



MMRC

MUMBAI METRO RAIL CORPORATION LTD

e-TENDER FOR

“Repairs, Installation, Testing, Commissioning and Maintenance of Elevators installed at SRA project, HDIL Premier Building No. 10, Kiroi Road, Vidyavihar, Kurla (W), Mumbai – 400070”

NIT No: MMRC/ Maint /Lifts / Premier / 16/ Part A dated 07.04.2017

**ESTIMATED COST: 55,42,892/-
TENDER FEE: ₹ 2500 /- (Non-Refundable)**

BID DOCUMENT

**MUMBAI METRO RAIL CORPORATION LIMITED
PLOT NO. C-14 & 15, 5th FLOOR A WING, OLD MMRDA BLDG.
BKC, BANDRA (E), MUMBAI, 400 051
Tel- 26597654, [Email - ramesh.sharma@mmrcl.com](mailto:ramesh.sharma@mmrcl.com)**

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MUMBAI METRO RAIL CORPORATION LIMITED
PLOT NO. C-14 & 15, 5th FLOOR A WING, OLD MMRDA BLDG.
BKC, BANDRA (E), MUMBAI, 400 051
Tel- **26597654**, Email-ramesh.sharma@mmrc.com
Website: www.mmrc.com

e-Tender Notice

Mumbai Metro Rail Corporation (MMRC) hereby invites bids through e-tendering portal from qualified and experienced contractors in form "B-1" (Percentage Rate) for "Repairs, Installation, Testing, Commissioning and Maintenance of Elevators installed at SRA project, HDIL Premier Building No. 10, Kiroli Road, Vidyavihar, Kurla (W), Mumbai – 400070". For any additional information & help for uploading & downloading the e-Tender, please contact MMRC's e-tendering service desk at the following ID: www.tenderwizard.com/MMRC. Phone No. 022 26597662/022- 26597674., ITI helpdesk No. 7666563870, 8013426317

Date: 11th April 2017
Place: Mumbai

SD/-
Executive Director/Elect.
MMRC

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CHAPTER 1

E-TENDER NOTICE, INSTRUCTIONS & GUIDELINES FOR SUBMISSION OF TENDER

1.1 e-Tender Notice

e-Tendering Portal: <https://tenderwizard.com/MMRC>

Mumbai Metro Rail Corporation Ltd (MMRC) invites **Percentage rate** bids through e-tendering portal for “Repairs, Installation, Testing, Commissioning and Maintenance of Elevators installed at SRA project, HDIL Premier Building No. 10, Kiro Road, Vidyavihar, Kurla (W), Mumbai – 400070”, from agencies/firms fulfilling conditions as under:

1.1.1 Tenderers shall have experience of successfully completing similar kind of works during 3 years preceding 31st January, 2017.

a) *Three similar completed works costing not less than the amount equal to Rs. 25,00,000/=*

Or

b) *Two similar completed works costing not less than the amount equal to Rs. 30,00,000/=*

Or

c) *One similar completed work costing not less than the amount equal to Rs. 50,00,000/=.*

‘Similar Works’ are defined as: Repair, Installation, Testing, Commissioning, Repair and Maintenance works of Elevators.

1.1.2 Financial Standing: The tenderers will be qualified only if they have minimum financial capabilities as below:

a) Annual Turnover: The tenderer should have average Annual Financial Turnover during the last 5 years ending 31st March, 2017 of not less than INR 1 Crores.

b) Liquidity: It is necessary that the firm can withstand cash flow of INR 50 Lakhs that the contract will require until payments received from the Employer. Liquidity therefore becomes an important consideration.

1.1.3 The tenders will be received online on above mentioned MMRC’s official e-Tendering portal: www.tenderwizard.com/MMRC.

1.1.4 Details of tender:

a) Name of Work: “Repairs, Installation, Testing, Commissioning and Maintenance of Elevators installed at SRA project, HDIL Premier Building No. 10, Kiro Road, Vidyavihar, Kurla (W), Mumbai – 400070”.

b) Estimated Cost of Work : Rs. **55,42,892/-**

c) Earnest Money Deposit (EMD) : Rs. **55,429/-**

d) Security Deposit : Rs. **5,54,290/-**

e) Period of Completion : 1 month.

1.1.5 Online e-Tender Schedule:

SNo.	Tender Schedule	Tenderer Schedule	Start Date & Time	End Date & Time
1	Tender Authorization and Publishing	-----	07.04.17 19:00 hrs	-----
2	-----	Tender Document Download	07.04.17 20:00	22.04.17 18:00Hrs
3	Pre-Bid meeting	Pre-Bid Meeting	15.04.17 15:00Hrs	-----
4	-----	Bid Preparation and Submission	07.04.17 20:00 hrs	24.04.17 18:00 Hrs
5	Tender Closing	-----	-----	22.04.17 18:30Hrs
6	Opening Envelope A-Tender Fees, EMD	-----	24.04.17 10:00Hrs	-----
7	Opening Envelope B - Technical Bid	-----	24.04.17 10:00Hrs	-----
8	Opening Envelope C - Financial Bid	-----	To Be Notified Later	

1.1.6 The intending tenderers must be registered on e-tendering portal of MMRC <https://www.tenderwizard.com/MMRC>. After registration, the tenderer will get user id and password. On login, tenderer can participate in tendering process and can witness various activities of the process.

1.1.7 Tenderers shall have valid class 3 Digital Signature Certificate (DSC) having both Signing and Encryption Certificates obtained from any Certifying Authorities empanelled by Controller of Certifying Authorities India.

1.1.8 In case of requirement of DSC, Tenderers shall go to <https://www.tenderwizard.com/MMRC> and follow the procedure mentioned in the document "Procedure for Digital Certificate".

1.1.9 Tender submissions will be made online after uploading the mandatory scanned documents Bid shall be submitted online on the e-tendering portal in '**three electronic envelopes system**' within prescribed schedule.

a) **e-Envelope 'A' (Tender Fee, EMD, Prequalification Criteria if any)**

Tenderer shall generate and upload scanned copies of Receipt for the following:

- i. Generate Receipt for e-tender fee
- ii. Upload Receipt of Earnest Money Deposit (EMD)

b) **e-Envelope 'B' (Technical Bid) (Annexure-C)**

Tenderer shall upload scanned copies of Technical Document as per RFP/Bid document.

c) **e-Envelope 'C' (Financial Bid)(Annexure-G)**

1.1.10 Tenderer shall quote his offer as percentage below/ above/ at par the estimated cost electronically at the prescribed space in the dialog box in Envelope- C. The amount quoted by the Tenderer shall be calculated by system.

a) Under "MMRC- Financial Bid Percentage Rate"

b) Under "Price Bid- Covering Letter"

1.1.11 Upload the digitally signed copy of Tender document and Quotation in company's Letter head under the template "Price Bid- Covering Letter". Tenderer shall upload scanned copy of Financial Proposal (Financial Package) duly Quoted/Filled.

1.1.12 Payment Procedure for Tender Fee and EMD

a) **Tender Fee:** Tender Document can be downloaded for reference purpose from the e-Tendering Portal of MMRC during the period mentioned in the tender notice. Interested Tenderers have to make online payment of Rs. 2,500/- (Rupees Two Thousand Five Hundred only) inclusive of MVAT (non-refundable) as Tender Fee using online payment gateway during bid preparation i.e. Debit Card/Credit Card/Net-Banking. Tender Fee receipt can be system generated during bid preparation by the Tenderer.

b) **Earnest Money Deposit:** Earnest money deposit for this work will be Rs. 55,429/- only. EMD Payment as mentioned above has to be made through RTGS / NEFT mode using the System Generated Challan.

1.1.13 The Tender Security shall remain valid for a period of 60 days beyond the validity period for the tender. The tenderer shall upload the scanned copy of the Bank Guarantee (Annexure-A) as part of Envelope A on the online MMRC e-tendering portal only. The tenderer shall submit the original Bank Guarantee, before the deadline of submission of bid at the office of the Executive Director (Electrical), MMRDA Building, 5th Floor, A-Block, Bandra-Kurla Complex, Bandra East, Mumbai-400051, India.

1.1.14 Submission of Tenders shall be closed on e-tendering portal of MMRC on the date & time of submission prescribed in NIT after which no tender shall be accepted. It shall be the responsibility of the Tenderer to ensure that his tender is submitted online on e-tendering portal of MMRC before the deadline of submission. MMRC will not be responsible for non-receipt of tender documents due to any delay and/or loss etc.

1.1.15 The lowest tenderer will have to submit the rate analysis of all major items if called for.

1.1.16 Tenders shall be valid for a period of **60 days** (both days inclusive i.e. the date of submission of tender and the last date of period of validity of the tender) from the date

of submission of tenders and shall be accompanied with a tender security of the requisite amount.

- 1.1.17 MMRC reserves the right to accept or reject any or all proposals without assigning any reasons. No tenderer shall have any cause of action or claim against the MMRC for rejection of his proposal.
- 1.1.19 Tender Fee receipt must be uploaded during bid preparation by the tenderer.
- 1.1.19 A statement showing names of partners, Directors, etc. of the firm with complete address of each one of them shall be uploaded to above mentioned MMRC's official e-Tendering portal along with name & address of authorized person on the behalf of firm who will sign e-tender using Digital Signature Certificate.
- 1.1.20 The acceptance of bid will be intimated by email or otherwise by the authority competent to accept the tender or by the higher Authority of MMRC, to the Tenderer, which shall deemed to be an intimation of the tender given by the Authority Competent to accept the tender.
- 1.1.21 The lowest Tenderer shall be responsible for executing and completing the work as per specifications & scope of work.
- 1.1.22 Successful tenderer shall have to submit signed copy of tender manually to the MMRC/Electrical department.
- 1.1.23 If there is any amendment in the tender the same shall be published on following official e-Tender portals / website: <https://www.tenderwizard.com/MMRC>
- 1.1.24 The Tenderer may visit the site prior to submission of tender and ascertain the local site condition, working restrictions, constraints, conditions in tender document regarding necessary approvals, NOC required for the work from the local Authorities and shall quote the offer inclusive of all such expenses likely to be incurred while execution of the work. No claim or compensation for any extra payments incurred by the tenderers towards the approvals/ NOC's/ permissions will be entertained by MMRC, which shall be noted.
- 1.2.25 **Pre-Bid meeting will take place at the following date, time & place:**

Date:17.04.2017

Time:15.00Hrs.

Place: 'A' wing,6th floor, Conference Room, MMRDA old building,' E' block , BKC, Mumbai.

-Sd-

Executive Director/Elect.

MMRC

1.2 Instructions to Tenderers

1.2.1 General Instructions

a) Location of the work: “SRA project, HDIL Premier Building No. 10, Kiroi Road, Vidyavihar, Kurla (W), Mumbai – 400070”.

b) Scope of work in brief: The Project includes “Repairs, Installation, Testing, Commissioning and Maintenance of Elevators installed at SRA project, HDIL Premier Building No. 10, Kiroi Road, Vidyavihar, Kurla (W), Mumbai – 400070”, consisting of items as given in the Schedule A(Annexure-I)

1.2.2 Time limit for completion of work: The work shall be completed within One (1) month from the date of Work Order to commence the work.

1.2.3 Details of Earnest Money:

a) Earnest Money Deposit (Bid security) for this work is 55,429/-. EMD Payment as mentioned above has to be made through RTGS / NEFT mode using the System Generated Challan. Tenderers shall ensure that the payment of the EMD is made at least 5 working days prior to the last date of Bid Preparation and submission of the Tender Schedule to have seamless submission.

b) Tenderers need to upload scanned copy of EMD paid receipt during bid preparation. Tenderers shall mention the beneficiary details for EMD refund in the Earnest Money Deposit Form for fields marked as details required for Refund. MMRC e-Tendering Service Provider will not be liable for delays caused in EMD refund due to incorrect beneficiary details.

c) The earnest money deposit of unsuccessful tenderers will be refunded through RTGS/ NEFT mode only after finalization of the tender for which the above refund details are required. Tenderers shall also upload scanned copy of cancelled cheque along with refund letter for refund of their EMD payment. In case of successful tenderer, amount of the earnest money deposit may be transferred towards part of the security deposit to be paid after the award of the work, if he intends to do so in writing.

d) Tenderers failing to complete the payment of EMD using the above-mentioned process of RTGS / NEFT after downloading the system generated challans will not be able to submit their bids.

1.2.4 Details of Security Deposit:

a) The successful tenderers shall have to pay a sum of ₹5,54,290/- (Rupees Five Lac Fifty Four Thousand Two Hundred Ninety Only) towards Security Deposit. The initial 50% of the Security Deposit of ₹2,77,145 /- (Rupees Two Lac Seventy Seven Thousand One Hundred Forty Five Only) shall be paid in the form of Demand Draft or Bank Guarantee (Annexure-A) of any Nationalized Bank or Scheduled Bank payable at Mumbai in format acceptable to MMRC. The balance 50% Security Deposit of ₹2,77,145 /- (Rupees Two Lac Seventy Seven Thousand One Hundred Forty Five Only) shall be recovered by deducting from the remaining Running Account Bills at the discretion of the Engineer-in-charge so that, the total deposit equivalent ₹5,54,290/- (Rupees Five Lac Fifty Four Thousand Two Hundred Ninety Only) is made up and held by MMRC. The bank guarantee towards initial security deposit (i.e 5%) shall be pledged and valid for a period of 60 days beyond end of Defect Liability Period.

- b) The Contractor shall be responsible to pay stamp duty as payable under Bombay Stamp Duty Act 1978 for Deposit paid in form of Demand Draft / Bank Guarantee etc. and shall furnish a copy of challan having paid the same to Government. Failure to furnish the same within 1 week from the date of work order will entail its recovery at the rates in prevalence as per Stamp Duty Act from the bills for the onward submission to Government.
- 1.2.5 Additional Security Deposit: Additional Security to be paid by the Contractor towards unbalanced tender shall be calculated as follows:
- a) No additional performance security will be required to be paid, if the quoted percentage is up to and inclusive of 10 % below the cost put to tender.
- b) If the tender offer is anything more than 10% below compared to the cost put to tender, additional security deposit will be worked out by taking 100% difference between the 90% of cost put to tender and that of offer of the tenderer. The payment of additional security towards unbalanced tender shall be in the form of DD/ Bank Guarantee of any Nationalized Bank or Scheduled Bank in format acceptable to MMRC.
- c) Additional Security deposit shall be released along with the final bill on satisfactory completion of work.
- 1.2.6 Revision or Amendment in Tender Document: The Competent Authority, may omit or suspend certain items of work, revise or amend the tender document before online submission of tender. Such revisions or amendments or extension, if any, shall be communicated to all concerned by email on above mentioned MMRC official e-Tendering portal and on MMRC's website: www.mmrc.com, which will be issued at least 7 days before the due date of receipt of tender.
- 1.2.7 Tender Rates: The rates quoted in Schedule 'A' are for finished and completed items and no extra amount for carting or transporting material, labour etc. shall be paid unless specifically so mentioned or provided for in the tender. The rates are inclusive of all leads and lifts for all materials in the completed items and also include all taxes, duties, royalties etc. including VAT/Works Contract Tax, GST etc. No payment on this account will be made. The Income Tax, Works Contract Tax, Labour cess etc. shall be deducted at source at the rate that will be in force from time to time.
- 1.2.8 The successful Tenderer will have to sign a Contract as required. The format for the Contract is placed at Annexure E. The necessary stamp fees, etc. required for completing the agreement will have to be borne by the tenderer.
- 1.2.9 The Tenderer may visit the site of the work and see for himself the site conditions regarding layout and all other matters, affecting the work before filling in the percentage above/below the estimated rates. Submission of a tender by a tenderer implies that they had read these instructions and has made itself aware of the scope of the work, conditions at work site, conditions of contract and MMRC will not, therefore, bear any extra charges on any account, in case it finds to have misjudged the site conditions or specifications. Tenderers to take a special note of the following:
- a) Conditional tender shall not be accepted.
- b) The right to reject all or any of the tenders without assigning any reason, whatsoever, is reserved with the Competent Authority.

