.....

Group Member's legal name..... Page of Pages

Key Staff Bio-data (Provide information for all key staff)

Summarize professional experience over the last 10 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

Name of Applicant		
Position		
Candidate Information	Name of Candidate	Date of Birth
	Professional Qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (manager / personnel officer)
	Fax	Email ID
	Job title of candidate	Years with present employer
From	To	Company / Project / Position / Relevant technical and managerial experience



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Form-Q

Summary of Information provided in T-II

Applicant's legal name Date.....
Group Member's legal name..... Page of pages

Name of Applicant (each member in case of group)	Total Number of works As per clause no. 1.3 at the price level of Total value of balance works yet to be done in Rupee equivalent as on 31/03/2020	No. of contracts delayed, i.e., completed beyond the original date of completion

NOTE:-

1. In case the work was done as JV/Consortium, only the value of work done by the applicant as per his Percentage participation must be given.
2. Reasons of delay whether on contractors account or on account of Employer in each applicable case need to be enclosed separately.



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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipments & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-21/NIB/018



Bill of Quantities (BOQ)

Name Of Work: "Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipments & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

Sr. No.	Description of Item	Unit	Qty.	Basic Rate (in Rs.)	GST %	GST Amount (in Rs.)	Total Amount
1	"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipments & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."						
1.1	Fixed/Shunt Reactors with associated equipments	MVAR	2				
1.2	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.	MVAR	3				
2	Comprehensive Annual Maintenance Contract for 5 years beyond Defect Liability Period.						
2.1	Fixed Reactors with associate equipments	per MVAR 1st year	2				
2.2	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.		3				

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"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

JMRC/O&S/EL/2020-21/NIB/018



JAIPUR METRO

Sr. No.	Description of Item	Unit	Qty.	Basic Rate (in Rs.)	GST %	GST Amount (in Rs.)	Total Amount
2.3	Fixed Reactors with associate equipments	per MVAR 2nd year	2				
2.4	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.		3				
2.5	Fixed Reactors with associate equipments	per MVAR 3rd year	2				
2.6	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.		3				
2.7	Fixed Reactors with associate equipments	per MVAR 4th year	2				
2.8	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.		3				
2.9	Fixed Reactors with associate equipments	per MVAR 5th year	2				
3.0	Dynamic VAR Compensator (STATCOM) with associated coupling transformer and other associated equipments.		3				
Total Cost in ₹							
Total Estimated Cost in ₹ (in words):							

Note: One coupling transformer of 3150KVA, 33KV/0.415KV will be supplied and commissioned by JMRC at it's own cost at Mansarovar RSS. Another dry type coupling Transformer of suitable capacity considering 1MVA extra spare capacity for future requirements for SICP RSS will have to be supplied and commissioned by contractor. The cost of coupling Transformer required at Sindhi Camp RSS as above shall be inclusive in the cost of BOQ Item 1.2. The type of transformer (indoor/outdoor) will be decided as per the site requirement with the prior approval of JMRC. The tentative detailed specification of same is given in annexure.

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[Handwritten signature]

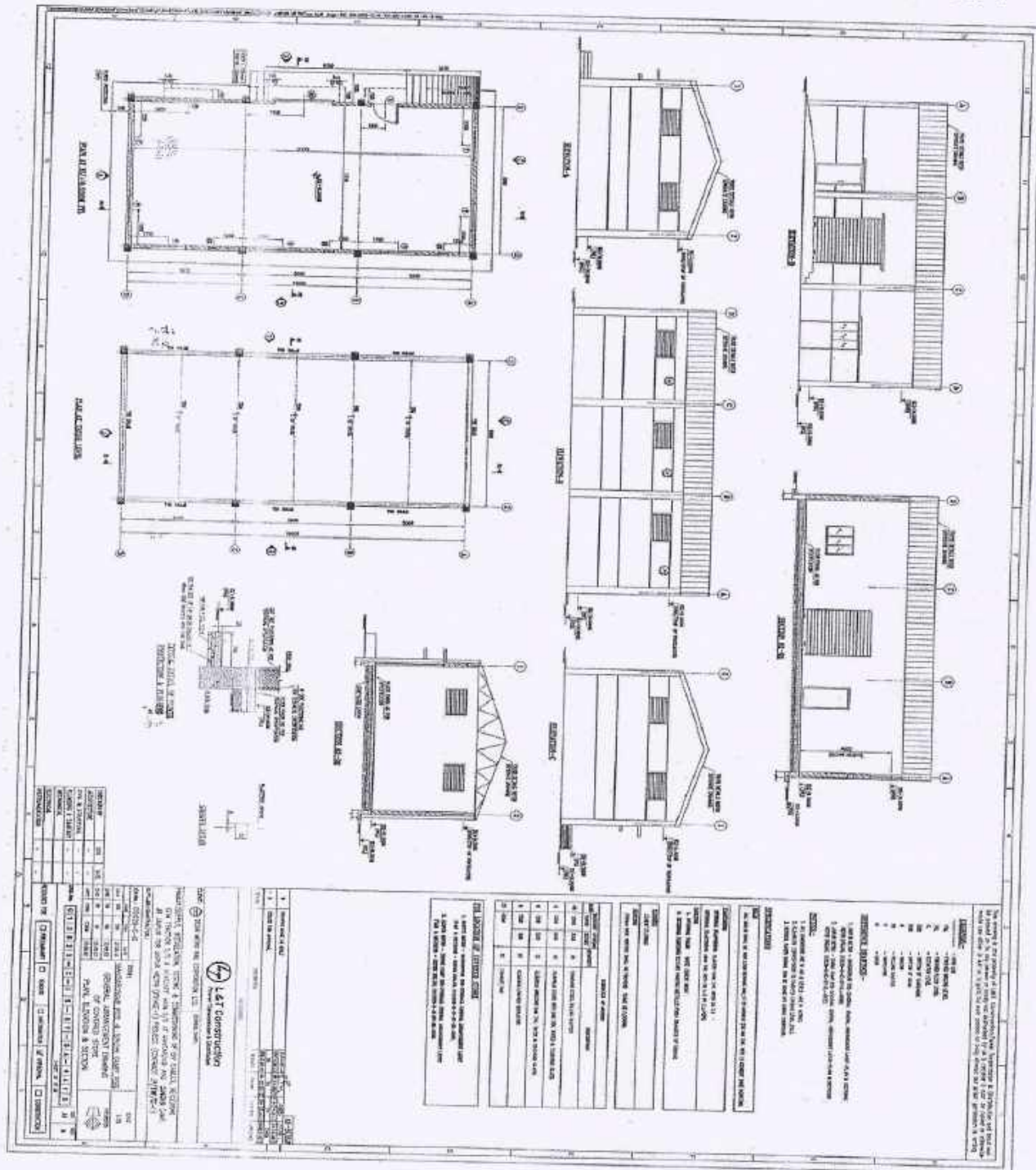
"Design, Detail Engineering, Supply, Erection, Testing and Commissioning of Reactive Power Compensation and power quality improvement devices (Shunt Reactor at 33kV & STATCOM/APF at 415 V through coupling Transformer) along with associated equipment's & integration with existing protection and SCADA system at two no. 132 KV Receiving Substations at Mansarovar and Sindhi Camp of Jaipur Metro Rail Corporation Limited."

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JAIPUR METRO

Annexure-C



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