- c) Executive Director/Elect. or his representative in MMRC shall be the Competent Authority for accepting the tender.
- d) The Tenderer shall have to enter into regular agreement on the receipt of acceptance of the tender and shall abide by all the rules and regulations embodied in Conditions of Contract (Annexure H) and pay the initial security deposit as shown in the schedule, failing which the MMRC shall be entitled to forfeit the full amount of earnest money deposited by the tenderer.
- e) The successful Tenderer shall have to work in co-ordination and co-operation with any other contracting agencies appointed by the MMRC to work simultaneously in the same or adjoining area. The decision of the MMRC in case of any dispute between the different agencies appointed by the MMRC shall be final and binding.
- f) Income tax, Works Contract Tax, VAT, Service tax, labour cess and any other central, state, local tax ordered by the competent authority at the rates in force during the progress of contract or the percentage that will be in force from time to time shall be recovered / deducted from the gross amount of the bill whether for measured work or advance payment or secured advance.
- g) The Contractor shall have to make his own arrangement at no extra cost to the MMRC for water supply, sanitation and electric supply etc. at the site of work. If temporary / permanent water connection is taken for construction purpose through Municipal Corporation's water line, then water charges to be paid to Municipal Corporation are to be borne by the Contractor. Contractor has to submit no dues certificates from Municipal Corporation in this regard before preparation of final bill failing which such charges will be paid by MMRC and shall be recovered from amount due to the Contractor with MMRC.
- h) The detailed e -tender notice along with the subsequent corrigendum, addendum etc. shall form part of the tender document.
- i) The Contractor shall furnish all tools plants, instruments, supervisory staff, labour, materials, any temporary works, consumable and everything necessary whether or not such items are specifically stated herein, for completion of the job in accordance with the specification requirements.
- j) The Contractor shall carry out the necessary surveys of the site required for above work before starting the work.
- k) The Contractor may familiarize himself with the site where he is expected to execute the work and quote his percentage above/below the estimated rates considering all the hurdles likely to face during execution.
- l) The Contractor whose tender is accepted will be required to produce to satisfaction of the Concerned Authority valid and current license issued in his favour under the provision of the contract labour (Regulations and abolition) Act 1970.
- m) Contractor shall take out necessary Insurance Policy/Policies so as to provide adequate insurance cover for execution of the awarded contract work from the "Directorate of Insurance, Maharashtra State, Mumbai - 400 051" only. Insurance Policy / Policies taken out from any other insurance Company will not be accepted. However, if the Contractor desires to effect insurance with the local office of any

insurance company, the same shall be under the co-insurance-cum-servicing arrangements (with G.I.F.'s share at 60% and insurance Company's share at 40%) approved by the Directorate of Insurance. If the policy taken out by the Contractor is not on co-insurance basis the same will not be accepted and the amount of premium calculated by the Directorate of Insurance will be recovered directly from the amount payable to the Contractors for the executed contract work.

- n) Bids from joint ventures are not accepted.

1.3 Guidelines for Submission of e-Tender

1.3.1 Tenderer shall follow the instructions on the portal for submission of e-tender.

1.3.2 Tender shall be submitted online on the e-tendering portal in 'three electronic envelopes system' within prescribed schedule.

1.3.3 Correction of Errors:

- a) If there is any discrepancy in rates and figures and in words, the lower of the two will govern and where there is discrepancy between the unit rate and the item total resulting from multiplying unit rate by the quantity, the unit rate as quoted shall govern.
- b) If there is any arithmetical error in totalling of items, the correct total shall be computed by the Employer and the same shall govern.
- c) The amount stated in the bid will be adjusted by the employer in accordance with above procedure for the correction of error and with the concurrence of the tenderers, shall be considered as binding upon the tenderer.
- d) If the tenderer does not accept the corrected bid price, the bid will be rejected and the bid security will be forfeited.

1.3.4 e-Envelope A (General)

Tenderer shall generate and upload scanned copies of Receipt for the following:

- a) Generate Receipt for e-tender fee.
- b) Upload Receipt of Earnest Money Deposit.

1.3.5 e-Envelope B (Technical bid)

Tenderer shall upload scanned copies of the following:

- a) Attested copy of valid Certificate of registration under CPWD category "A" for Lifts.
- b) List of works executed by the agency during recent last 3 financial years (Annexure-C) and works in hand (Annexure-B).
- c) Copy of 'work completion certificate' of similar nature and magnitude for Central & State Govt. / Semi Govt. offices/PSU/Reputed Private firms etc. issued by the client. (Annexure-C)

- d) Copy of Solvency Certificate /banker's certificate for the Contractor's financial stability (30% of amount put to tender), (Annexure-D).
- e) PAN (Permanent Account Number).
- f) Service tax registration certificate.
- g) Attested CA certificate for Average Annual Turnover during last five financial years.

1.3.6 e-Envelope C (Financial bid)

- a) Tenderer shall quote his offer as percentage below or above the estimated cost as per Schedule-A both in figures & words in e-Envelope C.
- b) Upload the digitally signed copy of Tender document and Price Bid Cover letter.

1.3.7 Procedure for Tender Opening

Contents of e-Envelope A will be scrutinized and only those tenderers who have fulfilled the requirements shall be eligible for opening of e-Envelope B. Similarly, contents of e-Envelope B will be scrutinized and only those tenderers who have fulfilled the requirements shall be eligible for opening of e-Envelope C.

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CHAPTER 2
GENERAL CONDITIONS OF CONTRACT

- 2.1 The system of recording, measurements and payments will be based on the P.W.D. practice in vogue.
- 2.2 It is presumed that the Contractor has gone carefully and thoroughly through the standard and special specifications of the individual items before arriving at the percentage above / below the estimated cost quoted by him.
- 2.3 In all cases of errors, omissions or doubts or discrepancies in dimensions or description in drawings or in specifications etc., a reference shall be made by the Contractor to the Engineer- in- charge, whose elucidations, elaborations or decisions shall be treated as authentic and final and Contractor shall be liable to be held responsible for any errors or omissions arising out of his not referring the doubts in advance to the Engineer-in-charge for clarifications.
- 2.4 If the Contractor has any doubts, whatsoever, as to the contents of the contract he shall in good time i.e. before submitting his tender, get his doubts clarified authoritatively from the Engineer-in-charge in writing. Once the tender is submitted by him the matter will be decided according to the tender stipulations. In the absence of such authentic pre-clarifications from the Engineer-in-charge and Contractor shall in that case be bound by the decisions of the Engineer-in-charge.
- 2.5 All the items and their rates in Schedule - A (Annexure-I)of the tender are for completed items of work and no extra claims shall be accepted as regards specifications, labour, materials, all taxes (Sales Tax, Works Contract Tax, VAT, GST etc.), royalties, and any other charges etc. Contractor shall submit his methodology for approval of Engineer in Charge. On Approval from Engineer-in-Charge, Contractor shall commence the work.
- 2.6 The Contractor shall have to make his own arrangements for procuring all materials and machinery required for the work & adopt necessary safety measures for protection of men and materials and nearby MMRC / Public or private properties against any accidental damages to life or property arising out of activities on his work.
- 2.7 The successful tenderer shall have to chalk out a programme for execution of the work with reference to the time limit stipulated for completion of the work and furnish the same to the Engineer-in-charge as soon as he receives work order. Review of progress achieved with reference to the approved programme shall be taken by the Engineer-in-charge at regular intervals and shortfall if any shall be compiled by the Contractor within the allowable period by accelerating his progress to bring it as per with the approved programme. The Contractor shall update this programme from time to time as and when called upon to do so, failing which the same shall be drawn up by the Engineer-in-charge and shall be enforced by him and no representation in that case shall be entertained from the Contractor.
- 2.8 Materials which are not approved shall not be allowed to be brought on site. Materials once brought to the site shall not be allowed to be removed from the site without the prior approval of the Engineer-in-charge.

- 2.9 The Contractor shall permit the Engineer-in-charge or his representative to inspect whenever required the stock of controlled materials.
- 2.10 All materials used in the Execution of the work shall be of the best and approved quality only as per the relevant Indian Standard Specifications. Samples of all the materials as ordered by the Engineer-in-charge shall be kept in his office for check and proper control towards the use of such materials. The Engineer-in-charge shall have the right to ask the Contractor to test the materials brought by him before using them on the work from an approved Engineering Institute and also to carry out in-situ or laboratory tests of the materials before / after their use in the work. Testing charges including conveyance of materials to laboratories for all such tests shall be borne by the Contractor. If the materials are found sub-standard or giving sub-standard test results, such materials shall be rejected and shall be removed forthwith from the site by the Contractor at his own cost as directed by the Engineer-in-charge.
- 2.11 On receipt of the work order, the Contractor's authorized site Engineer shall immediately start operations like clearing the site and shall provide all the necessary materials, labour, tools, and instruments, as required for the purposes of repair works. The Contractor will be responsible for the correctness of the locations, dimensions and alignments etc. of all the component parts of the work. If at any time during the course of the execution, any error is noticed, the same shall be got rectified by the Contractor at his own cost. Checking by the departmental staff shall not absolve in any way responsibility of the Contractor in this respect.
- 2.12 The Contractor shall construct and maintain suitable inspection pathways within the limits of the work at his own cost as directed by the Engineer-in-charge.
- 2.13 The Engineer-in-charge shall have full rights to ask for any additions or deletions in the supervisory staff and labour force of the Contractor and this shall be done immediately by the Contractor to his full satisfaction. The Contractor shall regularly submit to the Engineer-in-charge weekly reports of the people employed on his work and medical reports etc. Reports on accidents shall be submitted within 24 hours.
- 2.14 Work Order Book shall be maintained on site and it shall be the property of the MMRC. The Contractor shall promptly sign the orders written in it by the Engineer-in-charge or his authorized representative or his superior officers and comply with the same promptly and correctly.
- 2.15 The Contractor shall report compliance of all such orders recorded in the Work Order Book from time to time to the Engineer-in-charge for his verifications. First carbon copy of the extract from the Work Order Book shall be supplied to the Contractor as soon as the entry is made in it by the officers of the MMRC. The Contractor shall sign in this Work Order Book to acknowledge receipt of his copy.
- 2.16 The Contractor shall engage an authorized and full time qualified technical representative on the work capable of managing and guiding the work and understanding all the specifications and contract conditions who will take orders as shall be given by the Engineer-in-charge or his representative from time to time and shall be responsible for carrying out the work promptly and correctly. His technical representative shall be posted at the site with prior approval of the Engineer-in-charge and shall not be removed from the site without his prior approval.
- 2.17 **Initial measurement for record:**

- 2.17.1 Where for proper measurement of the work, it is necessary to have an initial set of levels or other measurements taken, the same as recorded in the authorized field book, measurement book of the MMRC, by the Engineer-in-charge or his authorized representatives and will be signed by the Contractor or his authorized representative who will be entitled to have a true copy of the same made at his cost. Any failure on the part of the Contractor to get such levels etc. recorded before starting the work will render him liable to accept the decision of the Engineer-in-charge as to the basis of taking measurements. Likewise, the Contractor will not cover any work which will render its subsequent measurements difficult or impossible, without first getting the same jointly measured by himself and the Authorized representative of the Engineer-in-charge. The record of such measurements on behalf of the MMRC will be signed by the Engineer-in-charge or his representative and the Contractor and will be entitled to have a true copy of the same made at his cost.
- 2.17.2 The Contractor can have copies of the measurements as stated in the paragraph above and of the bills paid to him at his own cost and at his own responsibility to do so by attending the MMRC office. He or his agent may copy down the same in consultation with the Officer concerned.
- 2.18 **Treasure Trove:** In the event of discovery by the Contractor or his employees during the progress of the works of any treasure, fossils, minerals or any articles of value of interest, the Contractor shall give immediate information thereof to the Engineer-in-charge and forthwith hand over to the Engineer-in-charge such treasure or things which shall be the property of the MMRC and shall not be removed by the Contractor under any circumstances.
- 2.19 **Permits and Licenses:** The Contractor shall procure at his own expenses all permits & licenses comply with rules & regulations laid down by the concerned authority & pay all charges, fees & give all notices necessary & pay all dues in connection with lawful execution of the work.
- 2.20 **Patented Devices, Materials and Processes:** Whenever the Contractor desires to use any designed devices, materials or processes covered by letter of Patent or Copy Right, the right for such use shall be secured by suitable legal arrangement with the patent owner and the copy of their agreement shall be supplied to the Engineer-in-charge if so desired by him. It shall be the responsibility of the Contractor to observe all legal formalities for use of such patents and consequences, if any, due to failure on his part to do so shall be the sole responsibility of the Contractor.
- 2.21 **Indemnity:** The Contractor shall indemnify the MMRC against all actions, suits, claims, damages and demands brought or made against him in respect of anything done or omitted to be done by the Contractor in execution of or in connection with the work of this contract and against any loss or damage to the MMRC in consequences of any action or suit being brought against the Contractor for anything done or omitted to be done in execution of the work of this contract.
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CHAPTER 3

ADDITIONAL GENERAL CONDITIONS

- 3.1 These are to apply as additional specifications and conditions, unless otherwise already provided for contrary elsewhere in this contract.
- 3.2 **DEFINITIONS:**
Unless excluded by or repugnant to the context,
- 3.2.1 The expression “MMRC” as used in the tender papers shall mean the Mumbai Metro Rail Corporation Limited.
- 3.2.2 The expression “Government” or “Employer” as used in the tender papers shall mean the MMRC.
- 3.2.3 The expression “Executive Director/Elect.” as used anywhere in the tender papers shall mean Executive Director of MMRC.
- 3.2.4 The expression “C” as used in the tender papers shall mean an officer of ED-Electrical rank (by whatever designation he may be known) under whose control the work lies for the time being.
- 3.2.5 The expression “Engineer” or “Engineer-in-charge” as used in the tender Papers shall mean the Deputy Engineer II/ Assistant General Manager/ Sr. DGM (Elect.) of the work for the time being.
- 3.2.6 The expression “Contractor” used in the tender papers shall mean the successful tenderer or tenderer whose tender has been accepted, and who has been authorized to proceed with the work.
- 3.2.7 The expression “Contract” as used in the tender papers shall mean the deed to contract together with its original accompaniment and those latter incorporated in it by mutual consent.
- 3.2.8 “Drawings” shall mean the drawings referred to in the specifications and any modifications of such drawings approved in writing by Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- 3.2.9 “Engineer’s representative” shall mean an Assistant of the Engineer notified in writing to the Contractor by the Engineer.
- 3.2.10 “Provisional sum” or “Provisional lump sum” shall mean lump sum included by MMRC in tender documents and shall represent the estimated value of work for which details are not available at the time of issue of tender.
- 3.2.11 The “site” shall mean the lands and/or other places, on under, in or through which the work is to be executed under the contract including any other lands or places which may be allotted by MMRC or used for the purpose of contract.

3.2.12 The “Work” shall mean the works to be executed in accordance with the Contract or part(s) thereof as the case may be and shall include all extra or additional, altered or substituted works as required for performance of the Contract.

3.2.13 The “Contract sum” shall mean the sum for which the tender is accepted.

3.2.14 The “Accepting Authority” shall mean the Competent Authority to accept the tender.

3.2.15 The “Day” shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in any day in that week.

3.2.16 “Temporary works” shall mean all temporary works of every kind required in or about the execution, completion, or maintenance of the works.

3.2.17 “Urgent works” shall mean any measure which, in the opinion of the Engineer-in-charge, become necessary during the progress of the works to obviate any risk or accident or failure or which become necessary for security of the work or the persons working, thereon. Where the context so requires, words importing the singular only also include the plural and vice-versa. Heading and marginal notes, if any, to the general conditions shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof of the contract.

3.3 **PROGRAMME OF WORK:**

The work is required to be completed within a period of One (1) calendar month from the date of work order to commence the work.

3.4. **WORK EQUIPMENTS:**

The Contractor shall be required to provide appropriate and adequate equipment for achieving the laid down specifications and tolerance to the satisfaction of the Engineer. All equipment provided shall be of proven efficiency and shall be operated and maintained at all times in a manner acceptable to the Engineer and no equipment or personnel will be removed from site without permission of the Engineer.

3.5 **DAMAGE BY ACCIDENTS:**

The Contractor shall take all precautions against damage by theft/ floods/ fire or like or from accident etc. No compensation will be allowed to the Contractor on this account or for correcting and repairing any such damage to the work during execution of work. The Contractor shall be liable to make good at his cost any plant or materials belonging to the MMRC lost or damaged by floods or from any other cause which is in his charge.

3.6. **PROPERTY**

All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor’s default. The contractor shall be liable for property damage of MMRC during the work, if any. Any drilling like procedure shall be done with prior permission from the concerned authority only.

3.7 **RELEASE FROM PERFORMANCE**

If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

3.8. **COMPLIANCE WITH LABOUR REGULATIONS:**

During continuance of the contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

3.8.1 **Salient features of some major labour laws applicable**

- a) Workmen Compensation Act, 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act, 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death the rate of 15 days' wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act, 1952: The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - i Pension or family pension on retirement or death, as the case may be.
 - ii Deposit linked insurance on the death in harness of the worker.
 - iii Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment

is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employments.

- g) Payment of Wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- j) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- k) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- l) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- m) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- n) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: - All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- o) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with

aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

3.9. PROTECTION OF ENVIRONMENT:

The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising because of his methods of operation.

During continuance of the contract, the Contractor and his sub-Contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

3.9.1 Salient features of some of the major laws that are applicable are given below:

- a) **The Water (Prevention and Control of Pollution) Act, 1974:** This provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the Physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.
- b) **The Air (Prevention and Control of Pollution) Act, 1981:** This provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.
- c) **The Environment (Protection) Act, 1986:** This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.
- d) **The Public Liability Insurance Act, 1991:** This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

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CHAPTER – IV

SPECIAL CONDITIONS OF CONTRACT

4.1 General:

- 4.1.1 Work under this contract shall be executed as given in the specifications and at site whether specially shown or not. The Contractor shall carry out and complete the work under this contract in every respect in conformity with the contracts documents and with the directions of and to the specification of MMRC.
- 4.1.2 The specification is intended to cover the, “Repairs, installation, testing and commissioning & maintenance of Elevators installed at SRA Project, HDIL Building No. 10, Kirod Road, Vidyavihar, Kurla (W), Mumbai – 400070” (*suitable for PH/disabled person*). The work shall conform in all respects to the relevant Bureau of Indian Standards Specifications, codes of practice, Acts and other Statutory Regulations as may be applicable and to high standards of engineering design and workmanship. The equipment and work shall perform in continuous operation in a manner acceptable to the MMRCs who will interpret the meaning of the specifications and the drawings and shall have the right to reject or accept any equipment or work which in their assessment is not complete to meet the requirement of this specification and/or applicable codes and standards.
- 4.1.3 Special Conditions of contract shall be read in conjunction with the general conditions of the contract, specifications of work, drawings and any other document forming part of this contract. For any discrepancies between the General Conditions and these Special Conditions, the provisions of Special Conditions shall prevail.
- 4.1.4 Wherever it is mentioned in the Specifications that the Contractor shall perform certain work or provide certain facilities, it is understood that the Contractor shall do so at his cost.
- 4.1.5 The materials, design and workmanship shall satisfy the relevant Indian Standard, the job Specifications contained herein and codes referred to where the job specifications stipulated requirements in addition to those contained in the Standard Codes and Specifications, these additional requirements shall also be satisfied.
- 4.1.6 The Contractor must get acquainted with the proposed site for the works and study specifications and conditions carefully before tendering. The work shall be executed as per programme approved by the MMRCs. If part of site is not available for any reason or there is some unavoidable delay in supply or materials stipulated by the MMRC, the programme of construction shall be modified accordingly and the Contractor shall have no claim for any extras or compensation on this account.

4.2 Scope of Work:

- 4.2.1 The scope of work under this specification shall include the Repairs, installation, supply, storage, erection, testing, commissioning, putting into operation, and trials of the passenger elevators as per technical parameters attached with this document.
- 4.2.2 The scope work shall also include all civil works associated with erection of the equipment and making good and painting the civil works as required.
- 4.2.3 The Contractor shall include the supply of entire materials in accordance with this specification and the whole of the work and fixing necessary for the complete installation as set down in his specification and with the accompanying schedules. All apparatus, appliances, materials or labour which may be necessary for satisfactory repair, installation and operation of the system in accordance with the intent or

purpose of the specifications shall be in scope of work of the contract and shall be furnished without extra charges, as if fully described and called for in the specifications and/or shown in plans.

4.2.4 In addition, the relevant clauses of the Indian Electricity Rules 1956 as amended up to date and the Indian Electricity Act, 1910 shall apply. The Contractor must also take into account local and State regulations as in vogue in Maharashtra for the design and installation of Lifts.

4.2.5 Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable. BIS certified equipment shall be used as a part of the Contract.

4.3 Site Conditions:

4.3.1 All equipment shall be suitable for satisfactory and continuous operation under the following site conditions:

Maximum 45°C 90% RH

Minimum 2°C 90% RH

4.4 Authorities:

The work shall conform to all provisions of the relevant Government Legislation, Regulations and by-laws of the Central/Local Authorities and of any Companies to whose system the installation is proposed to be connected. The Contractor shall give all notices required under the said Acts, Regulations and/or by-laws. The Contractor shall be liable for any omissions and commissions in this regard.

4.5 Specifications and Schedules:

4.5.1 The Specifications and Schedule of Quantities shall be considered as part of this contract and any work or materials shown in Schedule and not called for in the Specifications or vice versa, shall be executed as if specially called for in both. The drawings indicate the extent and general arrangement of the equipment, landings, hoist ways etc. and area essentially diagrammatic.

4.5.2 The work shall be installed as indicated on the drawings. However, any minor changes found essential to co-ordinate the installation of this work with other trades shall be made without any additional cost to the MMRC. The data given herein is as exact as could be secured, but its complete accuracy is not guaranteed. Exact locations, distances and levels will be governed by the site conditions.

4.6 Departure from Specifications:

Should the Contractor wish to depart from the provisions in these specifications such departure shall be listed in a separate Schedule with full particulars and reasons for the same. Unless this is done the tender shall be deemed to comply in every respect with these specifications. The Contractor should submit complete and detailed technical specification clearly describing the equipment to be supplied and its capability along with the bid. All similar parts and/or equipment shall be interchangeable with one another.

4.7 Material Testing:

The MMRCs shall have full powers to require the materials of work to be tested by an independent agency at the Contractor's expense in order to prove their soundness and adequacy.

4.8 Drawings required prior to commencement of work:

- 4.8.1 The Contractor shall within four weeks after award of the work submit the following drawings in quadruplicate for approval by the MMRCs and the local authorities:
- a) Layout drawings showing general arrangement of elevators
 - b) Schematic wiring diagrams
 - c) Maintenance check charts and lubricating charts
 - d) Details of foundations for equipment, load data location etc. of various assembled equipment. The data will include braking load on guides, reaction of buffers on lift pits, reaction on support point in machine room, lift well etc.
 - e) Complete layout dimensions for every unit/ group of units with dimensions required for erection purposes.
 - f) Any other drawing/ information not specifically mentioned above but deemed to be necessary for the job by the contractor.
- 4.8.2 These drawings shall incorporate detailed layouts of machines, motors, controllers, guide rails, counter weights, pulleys etc. Details of cut-outs, pockets, foundations etc. shall also be furnished. The Engineer In-charge of the work shall within 03 days of the submission of drawings convey comments/approval on receipt of these drawings. The Contractor shall incorporate any modifications, if found necessary and two prints of such modified drawings shall be furnished to the MMRC within 01 day of receipt of comments/approval. No modifications shall be made in drawings after the same have been approved by the Engineer without their prior consent. The contractor shall commence work only after such approval is obtained. The Contractor shall be responsible for cost of all alteration of the works due to discrepancies or omissions in the drawings or other technical particulars furnished by him, whether such drawings have been approved by the Engineer or not.
- 4.8.3 The contractor shall also send seven sets of final drawings to the department who shall return one copy.
- 4.8.4 Completion Drawings: After the completion of the work and before issuance of the virtual completion certificate the Contractor shall provide four sets of completion drawings for the elevator installed along with ink tracings on cloth of all drawings. The various equipment and parts shall be suitably numbered for identification and ordering of spare parts.

4.9 Works to be done by the contractor:

- 4.9.1. In addition to the repair, installation, testing and commissioning of the elevators including all auxiliary equipment, works enumerated at succeeding paragraphs shall be deemed to be included within the scope of the work to be done by the contractor.
- 4.9.2. All minor building work necessary for installation of equipment such as making of opening in wall/ floors, either of RCC or brick masonry etc., and restoring them to original condition and finish. The scope of minor building work includes all grouting of foundation concrete pads to be formed or made as base for supporting R.S. joists etc., grouting and anchoring of all boards clamps, supports, foundation bolts, installation in position of R.S. joists in the machine room, lift well or in the pit, such work shall exclude cutting of marble work and construction of partition wall wherever involved.
- 4.9.3. Supply of necessary R.S. joists or angle iron support brackets etc., for installation of the lift, either in the machine room or at other places as may be necessary including their installation in position.
- 4.9.4. All electrical works except bringing in main connection and earth connection to the machine room terminated on suitable switch fuse unit/ board. All electrical works

including inter-connection from the switch board and loop earthing from the earth bar to be provided in the machine room shall be done by the successful contractor.

- 4.9.5. Responsibility to ensure safety of lift materials against pilferage and damage till the installation is handed over to the consignee.
- 4.9.6. All scaffolding as may be necessary in the lift well during erection work and subsequently removed.
- 4.9.7. Temporary barricades with caution boards at each landing to prevent accident during execution of work.
- 4.9.8. Supply and installation of landing fascia plates made of steel, car apron plates, sill support angles with necessary clamps, foundation bolts support etc., as necessary for the installation/ operation of the lift.
- 4.9.9. Steel ladder to be provided for access to lift pit wherever required under regulations.

4.10 Coordination with other agencies:

The successful contractor shall coordinate lift installation work with other sub-contractor / agencies engaged by him, if any, and exchange freely all technical information so as to make the execution of works contract smooth.

4.11 Completeness of tender:

All fittings, equipment, units, assemblies and accessories, hardware, foundation bolts, terminal lugs for electrical connections, cable glands, junction box and items which are useful and necessary for efficient assembly for repair and installation shall be complete in all details whether such details have been mentioned in the specification or not.

4.12 Information to be supplied by contractor after award of work:.

Within a period of 2 days from the date of receipt of letter of acceptance the contractor shall provide the department his programme bar chart for submission of preliminary drawing, manufacturing/ supply of spares required for repairs, installation, testing, commissioning and handling over.

4.13 Commencement of work:

As soon as the preliminary drawings are approved, the contractor should commence work.

4.14 Structural:

All structural steel etc. shall be provided by the Contractor. These include Minor builders work, MS Steel Angles, fascia plates and MS beams for fixing machine in the machine room.

4.15 Scaffolding:

Scaffolding, minor builders work including providing dash fasteners for fixing rails, brackets etc. shall be the responsibility of Contractor.

4.16 Steel:

Contractor shall include in his scope of work all steel requirements for machine beams, hoisting beams, bearing plates, buffer supports, channels as required. All steel items not including but required for the installation work shall be part of the tender document.

4.17 Completion Certificate:

On completion of the installation a certificate shall be furnished by the Contractor countersigned by the licence Supervisor under whose direct supervision the

installation was carried out. This certificate shall be in the prescribed form as required by the local authority. The Contractor shall be responsible for getting the installation inspected and approved by the local authorities concerned.

4.18 Statutory Approvals:

The Contractor shall submit the required applications, drawings, etc. to the Corporation, lift Inspector, Electrical Inspectors, Factory Inspectors and/or any other statutory authorities and obtain the approval, licences and/or sanctions. The completion certificate shall be obtained by the Contractor from all statutory authorities to enable the MMRCs to commission the equipment or its utilisation. The Contractor shall be responsible for all fees etc. to be paid to the various authorities in this respect. The work shall not be deemed to have been completed until the above approval certificates, etc. have been obtained by the Contractor.

4.19 Import Licence:

Should any import licence be required for import of components, Contractor shall stipulate the same listing clearly the components to be imported, CIF value of licence required, country of origin etc.

4.20 Levelling:

The Elevators shall be levelled by the suppliers and the required levelling accuracy maintained with 20mm thick flooring in the car. The weight of flooring that can be accommodated in the car with guaranteed levelling as required shall be intimated in the tender.

4.21 Special Condition for Comprehensive Maintenance:

4.21.1. The contractor shall perform the maintenance services for a period of 01 year from the date of completion of defect liability period of 01 year after acceptance of the completed repair work under this contract. In performing the said services, the contractor shall take all reasonable steps to maintain the equipment in proper operating condition. The contractor shall use trained and appropriately supervised personnel to perform the maintenance services shall be conducted during the normal working hours, shall send at regular intervals and as frequently as the company thinks necessary, having regards to the age, the nature and condition of the elevator (but not less than twice per month), a technician to systematically inspect, adjust and lubricant the parts of the elevator to the extent necessary to maintain the elevator in satisfactory working order. If not separately agreed, any work conducted outside the normal working hours is not included in the price and shall be invoiced separately. The contractor will supply all lubricants (made as per standards of the contractor) necessary for this purpose.

4.21.2. Upon notification by the customer of a breakdown or failure in the elevator, the contractor shall send as soon as may reasonably be possible, during the contractor's normal working hours, a technician to carry out necessary repairs in order to restore the elevator to satisfactory working condition.

4.21.3. The contractor will carry out according to its standards customary annual safety test to examine all safety devices the contractor will not be required to make any other tests. The contractor will neither be required to install new attachments nor to make replacements with parts of a defective design to the elevator whether or not recommended or directed by Insurance companies or by governmental or non-governmental authorities.

4.21.4. In performing the services, the contractor will replace (identical or equivalent item) or rectify at its option any components of the elevator rendered defective due to normal

wear and tear and arising out of ordinary and reasonable use of the elevator except for such items and conditions which are excluded hereunder as particular and general exclusions. The parts which are replaced shall become the contractor's property.

4.21.5. The contractor reserves the right to keep the control machinery cubicle locked.

4.21.6. The equipment under contract will remain out of commissioning while the maintenance process is being carried out. No one will be allowed to use the equipment during this period.

4.22 Project Cost:

The Project cost shall include all the costs related to above Scope of Work. Tenderer shall quote above/below with respect to estimated rate such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of repairs, installation, testing and commissioning of Elevators and cost of AMC for a period of 01 year after the end of Defect Liability Period. The Tenderer shall take all permits, approvals and licenses, Insurance etc. provide training and such other items and services required to complete the scope of work mentioned above. The cost quoted shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation /adjustment shall be payable.

4.23 Insurance:

The Tenderer shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The Tenderer shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Tenderer will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of tenderer.

4.24 Warrantees and Guarantees

The Tenderer shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The tenderer shall ensure warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts & labour for a period of minimum 1 years from the date of commissioning or more as considered suitable at his own cost. The successful tenderer has to transfer all the Guarantees /Warrantees of the different components to the MMRC. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be responsibility of the Successful tenderer and MMRC will not be responsible in any way for any claims whatsoever on account of the above.

4.25 Type and Quality Of Materials And Workmanship:

The Repairs, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the chapter VII (Technical specifications) of the bid document. The specifications of the components shall meet the technical specifications mentioned in chapter VII. Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, repair, supply & performance or completeness of the project shall be provided by the Tenderer without any extra cost and within the time schedule.

4.26 Progress report

The tenderer shall submit the progress report fortnightly (7 days) to MMRC in Prescribed Performa. MMRC will have the right to depute his/their representatives to ascertain the progress of contract at the premises of works of the tenderer.

4.27 Project Inspection:

The project progress will be monitored by MMRC and the project will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from MMRC or any authorized agency/ experts. MMRC may depute a technical person(s) for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufacturers' facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

4.28 Applicable Law:

The Contract shall be interpreted in accordance with the laws of the Union of India.

4.29 Force Majeure:

4.29.1. Notwithstanding the provisions of clauses contained in this tender document; the MMRC shall not forfeit (a) Security deposit for delay and (b) termination of contract; if Contractor is unable to fulfil his obligation under this contract due to force majeure conditions.

4.29.2. For purpose of this clause, "Force Majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes etc. Whether a "Force majeure" situation exists or not, shall be decided by MMRC and its decision shall be final and binding on the Contractor and all other concerned.

4.29.3. If the Contractor is not able to perform his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. If such force majeure extends beyond six months, MMRC has the right to terminate the contract in which case, the security deposit shall be refunded to him.

4.29.4. All necessary precautions, preventive structural safety measures, and proper supporting arrangements to the structural members, methodology shall be designed and got it approved from MMRC and provided before the repair and restoration of the members or part of the structure. All required permissions /NOC /completion certificate from the concerned departments such as MCGM/ Police and other Departments for concerned work of this contract has to be obtained by the Contractor at his own cost.

4.30 Payment Terms:

4.30.1. Payments shall be released as per General Conditions of contract and the following conditions. All interim payments shall have deductions towards advances and other contract conditions.

4.30.2. 70% of the value indicated against each item of work shall be made after delivery at site in good condition on pro-rata basis subject to deductions to be made against advances and security deposit.

- 4.30.3. 20% of the value indicated against each item of the work shall be made after installation of the equipment and accessories at site in good condition and on giving successful trial run at site.
- 4.30.4. 10% on completion of testing, commissioning statutory approval and handing over to the MMRCL for beneficiary use.
- 4.30.5. The 50% of the Security Deposit shall be collected by deductions from the running bill of the contractors a sum @ 2.5% of the gross amount of the bill and shall be deducted from each running bill as well as final bill of the contractor. Such deductions shall be made unless the contractor has deposited the amount of security. This is in addition to the performance guarantee that the contractor is required to deposit. The Contractor shall have to submit the Bank Guarantee in lieu of 5% of bill amount which would serve as a performance guarantee up to 1 year during DLP period, after completion of the work.
- 4.30.6. No mobilization advance.
- 4.30.7. L.D. Clause: @ 1% of the contract value per week of delay subject to maximum of 10% of contract value.
- 4.30.8. The Contractor shall be required to take sufficient nos. of coloured photographs or video shooting at their own cost with Digital Camera having date printing arrangement along the length or as directed by the Engineer in charge before commencing the work and equal Nos. after completion of work and during progress of the work at the same locations. Contractors shall submit the photos in colour prints and CD of the same to the Engineer-in-charge for proper record as directed.
- 4.30.9. Tenderer shall note that during work they shall take proper safety measures such as (i) Flags, (ii) work in progress board (painted in red paint) (iii) Red lamp (if the work is in progress during night) and other measure such as posting the person near work and barricading at work place as it may be necessary, in order to avoid any possible accident.
- 4.30.10. The percentage above / below the estimated rates shall be inclusive of all operations, taxes, duties etc. levied by State / Central Government, Local Bodies etc. for the fulfilment of the contract. Advances of any sort shall not be considered.
- 4.30.11. The Contractor shall maintain all the records of machineries and labours deployed on the works.
- 4.30.12. Simultaneous, to this work there may be other works in progress in the area. It will be incumbent on the tenderer to provide all the facilities and co-operation to the other Contractors to smoothly carry on their work. This implies that the other agencies will have a right to access to their works through the area on which the present agency is entrusted with the work.
- 4.30.13. The quantities considered for Schedule-A (Annexure-I) are tentative and may increase or decrease to any extent as per site requirement. The provision of Clause 38 under conditions of contract for variation for increase in rates shall be valid.
- 4.30.14. The Contractor shall carry out all testing work in the presence of the representative of the Engineer-in-charge. In addition, he shall provide facilities, at his own cost for any independent testing to be carried out by the Engineer-in-charge and arrangement for

visit at manufacturer's factory / workshop from where materials for works are being purchased.

- 4.30.15. If necessary, the Engineer-In-Charge should get the material tested from ERDA, CPR or from any State /Central Government approved laboratory for confirmation of its parameters as per relevant BIS and the cost shall be borne by Contractor.
- 4.30.16. The contractor shall get all required statutory approvals at his own cost.

4.31 Safety Codes:

- 4.31.1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra worker shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to $1\frac{1}{4}$ horizontal and 1 vertical).
- 4.31.2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 4.31.3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
- 4.31.4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.)
- 4.31.5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder up to and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.
- 4.31.6. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and

maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned.

- 4.31.7. As per additional clause (viii)(i) of Central Public Works Department Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
- a) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - b) Measures shall be taken, wherever required to prevent danger arising from the application of a paint in the form of spray.
 - c) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - d) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - e) Overall shall be worn by working painters during the whole of working period.
 - f) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - g) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of C.P.W.D./PWD(DA).
 - h) C.P.W.D./PWD (DA) may require, when necessary medical examination of workers.
 - i) Instructions about special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the standards laid down in the safety codes.
- 4.31.8. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 4.31.9. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code, shall be named therein by the contractor.
- 4.31.10. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the MMRCL or their representatives.
- 4.31.11. Notwithstanding the above clauses, there is nothing in these to exempt the contractor.

4.32 Defects Liability:

- 4.32.1. "Defects Liability Period" shall mean the defects liability period stated in the Special Conditions of Contract calculated from the date of acceptance of completed Works. Defects Liability period for this work is 1 (One) year.
- 4.32.2. In order that the Construction and/or Manufacture, Documents and the Works shall be in the condition required by the Contract (fair wear and tear excepted) at, or as soon as practicable after the expiry of the Contract Period, the Contractor shall execute all such work of amendment, reconstruction, and remedying defects or damage, as may be instructed in writing by the Employer or the Engineer during the Defect Liability Period.
- 4.32.3. All work referred to in Sub-Clause 4.32.2 shall be executed by the Contractor at his own cost, if the necessity for such work is due to:
- a. The design of the Works;
 - b. Plant, Materials or workmanship not being in accordance with the Contract; or failure by the Contractor to comply with any of his other obligations.
- 4.32.4. If in the opinion of the Engineer, such necessity is due to any other cause, he shall determine an adjustment to the Contract Price, with the approval of the Employer, and shall notify the Contractor accordingly.
- 4.32.5. The Contract Period shall be extended by a period, after the Works are taken over, during which the Works or any Section or item of Plant (as per items in Chapter XI) cannot be used, for the purposes for which they are intended, by reason of a defect or damage.
- 4.32.6. When delivery of Plant and/or Materials, or erection of Plant, or installation of Materials, has been suspended, the Contractor's obligations under this Sub-Clause shall not apply to any defects or damage occurring more than three years after the Items and/or Materials, as per Chapter XI, would otherwise have been delivered, erected and taken over.
- 4.32.7. If the Contractor fails to remedy any defect or damage within such time as the Employer / Engineer may deem to be reasonable, the Employer or the Engineer may fix a date on or by which to remedy the defect or damage, and give the Contractor reasonable notice of such date. If the Contractor fails to remedy the defect or damage by such date and the necessity for such work is due to a cause stated in Sub-Clause 4.32.3 - a ,b or c, the Employer may (at his sole discretion):
- a. carry out the work himself or by others, in a reasonable manner and at the Contractor's risk and cost, but the Contractor shall have no responsibility for such work: the costs incurred by the Employer in remedying the defect or damage shall be recoverable from the Contractor by the Employer;
 - b. require the Engineer to determine and certify a reasonable reduction in the Contract Price; or
 - c. if the defect or damage is such that the Employer has been deprived of substantially the whole of the benefit of the Works or parts of the Works, terminate the Contract in respect of such parts of the Works as cannot be put to the intended use, the Employer shall then be entitled to recover all sums paid for such parts of the Works together with the cost of dismantling the same, clearing the Site and returning Plant, and Materials to the Contractor.
 - d. If the defect or damage is such that it cannot be remedied expeditiously on the Site and if the Employer gives consent, the Contractor may, remove from the Site for the purposes of repair any part of the Works, which is defective or damaged. This consent may require the Contractor to increase the amount of Performance Security by the full replacement cost of these items or to provide other appropriate security acceptable to the Employer.

- 4.32.8. If the remedying of any defect or damage is such that it may affect the performance of the Works, the Engineer may require that Tests on Completion, including Integrated Testing, be repeated to the extent necessary. The requirement shall be made by notice within 28 days after the defect or damage remedied. Such Tests shall be carried out in accordance with Clause 2.10, 4.7 & 4.36.
- 4.32.9. Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the working and performance of the Works, except as may be inconsistent with any reasonable security restrictions by the organisation responsible for operating the Works.
- 4.32.10. The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is one for which the Contractor is liable, the Cost of such search shall be added to the Contract Price.
- 4.32.11. The Contract shall not be considered to be completed until the Performance Certificate has been signed by the Engineer and delivered to the Contractor at the end of 'Defect Liability Period, stating the date on which the Contractor completed his obligations related to completion of works and rectification of defects during Defect Liability Period to the Engineer's satisfaction. Only the Performance Certificate shall be deemed to constitute approval of the Works.
- 4.32.12. After the Performance Certificate, has been issued the Contractor and the Employer shall remain liable for the fulfilment of any obligation, which remains unperformed at that time. For the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force.
- 4.32.13. If any defect or damage is one requiring immediate attention from safety, environmental or operational viewpoint, the Engineer has the authority to proceed with rectification in any manner suitable and deduct such sums from the Contract Price.
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Chapter 5

TECHNICAL SPECIFICATIONS

5.1 Electric Supply:

The available system of electric supply is 415 volts between phases and 230 volts between neutral & phase and neutral – 3 phase 4 wire AC 50 Hz system suitable for operation at $\pm 10\%$ of rated supply voltage. In addition, for illumination and control power required for elevators and equipment shall be indicated in the tender. Power shall be provided at one point in each Machine Room at a point to be indicated by the Contractor. All subsequent electrical systems shall be the responsibility of the Contractor.

5.2 Technical:

The technical particulars of the Elevators are detailed in the enclosed schedule. The schedule indicates the capacity, travel, speed, number of openings, machine room and hoist way sizes etc.

5.2.1 LIFT COMPONENTS:

The electric lift shall comprise of the following equipment and auxiliaries, but not be limited to

- a) 3 phase Induction machine with worm gears.
- b) Microprocessor based control with ACVVV drive.
- c) Traction sheave.
- d) Suspension ropes/flat PU belts and their fixtures, as per manufacturer's standards. Counterweight and counterweight frame, guides, guide shoes, fixtures.
- e) Lift car complete with car frames, enclosure, platform guide shoes, fixtures, car operating panel.
- f) Car guides and fixtures.
- g) Car doors/ shutters.
- h) Landing doors with locking device.
- i) Car buttons in landing.
- j) Safety gears.
- k) Governors.
- l) Spring Buffers.
- m) Electric control panels.
- n) Car operating and indicating equipment.
- o) Electric interlock devices for landing & car doors.
- p) Terminal stopping & final limit switches.
- q) Wiring.
- r) Anchor bolts, base plates, nuts, inserts, sleeves, clips, clamps, rails, miscellaneous joints, screws etc.
- s) Car lights.
- t) Car fans
- u) Built in emergency light & alarm unit.

- v) Car trailing cables
- w) Any other parts or components necessary for efficient operation of the lift
- x) Transportation of equipment to site.
- y) All other works except bringing main power cable and main earthing leads and terminating in a suitable SFU/board provide by lift contractor.

5.2.2 **STANDARDS:**

The following BIS Standards and Codes of Practice with up to date amendments shall generally apply to the equipment and the work covered by this contract.

a)	IS : 14665 (Part-1)-2000	Electric Traction Lifts – Guide line for outline dimension of Passenger, Goods, Service and Hospital Lifts.
b)	IS : 14665 (Part-2)-2000	Electric Traction Lifts – Code of practice for
c)		Installation.
d)	IS : 14665 (Part-3)-2000	Electric Traction Lifts – Safety Rules.
e)	IS : 14665 (Part-4/ Sec 1to 9)-2001	Electric Traction Lifts – Components.
f)	IS : 4666:1968	Specification for electric passenger and good lifts.
g)	IS : 1860:1980	Code of Practice for installation, operation and maintenance of electric passenger and good lift.
h)	IS : 3534	Outline dimension for electrical lifts.
i)	IS : 2365	Specification for steel wire suspension ropes for lifts and hoists.
j)	IS : 1173	Hot rolled and slit steels tee bars.
k)	IS : 4289	Specification for lift cables.
l)	IS : 732 : 1963	Code of practice for electric wiring installations
m)	IS : 325	Three phase induction motors.
n)	IS : 4029	Guide for testing of three phase induction motors.
o)	IS : 4722	Specification for rotating electric machines
p)	IS : 6362	Designation of method of cooling for rotating electrical machines.
q)	IS : 800	Code of practice for use of structural steel in general welding construction.
r)	IS : 814	Covered electrodes for metal arc welding for mild steel.
s)	IS : 816	Code of practice for the use of metal arc welding for general construction in mild steel.
t)	IS : 817	Code of practice for training testing of metal and welding.

5.3 Driving Mechanism:

5.3.1 Elevator Machine:

- a) The Elevator machine shall be suitable for 415 volts 3 phase 50 Hz AC supply with a voltage variation of +/- 10% and shall be placed directly above the hoist way upon the machine room floor slab and steel beam furnished in place by the Contractor.
- b) The machine shall have a high efficiency and low power consumption and shall be designed to withstand the peak currents in lift duties. Anti-vibration rubber pads of adequate thickness shall be used below the machine to reduce the noise and vibrations.
- c) The elevator machine shall be worm geared reduction type and shall consist of a motor, electromechanical brake worm gear, sheave shaft and sheave all completely mounted on a common bed plate. The worm shall be provided with ball bearings to take the end thrust and roller bearings shall be provided for the sheave shaft to ensure alignment and long bearing life. The hard alloy cast iron or steel sheave shall have rope grooves to ensure proper traction and minimum rope wear. Adequate means of lubrication shall be provided for all bearings and worm gear.
- d) Means for manual operation of the lift car shall be made by providing winding wheel suitably marked to indicate the direction of the movement to enable the lift car to be brought to the nearest landing. There shall be a warning display for switching off electrical supply before the manual operations.

5.3.2 Brake:

The electromagnetic brake shall be spring applied and electrically released. It shall come into action after the lift has come to a complete halt to hold the car in position. The brake shall operate automatically with the safety devices and failure of the mains. It shall be released electrically. It shall be possible to release the brake manually - such release requiring the action of manual force to move the lift in short stops.

5.3.3 AC Motor:

The AC self-lubricating motor shall be suitable for elevator use with high starting torque and low starting current. The AC motor shall have class F insulation with a maximum temperature rise of 50°C over the ambient.

5.4 Controls:

- 5.4.1 The Elevators control shall be AC variable voltage variable frequency (A.C.V.V.V.F). The system shall control the starting, stopping direction of motion, running of the lift motor and application of the brake and/or safety devices in the event of power failure or any other emergency. It shall be so designed as to ensure a smooth and constant acceleration and retardation under all opening conditions.
- 5.4.2 The contactor shall be wall/floor mounted, vertical totally enclosed cubicle type with hinged doors on the front and the rear to provide easy access to all components in the controller. The cubicle shall be well ventilated such that the temperature inside never exceeds the safe limits of the components at ambient room conditions in the machine room.
- 5.4.3 The controller shall operate within the supply voltage variation of plus 10% to minus 20% of the nominal voltage. The Controller shall be complete with built in protection against the following:

- a. Over current
 - b. Under voltage
 - c. Over voltage
 - d. Single phasing
 - e. Phase reversal
- 5.4.4 The controller shall be designed to cut off the power supply, apply the brake and bring the car to a rest in the event of any of the above failures occurring. The Contractor must state clearly the forms of protection provide for each equipment. If any devices of the electro mechanical type are used the same shall be equipped with arc chutes to prolong the life of contacts. Contractors must stipulate the type of devices used and the material of the contacts. Contractors must support such offers with complete details of experience, number of lifts installed and operational in India, collaboration for equipment design and manufacture etc.
- 5.5 Counter Weight:**
Counter weight shall consist of cast iron weights as per manufacturers standards, contained in a structural frame and shall be equal to the weight of the car plus approximately 50% of the contract load. Suitable metallic counter weight guard of required length shall be provided at the bottom of the hoist way.
- 5.6 Guide Rail and Guides:**
Guide rails of the car and counter weights shall be preferably machined section and comprise of steel toes and grooved fish plates & bolts at the ends and securely fastened to the hoist way frame by heavy steel brackets. Car and counterweight frames shall be provided with suitable lubricating system. The guide rails of the lift shall be fastened to the shaft way frame work and concrete inserts at regular intervals. Adequate packing shall be supplied by the supplier.
- 5.7 Hoist Ropes:**
- 5.7.1 Round standard steel wire ropes as per Indian standards shall be used for Lift suspension. The number and size of the hoist way ropes shall be so selected to ensure proper factor of safety minimum 10 and adequate traction for the elevator. The governor ropes shall also be wire ropes.
- 5.7.2 The Hoist way landing door shall be provided with an interlock such that:
- a) It shall not be possible for the car to be started or kept in motion until all the landing doors and the car door are locked in the closed position.
 - b) It shall not be possible to open the landing door from the landing unless the Lift car is within the landing zone.
 - c) The car doors & Hoist way landing doors open automatically as the car is stopping at a landing. The closing of the car and landing door must occur before the car is set in motion. (For Automatic door lift)
- 5.8 LIFT CAR:**
- 5.8.1 Size of car platform shall be of maximum size that could be accommodated in lift well as per code of practice. The platform shall consist of a structural steel frame designed based on rated load covered with a M.S steel plate with the PVC Vinyl floor. The design, colour and quality approved by Engineer- in- charge, shall be laid on and securely fixed to the steel sub-flooring in the approved manner. Temporary wooden platform may be provided over PVC Vinyl flooring for protection, during the construction period.
- 5.8.2 Top of car shall be rust free and shall be modernised/repared as per the condition of the lift.

- 5.8.3 The car enclosure for Passenger lifts shall be of steel sheet of 18 SWG thick, smooth and free from defects.
- 5.8.4 SS Hand rail and SS kick plate of manufacturer's standard design shall be provided with the approval of Engineer-in-charge.
- 5.8.5 On the top of the car cage following accessories shall be provided: -
- a) Up, down & stop push button, & one number single phase 230 V power point.
 - b) A traveling screen (toe guard apron) as per manufacturers design shall be provided below the level of the car floor to prevent fall of person in the shaft from open doorway entrance.

5.9 Car Doors:

5.9.1 Automatic doors:

- a) The car doors for Passenger lifts shall be provided with Centre opening door
- b) The doors shall have automatic Centre opening & closing feature. Doors shall have clear opening as per specific requirements. Infra-red sensor along the entire door height shall be provided for sensing obstruction while door closing. Also, protective leading edge device, as a backup to infra-red sensor, shall be provided, to open the door immediately on sensing impact on the door.

5.9.2 Manual doors:

- a) The car doors for Passenger lifts shall be provided with shutter type with swing door.
- b) There should be a provision of buzzer in case door not closed properly after a delay of 5 seconds.

5.10 Hoist way Landing Doors:

5.10.1 Automatic Lift:

- a) For the hoist way doors at each landing, two mild steel painted panels centre opening horizontal sliding doors shall be provided to give a clear opening as indicated in the technical parameters. These shall be duly painted to the shade approved by the institute and suit to the site condition.
- b) The doors shall have automatic opening and closing feature in association with car door. Doors shall have a clear opening as per specific requirements. Car will open in front only.
- c) Provision for emergency opening of the landing door by means of a special key shall be provided at all floors.

5.10.2 Manual Lift:

- a) The hoist way door of each landing should be metallic door.
- b) The hoist way door should have interlock so that it cannot be opened till the car is in the position on the floor.
- c) There should be provision to manually open the door with special keys for maintenance.

5.11 Door Hangers and Tracks:

The car and the landing door shall be provided with two-point suspension sheave type hangers complete with tracks sheaves and rollers shall be steel with moulded nylon collar and shall include shielded ball bearings. Tracks shall be of suitable steel section with smooth surface. The landing doors shall be complete with headers, sills, frames etc. as reqd.

5.12 Cabin Fan:

A noiseless cabin fan shall be repaired/Overhauled/replaced for all elevators.

5.13 Emergency Light:

An emergency light unit using sealed maintenance free battery power pack and fluorescent lamp to operate automatically in case of power failure shall be provided in each elevator car.

5.14 Alarm Bell:

An emergency alarm bell including wiring shall be provided and connected to plainly marked push button in the car operating panel. The alarm shall be provided in the Ground floor lobby if required, the alarm unit shall be solid state siren type operated by 2 nos. 9 Volts dry batteries to give a warning siren when the alarm button in the car is pressed momentarily.

5.15 Operation Buttons:

The following operation buttons shall be provided in each lift car stainless steel return panels of suitable thickness shall be provided on each side of the door with the following flush mounted controls on one side:

- a) Illuminated type push buttons corresponding to the floors served. Floor nos. on push buttons shall be numbered from 1 to onward.
- b) Door open button
- c) Ventilation fan ON/OFF switch
- d) UP/DOWN direction display
- e) Alarm Button

5.16 At Landing:

Illuminated type 'UP' and 'DOWN' push buttons at each intermediate landings and single illuminated type push buttons at terminal floors. The push buttons shall illuminate when the same is pressed to indicate that the call has been registered. The button shall remain illuminated until the call is answered. One set of calling buttons shall be provided for a bank of two elevators

5.17 Indications:

In each car, a name plate shall be fitted in the lift car to indicate the rated capacity of the lift & instructions in Hindi & English as per format given in specifications.

The following indications shall be provided in the cars:

- a) Digital car position indicator provided above door to indicate the landing at which the car is stopped or passing.
- b) Illuminate "UP" and "DOWN" arrows on the position indicator above door to indicate direction of travel.

5.18 Safety Devices:

The following safety devices shall be provided:

5.18.1 Self-Levelling:

The Lift shall be provided with a +/- 5mm self-levelling accuracy feature of the two-way automatic type. The self-levelling device shall automatically correct for under run, over run and rope stretch.

5.18.2 Terminal & Final Limits:

Terminal limit switches shall be provided to slow down and stop the car automatically at the terminal landings and final limit switches shall be furnished to automatically cut off the power and apply the brake shall the car travel beyond the terminal landings.

5.18.3 Terminal Buffers:

Suitable spring buffers shall be installed/ mounted on steel channels as a means of stopping the car & counter weight.

5.18.4 Interlocking:

Adequate interlocking is to be provided so that the car shall not move if the landing doors are even partially open and also the lift is overloaded.

5.18.5 Car Safety and Governor:

The car safety shall be provided to stop the car whenever excessive descending speed is attained. The safety will be operated by a centrifugal governor located at the top of the hoist way and connected to the governor through a continuous steel rope. Suitable means shall be supplied to cut off power from the motor and apply the break on application of the safety.

5.19 Hand winding wheel or handle:

At times of lift stoppage due to any reasons, it shall be possible to move the lift car to the nearest landing manually. The manual operation shall be by means of winding. Wheel or handle mounted on the end of the motor shaft. The up or down direction of the movement of the car shall be clearly marked on the motor or at suitable location. A warning plate written in bold signal red colour advising the maintenance staff to switch off the mains supply before releasing the break and operating the wheel is to be prominently displayed.

5.20 Emergency Power Supply for lift car:

This shall include suitable secondary battery with trickle/boost charge arrangement and inverter power pack with necessary contactors for supplying the light fixtures in the lift car. The same battery shall also feed the alarm bell.

5.21 Car landings:

All the lift car landing shall be well lit to an illumination level of 150 lux and shall be free from obstructions. The control for landing lights and the sigh lights shall be tamper proof. Wherever stand by power supply is available, these lights shall be connected to standby circuits also.

5.22 Instructions:

Detailed instructions as specified for guidance of passengers shall be prominently displayed inside the car by contractor and outside the car at all landings by the department.

5.23 Levelling:

All lift (s) shall be incorporated with suitable floor levelling devices. In case of lifts with automatic power operated doors and with A.C. VVVF controller a separate level device for automatic levelling with levelling accuracy of $\pm 5\text{mm}$ shall be incorporated.

5.24 Counter Weight Guards:

Guards of wire metal/ mesh shall be provided in the lift pit to a suitable height above the pit floor to eliminate the possibility of injuries to the maintenance personnel.

5.25 Guide shoes:

Two numbers of guide shoes at the top and two numbers at the bottom shall be provided on the lift car and counter-weight.

5.26 Type of shoes:

For passenger lifts and bed-cum-passenger lifts:

- a) For speed up to 1.5 mps sliding guide shoes shall be used. Sliding guide shoes for car shall be always flexible and for counterweight solid guide shoes can be used up to 1.0 mps.
- b) For speeds more than 1.5 mps roller guide shoes shall be used for car and counter weight.

5.27 Rope fastenings:

The ends of lift ropes shall be properly secured to the car and counter weight hitch plates as the case may be with adjustable rope shackles having individual tapers babbit sockets, or any other suitable arrangement. Each lift rope shackle shall be fitted with a suitable shackle spring, seat washer, shackle nut & shackle nut split pin.

5.28 Guards for lift ropes:

Where lift ropes run around a sheave or sheaves on the car and/ or counterweight of geared machine suitable guards shall be provided to prevent injury to maintenance personnel.

5.29 Number & size of ropes:

The contractor must indicate the number and size of lift ropes and governor ropes proposed to be used, their origin, type, ultimate strength and factor of safety. The contractor shall furnish certificate of ropes from the rope manufacturers issued by competent authority.

5.30 Safety Equipment:

Every lift installation shall necessarily be provided with the following safety features: The safety gear shall be provided in accordance with IS (part-4-Sec.4):2001, each type of car safety shall be actuated by a speed governor.

5.31 Governor:

5.31.1 The car safety shall be operated by speed governor located overhead and driven by governor rope suitably connected to the car and mounted on its own pulleys. The rope shall be maintained in tension by means of weighted or spring loaded tension sheaves located in the pit. Governor shall be provided for lifts with travel of more than 5.5 meters. The governor rope shall be not less than 6mm in dia. & shall be made of steel or phosphor bronze. This shall be accordance with IS 14665(Part4 Section 4) 2001.

5.31.2 Governor for car safety gears shall be adjusted to actuate the safety gear at the following speeds:

- a) For rated speeds upto 1m/s maximum governor tripping speed shall be either 140 percent of rated speed or 0.88m/s whichever is higher.
- b) Minimum governor tripping speed shall be 115 percent of the rated speed.
- c) The governor shall be of "V" groove wheel design and only wheel is stopped to actuate the car safety upon a pre-determined over speed downward without damaging the rope.
- d) The governor, rope and sheave shall be so located so as to minimize danger of accidental injury to the equipment.
- e) The requirement for field test on car safety and governor and for drop tests to sliding type car safeties shall be as specified in IS codes

5.32 Buffers:

Buffers shall be spring/oil type. Buffers shall be suitable for installation in the space available. Buffer anchorage at pit floors shall be installed avoiding puncturing of water-

proofing.

Oil buffers of the car and counter weight shall be of the spring return type or of gravity type. The partial compression of spring return oil buffers when the car is in level with terminal landing will not be acceptable. All buffers shall be tested at manufacturers works and a copy of the test report shall be submitted. When the lift car rests on fully compressed buffers there shall be at least 60cms clearance between the lowest point in its car frame and any obstruction in the it exclusive of buffers and their supports. Similarly, when the lift car cross head is 60 cm from the nearest obstruction above it, no projection on the car shall strike any part of the overhead structure.

5.33 Door Locks:

Electro-mechanical door lock shall be provided for all the landing doors and they shall be such that the doors cannot open unless the car is at rest at the particular landing. It shall not be possible to move the car unless all the landing doors and the car door are closed and locked. This requirement however does not apply when the lift car is provided with automatic levelling devices and in such cases, it shall be permitted to move the car with both the doors open in the levelling zone for the purpose of levelling.

5.34 Controlling Equipment:

The movement of the car shall be electrically controlled by means of a controller located in the machine room.

5.35 Control circuits:

The control circuit shall be designed to the type of lift specified for safety operation. It shall not be possible to start the car unless all the car and landing doors are fully closed and landing doors locked. The circuit shall have an independent fuse protection for fault and over loads and be arranged so that earth fault or an open circuit shall not create unsafe condition. The circuit shall be so arranged that for the stoppage of the car at specified landing or for actuation of a contactor by emergency switches or operation of safety gears the system shall not depend upon the completion or maintenance of an electrical circuit to cut off power supply and apply the brakes. This requirement is not applicable to dynamic braking and speed control devices.

5.36 Control Cabinet (Panel) Construction Feature:

5.36.1 Control cabinets shall be sheet steel enclosure of min. 1.6mm thick and shall be dust weather and vermin proof type Sheet steel used shall be of adequate thickness and properly braced to prevent wobbling.

5.36.2 Control cabinets shall be free standing floor mounting type with anti-vibratory pads.

5.36.3 Control cabinets shall be provided with a concealed hinged door with padlocking arrangement.

5.36.4 All doors, removable covers and plates shall be gasketed all around with neoprene gaskets, louvers when provided shall have screens and filters. The screen shall be of fine wire mesh of brass.

5.36.5 Cable entries shall be either from top or from bottom.

All sheets steel work shall be given standard seven tank treatment and powder coated both inside and outside. The colour of the finishing coat shall be as per IS:5 and as approved by Engineer-in-charge.

5.37 Cabinet Internal wiring:

- 5.37.1 Control cabinets shall be supplied completely wired ready for Dept. /Users external connection at the terminal blocks. All wiring shall be wired with stranded copper conductor with FRLS properties of adequate sizes to suit the rated circuit current. The control alarm and indication circuits shall be wired with stranded copper conductor of sizes not smaller than 1.5 sq.mm or as per manufacturers standards.
- 5.37.2 Engraved core identification ferrules, marked to correspond with the wiring diagram shall be fitted at both ends of each wire Ferrules shall be fit tightly on the wires and shall not fall off when the wires are removed. Spare auxiliary contacts of all relays, contactors, etc. shall be wired to terminal blocks. All wiring shall be terminated on terminal blocks using solder less crimping type tinned copper lugs. Insulated sleeves shall be provided at all the wire termination. All wiring shall be neatly bunched and dressed without affecting access to equipment mounted within the cabinet. Wiring trough shall be provided for vertical cabinet wiring and for interconnecting wire between front and rear section of the cabinet.
- 5.37.3 Terminal blocks for control indication etc. shall be suitable for connecting to conductors of Users cables of following sizes:
- a) Control circuits shall be min. 1.5 sq.mm multi stranded copper conductor.
 - b) CT circuits: min 2.5 sq.mm multi stranded copper conductor.
- 5.37.4 Terminal blocks shall be numbered for identification and grouped per function. Terminal block for CT secondary leads shall be provided with short circuiting and earthing facilities.
- 5.38 Labels:**
All door mounted equipment as well as equipment mounted inside the control cabinet shall be provided with individual labels, with equipment designation engraved. Also, the control cabinet shall be provided on the front with a label engraved with designation of the control cabinet as furnished by Engineer-in-charge.
- 5.39 Earthing terminals:**
Control cabinet shall be provided with two separate earthing terminals suitable to receive earthing conductors as per incoming cable size.
- 5.40 Earthing:**
The equipment supplied shall be earthed with the following arrangement as per provisions of Indian electricity rules.
- 5.41 Wiring in machine room:**
- 5.41.1 Power wiring between the controller and main board controller to various landings shall be done in heavy gauge conduit or metal duct and shall conform to I.E. Rules 1956 and dCPWD Specifications for Electrical Works.
- 5.41.2 Following general principles shall be followed in wiring:
- a) Control cables carrying DC and power cable carrying AC shall not be run in the same conduit or metal duct and they shall be laid as per IE Rules.
 - b) Metal duct with removable inspection cover shall be preferred.
 - c) In case of control cables also the harness shall be separate as far as feasible for separate functions and laid separately in suitably dimensioned metal duct or in a separate conduit such as the signaling, locking, lamp indication and safety. Control cables for different voltages in the lift installation works should be laid as per IE Rules.

- d) Provision of ELCB as per CPWD Rules.
- e) All cables shall be with copper conductors with fire resistant material. The cables feeding motor and in heavy current flow paths shall be so selected that the size matches the protecting fuses and will not result in more than 2 percent voltage drop from the main board to the terminals of motor. Control cables shall not be less than 0.5 sq. mm.

5.42 Terminal Boards:

All wiring for external control circuits shall be brought to a terminal board with means of identification of each wire. Metallic/plastic identification tags shall invariably be provided. All connections of wires to terminal boards shall be adequately clamped or screwed.

5.43 Auxiliary Switches:

5.43.1 Emergency stop switches:

On top of the lift car an emergency stop switch shall be provided for use by maintenance personnel. Stop switch shall be provided in the machine room. Operation of these switches/ buttons shall cancel all the registered calls and landing calls for that particular lift.

5.43.2 Maintenance switch on top of the car:

For purpose of inspection and maintenance, maintenance switch shall be provided on top of the car. The control circuitry shall be so arranged that in the event of the operation of this switch:

- a) The car speed shall be less than the rated speed not exceeding 0.85 meters/sec.
- b) The car movement shall be possible only on the application of the continuous pressure on a button. It shall be so mounted to prevent any inadvertent operation.

5.44 Inspection facility:

An inspector's change over switch and set of test buttons shall be provided in the controller. Operation of the inspector's change over switch shall make both the car and landing buttons inoperative and permit the lift to be worked in either direction from machine room for test purposes by pressing corresponding test buttons in the controller. It shall not however interfere with the emergency stop switches inside the car or on the top of the car.

5.45 Trailing Cables:

5.45.1 Travelling cables shall be of flat type with flame & moisture resistant properties for the service and shall run from a junction box on the top of the car to a junction box located in the shaft bear midpoint of travel and from these junction boxes conductors shall be run to the various locations. They shall have a fire and moisture resistant outer covering and contain a steel-supporting strand. They shall be suitably suspended to relieve strains in individual conductors.

5.45.2 Cables less than 30 meters in length shall have no – metallic fillers and shall be suspended by looping cables around supports of porcelain spools type or equivalent. 5 per cent of the total capacity subject to a minimum of 5 wires shall be available unutilized in the trailing cable everywhere suitably distributed between various functions.

5.46 Earthing of Lift frame:

Metal frames and all metal work of the lift controller frame etc., shall be earthed with double earth leads taken to the earth bar. Looping shall be permitted if such routing is

feasible. All other individual metallic frame work of components etc., shall be loop earthed.

5.47 Lift Rope Compensation:

The lift rope compensation for lift travel shall be provided for lift travels beyond 40m in all cases.

5.48 Automatic Rescue Devices (ARD):

5.48.1 The automatic rescue devices (ARD) meant for bringing the lift car to the nearest landing doors. The ARD shall have the following specifications:

- a) ARD shall move the elevator to the nearest landing in case of power failure during normal operation of elevator.
- b) ARD shall monitor the normal power supply in the main controller and shall activate rescue operation within 10 seconds of normal power supply failure. It shall bring the elevator to the nearest floor at a slower speed than the normal run. While proceeding to the nearest floor the elevator will detect the zone and stop. After the operation is completed by the ARD the elevator is automatically switched over to normal operation as soon as normal power supply resumes.
- c) In case the normal supply resumes during ARD in operation the elevator will continue to run in ARD mode until it reaches the nearest landing and the doors are fully opened. If normal power supply resumes when the elevator is at the landing. It will automatically be switched to normal power operation.
- d) All the lift safeties shall remain active during the ARD mode of operation.
- e) The battery capacity shall be adequate so as to operate the ARD at least seven times a day provided the duration between usages are at least 30 minutes.

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Annexure A
(Ref: 1.1.13 , 1.2.4)

FORM OF BANK GUARANTEE BOND FOR SECURITY DEPOSIT

1. In Consideration of the Mumbai Metro Rail Corporation Limited (hereinafter called "the MMRC") having agreed to exempt _____ (hereinafter called "the said Contractor(s)" from the demand, under the terms and conditions of an Agreement dated _____ made between the Sr. Deputy General Manager, MMRC and _____ for _____ (hereinafter called "the said Agreement"), of security deposit for the due fulfilment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs. _____ (Rupees _____).

We, _____ (hereinafter referred to as "the Bank") at the request of _____ (Contractor(s) do hereby undertake to pay to the MMRC an amount of not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the MMRC by reasons of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement.

2. We, _____ (indicate name of the bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the MMRC stating that the amount claimed is due by way of loss or damage to or would be caused to or suffered by the MMRC by reason of breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement or by reasons of the Contractor(s) failure or repudiation to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ .

3. We undertake to pay the MMRC any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under these presents being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

4. We, _____ (indicate name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the MMRC under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the Executive Director/Elect., Project Division of MMRC _____ (indicate the name of Administrative Department) certified that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on to us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

5. We, _____ (indicate the name of Bank) further agree with the MMRC that the MMRC shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s)

from time to time or to postpone for any time or from time to time any of the powers exercisable by the MMRC against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reasons of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or commission on the part of the MMRC or any indulgence by the MMRC to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s) / Supplier(s).

7. We, _____ (indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency.

Dated _____ Day of _____ 2017

For _____

(Indicate the name of the Bank)

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Annexure B
(Ref:1.3.5(b))

WORKS IN HAND

Name and address of the Tenderer: -----

List of important project works in HAND with costing:

SNo.	Name & full postal address of the Client. Also, indicate whether Govt. or Private body with full postal address.	Department	Contract Amount (Rs.)	Progress of work along with stipulated date of completion of work	Remark

Note: True copies of testimonials may be attached.

Signature of Tenderer
Address

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Annexure C

(Ref:1.1.9(b),1.3.5(b),1.3.5(c))

WORKS PERFORMED BY TENDERER

Work performed as a prime Contractor on works of similar nature in the last Three years (2014 - 2017). *

SNo	Name of the employer*	Description of work	Contract No.	Value of contract (Rs.Lakhs)	Date of issue of work order	Stipulated period of completion	Actual date of completion*	Remarks explaining reasons for delay and work completed

* ***Attach Completion Certificate from client.***

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Annexure D
(Ref:1.3.5(d))

SOLVENCY CERTIFICATE
(To be issued by Bank)

This is to certify that M/s.....
.....is a reputed company
with a good financial standing.

If the contract for the work, namely
is awarded to the above firm, we shall be able to provide overdraft/ credit facilities to the
extent of Rs. _____ to meet their working capital requirements for
executing the above contract.

___ **Sd.** ___
Name of Bank
Senior Bank Manager
Address of the Bank
(With Seal)

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CONTRACT AGREEMENT**MUMBAI METRO RAIL CORPORATION LIMITED**

THESE ARTICLES OF AGREEMENT made at Mumbai this _____ day of _____ Two Thousand Sixteen between the MUMBAI METRO RAIL CORPORATION LIMITED (MMRC) a company incorporated under companies act ,1956 on 13.04.2008 presently a 50:50 joint venture company of Gol and GoM within the meaning of section 617 of the companies Act 1956 having its office in MMRC, NAMTTRI Building Plot R-13,E Block of BKC, Bandra (East), Mumbai-400 051 hereinafter called "The Company" (which expression shall unless the context does not admit, include its successor or successors and assign or signs) of the one part and M/S _____ represented by Shri _____ having their office at _____, hereinafter called collectively "The Contractor" (which expression shall unless the context does not admit, include their respective heirs, administrators, executors and surviving partner or partners) of the other part.

WHEREAS the Company invited by its public advertisement No. _____ dated _____ published in the News Paper _____ dated _____ public tenders for the execution of works referred to therein and more particularly described in the tender documents constituted in the e-Tender Notice, Instructions to the Tenderers, General Conditions of Contract, Additional General Conditions, Special Conditions Of Contract, Technical Specifications, Schedule of Quantities of work and other allied documents.

AND WHEREAS the Contractor submitted his tender dated _____ for a sum of Rs. _____.

AND WHEREAS in exercise of its schedule of power the said tender of the Contractor being accepted subject to the following terms and conditions.

AND WHEREAS the parties hereto are desirous of recording the Agreement so concluded between them which they do hereinafter.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract herein after referred to.
2. The following documents shall be deemed to form and read and construed as a part of this Agreement, and the priority of the documents shall be as follows:
 - (a) Letter of Acceptance;
 - (b) Work order
 - (c) Common set of clarifications/ deviations & addendum, if any
 - (d) Special conditions of contract
 - (e) Conditions of Contract
 - (f) Additional General Conditions
 - (g) General conditions Of Contract
 - (h) Percentage rate Tender & contract for works
 - (i) Technical specifications
 - (j) Tender Drawings
 - (k) Schedule of Bill of Quantities as per Schedule-A

- 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 and remedy and defects therein 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 or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESSTH whereof the parties hereto have caused this Agreement to be executed the day and year first before written:

SIGNED AND DELIVERED FOR AND ON
BEHALF OF
MUMBAI METRO RAIL CORPORATION LIMITED
BY pursuant to Schedule of Powers

In the presence of:
(1)
(2)



Signature:
Designation:

SIGNED AND DELIVERED FOR AND ON
BEHALF OF THE CONTRACTOR BY
Shri _____
By the Partner pursuant to Authority of their
Deed of Partnership

In the presence of:
(1)
(2)



Signature:
Designation:

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Annexure F**DECLARATION BY CONTRACTOR**

I / We hereby declare that I have made myself thoroughly conversant with the local or prevailing site conditions regarding availability of all construction materials and labour on which I/we have based my rates for this tender. The specifications and lead on this work have been carefully studied and understood by me/ us before submitting the tender. I/we undertake to use only the best materials and method proposed to employ duly approved by the Sr. Deputy General Manager, MMRC, Mumbai or to abide by his decision.

Signature of Contractor

Sr. Deputy General Manager/Elect.
MMRCL, Mumbai

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Annexure G

(Ref:1.1.9(c),1.3.6 ,1.1.10)

FORM B-1**Percentage Rate Tender and Contract for Works****A. General Rules and Directions for the Guidance of Contractor**

- 1) All works proposed to be executed by Contractor shall be notified in a form of e-tender digitally signed by Engineer.
- 2) This form will state the work to be carried out as well as the date for submitting and opening tenders, and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. It will also state whether a refund of quarry fees, royalties, octroi dues and ground rents will be granted. Copies of the specifications, designs and drawings and estimated rates, scheduled rates and any other documents required in connection with the work shall be signed by the Engineer for the purpose of identification shall also be open for inspection by contractors at the office of the Engineer during office hours.
- 3) Where the works are proposed to be executed according to the specifications recommended by a contractor and approved by a competent authority on behalf of the MMRCL such specifications with designs and drawings shall form part of the accepted tender.
- 4) In the event of the tender being submitted by a firm, it must be digitally signed by a person holding a power of attorney authorizing him to do so.
- 5) The contractor shall along with the Tender pay the earnest money by electronic transfer. The said amount of earnest money shall not carry any interest.
- 6) In the event of his Tender being accepted subject to the provisions of sub-clause (iii) below the said amount of earnest money may be appropriated towards the amount of Security Deposit payable by him under condition of General Conditions of Contract.
- 7) If, after submitting the tender, the contractor withdraws his offer, or modifies the same, or if after the acceptance of his tender the contractor fails or neglects to furnish the balance of Security Deposit, within 10 days from the date of letter of intent without prejudice to any other rights and powers of the MMRCL, hereunder or in law, MMRCL shall be entitled to forfeit the full amount of the earnest money deposited by him. Please see Clause 1 of conditions of contract.
- 8) In the event of his tender not being accepted, the amount of earnest money deposited by the contractor shall unless it is prior thereto forfeited under the provisions of sub-clause (iii) above, to be refunded to him on his passing receipt thereof.
- 9) Receipts for payments made on account of any work, when executed by a firm shall also be signed by all the partners except where the contractors are described in their tender as a firm in which case the receipt shall be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.
- 10) Any person who submits a tender shall quote his offer in the prescribed space in e-envelope C only. Tenders which propose any alteration in the works specified in the said

form of invitation to “tender” or in the time allowed for carrying out the work or which contain any other conditions, will be liable to rejection.

- 11) The Executive Director/Elect. or his duly authorized Assistant shall open e-tenders in the presence of contractors who have submitted tenders or their authorized representatives who may be present at the time and he will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted the contractor shall, for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule 1. In the event of tender being rejected, the Engineer shall authorize the Accounts Office concerned to refund the amount of the earnest money deposited to the contractor taking the tender, on his giving a receipt for the return of the money.
- 12) The officer competent to dispose of the tenders shall have the right of rejecting all or any of the tenders.
- 13) No receipt for any payment alleged to have been made by a contractor in regard to any matter relating to this tender or the contract shall be valid and binding on MMRCL unless it is signed by the Engineer.
- 14) The memorandum of work to be tendered for and the Schedule of materials to be supplied by the MMRCL and their rates shall be filled in and completed by the office of Engineer before the tender form is issued. If a form issued to an intending tenderer has not been so filled in and completed, he shall request the said office to have this done before he completes and delivers his tender.
- 15) All work shall be measured out by the standard measure and according to the rules and customs of the MMRCL and their rates shall be subject to any local customs.
- 16) Under no circumstances shall any contractor be entitled to claim enhanced rates for any items in this contract.
- 17) All corrections and additions or pasted slips shall be initialed.
- 18) The measurements of work will be taken according to the usual method in use in the MMRCL and no proposals to adopt alternative methods will be accepted. The Engineer's decision as to what is “The usual method in use in the MMRCL” will be final.
- 19) The tendering contractor shall furnish a declaration along with the tender showing all works for which he has already entered into contract, and the value of the work that remains to be executed in each case on the date of submitting the tender.
- 20) Every tenderer shall submit along with the tender information regarding the Income-tax clearance of ward or the district in which he is assessed for income-tax, the reference to the number of the assessment and the assessment year.
- 21) In view of the difficult position regarding the availability of foreign exchange no foreign exchange would be released by the MMRCL for the purchase of plant and machinery required for the execution of the work contracted for.
- 22) The contractor will have to construct shed if required for storing controlled and valuable materials viz. timber paint, cement etc. at work site at his own cost after taking suitable approvals

- 23) The contractor shall also give a list of machinery in their possession and which they propose to use on the work.
- 24) Contractor shall produce original license / attested copy of license duly attested by a Gazetted Officer, having registered with the Assistant Commissioner of Labour as required as per Contract Labour (Regulation and Abolition) Act, 1970 and Maharashtra Contract Labour (Regulation and Abolition) Rules, 1970.
- 25) Contractor shall produce a year-wise list of works carried out during the last 03 (Three) Financial years.
- 26) The contractor shall produce true copies of registration certificate of appropriate class including its validity.

B. TENDER FOR WORKS

I / We agree that this offer shall remain open for minimum period of 90 (Ninety days) from that fixed for receiving the same and hereafter until it is withdrawn by me / us by notice in writing duly addressed to the Authority opening the tenders and sent by registered Post A.D. or otherwise delivered at the office of such authority. I have deposited the earnest money by way of electronic transfer.

The amount of earnest money shall not bear interest and shall be liable to be forfeited to the MMRCL shall I / We fail to abide by the stipulation to keep the offer open for the period mentioned above or (ii) sign and complete the contract documents as required by the Engineer and furnish the Security Deposit as specified in item (d) of the memorandum contained in paragraph 1 above within the time limit laid down in clause (i) of the Conditions of Contract. The amount of earnest money may be adjusted towards the Security Deposit or refunded to me / us if so desired by me / us in writing, unless the same or any part thereof has been forfeited as aforesaid.

Shall any occasion for forfeit of bid security for this work arise due to failure on my / our part to (i) abide by the stipulation to keep the offer open for the period mentioned above or (ii) sign and complete the contract documents and furnish the security deposit as specified in item (d) of the memorandum contained in paragraphs above within the time limit laid down in clause (I) of the Conditions of Contract, the amount payable by me / us may at the option of the Engineer be recovered out of the amount deposited in lump sum for securing exemption in so far as the same may be extended in terms of the deficiency out of any other moneys which are due or payable to me / us the MMRCL, under any other contract or transaction of any nature whatsoever or otherwise.

*	<p>I / We hereby tender for the execution, for the Managing Director, MMRCL (hereinbefore and hereinafter referred to as 'MMRCL') of the work specified in the underwritten memorandum within the time specified in such memorandum at * (Offer to be filled in e-Envelop 'C' i.e. Financial Bid) below / above the estimated rates entered in Schedule 'A' (Memorandum showing item of work to be carried out) and in accordance in all respects with the specification designs, drawings and instructions in writing.</p> <p style="text-align: center;"><u>MEMORANDUM</u></p>	
	a) Description of Work	"Repairs, Installation, Testing and Commissioning of Elevators"
	b) Estimated Cost	Rs 55,42,892/-

c) The amount of earnest money to be deposited shall be in accordance with the provisions of paras 206 & 207 of the MPW Manual. (EMD):	Rs. 55,429/-
d) This deposit shall be in accordance with paras 213 & 214 of the MPW Manual and as per stated in Clause 1.6. Additional Security Deposit as per Clause 1.6.2	<p>Security Deposit Rs. 5,54,290/-</p> <p>(i) Demand Draft or Bank Guarantee of Any Nationalised /Scheduled Bank of while accepting of tender. (not less than Rs. 2,77,145/- the amount of earnest money)</p> <p>(ii) To be deducted from Rs. 2,77,145 /- The Second Running Account Bill.</p> <p style="text-align: right;">TOTAL : Rs. 5,54,290 /-</p> <p style="text-align: right;">=====</p>
e) This percentage where no security deposit is taken will vary from 5% to 10% according to the requirements of the case where security deposit is taken. See Note to clause 1 of Conditions of Contract	Percentage, if any, to be deducted 10(ten) percent from bills so as to make up the total amount required as security deposit by the time half the works as measured by the costs, is done.
f) Give schedule where necessary showing dates by which the various items are to be completed.	Time allowed for the work from date: 1 (One) (Month of written order to commence). I/We hereby agree to abide by and fulfil all the terms, and provisions of the condition of contract annexed hereto so far as practicable, and in default thereof to forfeit and pay to MMRC the sums of money mentioned in the said conditions.
g) Amount to be specified in words and figures	Receipt No. _____ dated _____ from the MMRC Finance and Accounts Division in respect of the sum of is herewith forwarded representing the earnest money
h) If no cash security deposit is to be taken	The full value of which is to be absolutely forfeited to MMRC shall I/we not deposit the full amount of security deposit specified in above memorandum in accordance with the clause I (A) of the said conditions otherwise the said sum of Rs. 55,429/- shall be refunded
i) Liquidated Damage	1.00 % of the Contract Amount Per Week per day of delay subject to a Maximum of 10% of the actual project cost.

j) Time allowed for completion:	1 Month.
k) Validity period for Tenders	60 days from the date of opening of the priced bid of the tender.
l) Defect Liability Period	1 Year from the date of commissioning of the system.
m) Period of Honouring Bills:	A) Running Bill: Ten working days from the date of completion with all the supporting documents. 1. Final Bill: 30 working days from the date of completion with all the supporting documents.
n) Signature of Contractor before submission of tender	Contractor Address Dated the day of 2017.
o) Signature of witness of Contractor's signature	(Witness) (Address) (Occupation)
p) Signature of the Officer by whom accepted.	The above tender is hereby accepted by me for and on behalf of the Managing Director, of MMRC.
<p>Shall this tender be accepted, I/We hereby agree to abide by our tender / offer and fulfil the terms and provisions of the said set of Conditions of Contract annexed hereto so far as they may be applicable or in default thereof to forfeit and pay to the MMRC the amount mentioned in the said conditions.</p> <p>I / We have deposited a sum of Rs. /- as Earnest Money Deposit.</p> <p style="text-align: right;">Contractor</p>	

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Annexure HCONDITIONS OF CONTRACT

Security Deposit	<p>CLAUSE 1 : The person/ persons whose tender may be accepted (hereinafter called “the contractor” which expression shall unless excluded by or repugnant to the context include its heirs, executors, administrators, and assigns) shall (A) within 10 days (which may be extended by the Engineer concerned up to 15 days if he thinks fit to do so) of the receipt by him of the notifications of the acceptance of his tender, deposit with the Engineer (if deposited for more than 12 months) of sum sufficient which will make up the full security deposit specified in the tender or (B) (Permit MMRCL at the time of making any payment to him for work done under the contract to deduct such sum as will amount to five percent of all moneys so payable such deductions to be held by the MMRCL by way of security deposit) provided always that in the event of the contractor depositing a lump sum by way of security deposit as contemplated at (A) above, then and in such case, if the sum so deposited shall not amount to five percent of the total estimated cost of the work, it shall be lawful for MMRCL at the time of making any payment to the contractor for work done under the contract to make up the full amount of two and a half percent by deducting a sufficient sum from every such payment as last aforesaid until the full amount of the security deposit is made up. All compensation or other sums of money payable by the contractor to the MMRCL under the terms of his contract may be deducted from or paid by the sale of sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due or may become due by MMRCL to the contractor under any other contract or transaction of any nature on any account securities endorsed as aforesaid, any sum or sums which whatsoever and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall, within ten days thereafter, make good in cash or Government may have been deducted from, or raised by sale of his security deposit or any part thereof. The security referred to when paid in cash may at the cost of the depositor, be converted into interest bearing securities provided that the depositor has expressly desired this in writing.</p>
	<p>If the amount of the security deposit to be paid in a lump sum within the period specified at (A) above is not paid, the tender / contract already accepted shall be considered as cancelled and legal steps taken against the contractor for recovery of the amounts. The amount of the security deposit lodged by a contractor shall be refunded along with the payment of the final bill, if the date up to which the contractor has agreed to maintain the work in good order is over. If such date is not over, only 50% amount of security deposit shall be refunded along with the payment of the final bill. The amount of security deposit retained by the MMRCL shall be released after expiry of defect liability period (DLP). In the event of the contractor failing or neglecting to complete rectification work within the period up to which the contractor has agreed to maintain the work in good order then subject to provision of Clause 17 and 20 hereof the amount of Security Deposit retained</p>

	by MMRCL shall be adjusted towards the excess cost incurred by the MMRCL on rectification work.
Compensation for delay	CLAUSE 2: At the rate of 1% of the contract value per day per week of the delay occurring from the period of completion as per ITB 1.1 subject to maximum of 10% of contract value shall be deducted. The delay shall be counted after the date of signing the contract agreement.
Action when whole of security deposit is forfeited.	CLAUSE 3: In any case in which under any clause of this contract the contractor shall have rendered himself to pay compensation amounting to whole of his security deposit (whether paid in one sum or deducted by installments) or in case of abandonment of the work owing to serious illness or death of the contractor or any other cause the Executive Director/Elect on behalf of the Managing Director of MMRCL, shall have power to adopt any of the following courses as he may deem best suited to the interest of the MMRCL.
a)	The rescind the contract (for which decision notice in writing to the contractor under the hand of Executive Director/Elect shall be conclusive evidence) and in that case the security Deposit of the contractor shall stand forfeited and be absolutely at the disposal of MMRCL.
b)	To carry out the work or any part of the work departmentally debiting the contractors with cost of the work, expenditure incurred on tools and plant and charges on additional supervisory staff including the cost of the work charges establishment employed for getting the unexecuted part of the work completed and crediting him with the value of the work done departmentally in all respects in the same manner and at the rates as if it had been carried out by the contractor under the terms of this contract. The certificate of the Engineer as to the cost and other allied expenses so incurred and to the value of the work so done departmentally shall be final and conclusive as against the contractor.
c)	To order that the work of the contractor be measured up to date such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete in which case all expenses incurred on advertisement for fixing new contracting agency, additional supervisory staff including the cost of work charged establishment and cost of the work executed by the new contract agency will be debited to the contractor and the value of the work done or executed through the new contractor shall be credited to the contractor in all respects and in the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract. The certificate of the Engineer as to all the cost of the work and other expenses incurred as aforesaid for or in getting the unexecuted work done by the new contractor and as per the value of the work so done be final and conclusive against the contractor.
d)	In case the contract shall be rescinded under Clause (a) above the contractor shall be entitled to recover or be paid any sum for any work therefore actually performed by him under this contract unless and until the Engineer shall have certified in writing the performance of such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified, in the event of either of the course referred to in Clause (b) or (c) being adopted and the cost of the work executed departmentally. Or through a new contractor and other allied expenses exceeding the value of such work credited to the contractor, the amount

	<p>of excess shall be deducted from any money due to the contractor by MMRCL under the contract or otherwise however for, from his Security Deposit or the sale proceed thereof provided however the contractor shall have no claim against MMRCL even if certified cost of such work and allied expenses, whichever of three courses mentioned in Clauses (1), (b) or (c) is adopted by the Engineer the contractor shall have no claim to compensation for any less sustained by him by reasons of his having purchased procured any materials or entered into any engagements or made any advances on account of or with a view to the execution of the work of the performance of the contract.</p>
Action when the progress of any particular portion or the work is unsatisfactory	<p>CLAUSE 4: The Engineer shall notwithstanding that the general progress of the work, be entitled to take action under Clause 3 (b) after giving the contractor 5 days' notice in writing. The contractor will have no claim for compensation, for any loss sustained by him owing to such action.</p>
Contractor remains liable to pay compensation if action is not taken under Clause 3 & 4 Power to take possession of required removal of or sale of contractor's plant.	<p>CLAUSE 5: In any case in which any of the powers conferred upon the Executive Director/Elect by Clause 3 and 4 hereof shall have become exercisable and the same shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event any future case of default by the contractor for which under any clause or clauses hereof he is declared liable to pay compensation amount to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Executive Director/Elect. taking action under sub-clause (a) or (c) of Clause 3, he may, if he so desires, take possession of all or any tools, land, materials and stores in or upon the work or the site thereof or belonging to the contractor, or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in the case of contract rates not being applicable at current market rates, to be certified by the Engineer may, after giving notice in writing to the contractor or his clerk of the work, or foreman or other authorized agent require him to remove such tools, plant, materials or stores from the premises within a time to be specified in such notice and in the event of the contractor failing to comply with any such requisition the Engineer may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects, and the certificate of the Engineer as to the expense of any such removal and the amount of the proceeds and expense of any such be final and conclusive against the contractor.</p>
Extension of time	<p>CLAUSE 6: If the contractor shall desire an extension of the time for completion of work on the ground of his having been unavoidably hindered in its execution or on any other ground, he shall apply in writing to the Engineer before the expiration of the period stipulated in the tender or before the expiration of 30 days from the date of which he was hindered as aforesaid or on which the cause for asking for extension occurred, whichever is earlier and the Engineer, may if in his opinion there was reasonable grounds for granting an extension, grant such extension as he thinks necessary or proper. The decision of the Engineer in this matter be final.</p>

Final Certificate	CLAUSE 7: On completion of the work the contractor shall be furnished with a certificate by the Executive Director/Elect.(hereinafter called the Engineer) of such completion but no such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall have been executed all scaffolding, surplus materials and rubbish, and shall have cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of any building in or upon which the work has been executed or of which he may hand possession for the purpose of executing the work nor until the works shall have been measured by the Engineer or where the measurement have been taken by his subordinates until they have received the approval of the Engineer, the said measurements being binding and conclusive against the contractor. If the contractor fails to comply with the requirements of this clause as to the removal of scaffolding, surplus materials and rubbish and cleaning of dirt on or before the date fixed for the completion of the work the Engineer may at the expense of the contractor remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred, but shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.
Payments on intermediate certificates to be regarded as advances	CLAUSE 8: Deleted.
Payment at reduced rates on account of items of work not accepted as completed to be at the discretion of Engineer	CLAUSE 9: Deleted
Bill to be submitted monthly	CLAUSE 10: Deleted
Bill to be on printed forms	CLAUSE 11: The contractor shall submit all bills on the printed forms to be had on an application at the office of the Engineer. The charges to be made in the bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these conditions, and not mentioned or provided for in the tender, at the rates hereinafter provided for such work.
Store supplied by MMRCL	CLAUSE 12: Deleted
	CLAUSE 13: The contractor shall execute the whole and every part of the work of the most substantial and workman like manner and both as regards materials

Works to be executed in accordance with specifications drawings, orders etc.	and in every other respect in strict accordance with specifications. The contractor shall also confirm exactly fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the Engineer and lodged in this office to which the contractor shall be entitled to have access for the purposes of inspection such office or on the site of work during office hours. The contractor will be entitled to receive three sets of contract drawings as well as one certified copy of the accepted tender along with the work order free of cost.
Alternative in specification and designs not to invalidate contracts.	CLAUSE 14 : The Engineer shall have power to make any alteration in or additions to the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the work in accordance with any instructions in this connection which may be given to him in writing signed by the Engineer and such alteration shall not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work, and at the same rates as are specified in the tender for the main work. And if the additional and altered work includes any class of work for which no rate is specified in this contract then such class of work shall be carried out at the rates entered in the PWD Schedule of Rates of the Division or at the rates mutually agreed upon between the Engineer and the contractor, whichever are lower, if the additional or altered work for which no rate is entered in Schedule of Rates of Division, is ordered to be carried out before the rates are agreed upon then the contractor shall, within seven days of the date of receipt by him of the order to carry out the work, inform the Engineer of the rate which it is his intention to charge for such class of work, and if the Engineer does not agree to this rate he shall by notice in writing be at liberty to cancel his order to carry out such class of work, and arrange to carry it out in such manner as he may consider advisable, provided always that if the contractor shall commence work or incur expenditure in regard thereto before the rates shall have been mentioned as lastly herein before mentioned, then in such case he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate of rates as shall be fixed by the Engineer. In the event of a dispute, the decision of the Engineer of the MMRCL will be final.
Rates for works not entered in estimate, for schedule of rates of the district.	
	Where, however, the work is to be executed according to the designs, drawings and specifications recommended by the contractor and accepted by the competent authority the alterations above referred to shall be within the scope of such designs, drawings and specifications appended to the tender.
Extensions of time in consequence of additions or alterations	The time limit for the completion of the work shall be extended in the proportion that the increase in its cost occasioned by alterations of additions bears to the cost of the original contract work, and the certificate of the Engineer as to which proportion shall be conclusive.
No claim to any payment or	CLAUSE 15 : (1) If at any time after the execution of the contract documents, the Engineer shall for any reason whatsoever (other than default on the part of the contractor for which the MMRCL is entitled to rescind the contract) desire that the

<p>compensation for alteration in or restriction of work</p>	<p>whole or any part of the work specified in the tender shall be suspended for any period or that the whole part of the work shall not be carried out at all he shall give to the contractor a notice in writing of such desire and upon the receipt of such notice the contractor shall forthwith suspend or stop the work wholly or in part as required, after having due regard to the appropriate stage at which the work shall be stopped or suspended so as not to cause any damage or injury to the work already done or endanger the safety thereof provided that the Engineer as to the stage at which the work or any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the contractor. The contractor shall have no claim to any payment or compensation whatsoever by reasons of or in pursuance of any notice as aforesaid, on account of any suspension, stoppage or curtailment except to the extent specified hereinafter.</p>
	<p>(2) Where the total suspension of the work ordered as aforesaid continued for a continuous period exceeding 60 days the contractor shall be at liberty to withdraw from the contractual obligation under the contract so far as it pertains to the un-executed part of the work by giving a 10 days prior notice in writing to the Engineer, within 30 days of the expiry of the said period of 60 days of such intention and requiring the Engineer to record the final measurements of the work already done and to pay the final bill. Upon giving such notice the contractor shall be deemed to have been discharged from his obligation to complete the remaining un-executed work under this contract. On receipt of such notice the Engineer shall proceed to complete the measurements and make such payment as may be finally due to the contractor within a period of 60 days from the receipt of such notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provisions of this clause.</p>
	<p>(3) Where the Engineer requires the contractor to suspend the work for a period in excess of 30 days at any time or 45 days in the aggregate, the contractor shall be entitled to apply to the Engineer within 30 days of the resumption of work such suspension of payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery rendered idle on the site or on account of his having had to pay the salary or wages of labour engaged by him during the said period of suspension, provided always that the contractor shall not be entitled to any claim in this respect.</p>
<p>No claim to compensation on account of loss due to delay of materials by MMRCL</p>	<p>CLAUSE 15-A: The contractor shall not be entitled to claim any compensation from MMRCL for the loss suffered by him because delay by MMRCL in the supply of materials, entered in Schedule-A where such delay is caused by –</p> <ul style="list-style-type: none"> I) Difficulties relating to the supply of railway wagons. ii) Force Majeure iii) Act of God iv) Act of enemies of the State or any other reasonable cause beyond the control of MMRCL. <p>In the case of such delay in the supply of materials MMRCL shall grant such extension of time for the completion of the works as shall appear to the Executive Director/Elect. to be reasonable in accordance with the circumstance of the case.</p>

	The decision of the Executive Director/Elect.as to the extension of time shall be accepted as final by the contractor.
	CLAUSE 16: Under no circumstance whatever shall the contractor be entitled to any compensation from MMRCL on any account unless the contractor shall have submitted a claim in writing to the Engineer within one month of the cause of such claim occurring.
Actions & compensation payable in case of bad work	CLAUSE 17 : If at any time before the security deposit is refunded to the contractor it shall appear to the Engineer or his subordinate in charge of the work, that any work has been executed with unsound, imperfect or unskillful workmanship of with materials of inferior quality, or that any material or articles provided by him for the execution of the work are unsound, or of a quality inferior to that contracted for, or are otherwise not in accordance with the contract it shall be lawful for the Engineer to intimate this fact in writing to the contractor and then notwithstanding the fact, the work, materials or articles complained of may have been in advertently passed, certified and paid for the contractor shall be bound forthwith to rectify or remove and reconstruct the work so specified in whole or in part, as the case may require or if so required, shall remove the materials or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by the Engineer in the written intimation aforesaid, the contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding 10 days, during which the failure so continue and in the case of any such failure the Engineer may rectify or remove and re-execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor. Shall the Engineer consider that any such inferior work or materials as described above may be accepted or made use of it shall be within his discretion to accept the same at such reduced rates as he may fix therefore.
Works to be open to inspection Contractor or responsible agent to be present	CLAUSE 18 : All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer and his subordinates, and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer or his subordinate to visit the works shall have been given to the contractor, either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose. Orders given to the contractor's duly authorized agent shall be considered to have the same force and effect as if they had been given to the contractor himself.
Notice to be given before work is covered up	CLAUSE 19 : The contractor shall give not less than five days' notice in writing to the Engineer or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same is so covered up or placed beyond the reach of measurement any work without the consent in writing of Engineer or his subordinate in charge of the work, and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained the same shall be uncovered at the contractor's expense, and in default thereof no payment or allowance shall be made for such work or for the materials with which the same was executed.

<p>Contractor liable for damage done, and imperfection</p>	<p>CLAUSE 20: If during the period of Twenty Four (24) calendar months from the date of completion as certified by the Engineer pursuant to Clause 7 of the Conditions of Contract in the opinion of the Engineer, the said work is defective in any manner whatsoever, the Contractor shall forthwith on receipt of notice in that behalf from the Engineer duly commence execution and completely carry out at his cost in every respect all the work that may be necessary for rectifying and setting right the defect specified therein including dismantling and reconstruction of unsafe portions strictly in accordance with and in the manner prescribed and under the supervision of the Engineer in the event of the Contractor failing or neglecting to commence execution of the said rectification work within the period prescribed thereof in the said notice and / or to complete the same as aforesaid as required by the said notice. The Employer to get the same executed and carried out departmentally or by any other agency at the risk on account and at the cost of the Contractor. The Contractor shall forthwith on demand pay to the Employer amount of such costs, charges and expenses sustained or incurred by the Employer of which the certificate of the Engineer shall be final and binding on the Contractor. Such costs, charges and expenses shall be deemed to be arrears of land revenue and in the event of the Contractor failing or neglecting to pay the same on demand as aforesaid without prejudice to any other rights and remedies of the Employer; the same may be recovered from the Contractor as arrears of land revenue. The Employer shall also be entitled to deduct the same from any amount which may then be payable or which may thereafter become payable by the Employer to the Contractor either in respect of the said work or any other work whatsoever or from the amount of security deposit retained by the Employer.</p>
<p>Contractor to supply plant ladders, scaffolding etc.</p> <p>And is liable for damages arising from non-provisions of lights, fencing etc.</p>	<p>CLAUSE 21 : The contractor shall supply at his own cost all materials (except such special materials, if any, as may, in accordance with the contract, be supplied from the MMRCL stores), plant, tools, appliances, implements, ladders, cordage, tackle scaffolding, temporary works requisite or proper for execution of the work, whether the original, altered or substituted form, and whether included in specifications, or other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer as to pay matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or the materials. Failing this the same may be provided by the Engineer at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof. The contractor shall provide all necessary fencing and lights required to protect the public from accident, and shall also be bound to bear the expenses of defense of every suit, action or other proceedings, that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and</p>

	costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the contractor be paid for compromising any claim by any such person.
And is liable for damages arising from on provisions of lights fencing etc.	<p>CLAUSE 21-A: The contractor shall provide suitable scaffold and working platforms gangways and stairways and shall comply with the following regulations in connection herewith –</p> <ul style="list-style-type: none"> a) Suitable scaffolds shall be provided for workmen for all works that cannot be safely done from a ladder or by other means. b) A scaffold shall not be constructed, taken down, or substantially altered except - <ul style="list-style-type: none"> i) under the supervision of a competent and responsible person; and ii) as far as possible by competent worker possessing adequate experience in this kind of work. c) All scaffolds and appliances connected therein and all ladders shall - <ul style="list-style-type: none"> i) be of sound material; ii) be of adequate strength having regard to the leads and strains to which they will be subjected, and iii) be maintained in proper condition. d) Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use. e) Scaffold shall not be over-loaded and so far as practicable the load shall be evenly distributed. f) Before installing lifting gear on scaffolds special precaution shall be taken to ensure the strength and stability of the scaffolds. g) Scaffolds shall be periodically inspected by a competent person. h) Before allowing a scaffold to be used by his workman the contractor shall checkup whether the scaffold has been erected by his workmen or not, take steps to ensure that it complies fully with the regulations herein specified. i) Working platforms, gangways and stairways shall - <ul style="list-style-type: none"> i) be so constructed that no part thereof can sag unduly or unequally; ii) be so constructed and maintained, having regard to the prevailing conditions as to reduce as far as practicable risks of persons tripping or slipping; and iii) be kept free from any unnecessary obstruction. j) In the case of working platforms, gangways, working places and stairways at a height exceeding 5.0 m. <ul style="list-style-type: none"> i) Every working platform and every gangway shall be closely boarded unless other adequate measures are taken to ensure safety. ii) every working platform and gangway shall have adequate width, and iii) every working platform, gangway, working place and stairway shall be suitably fenced. k) Every opening in the floor of a building or in a working platform shall except for the time and to the time and to the extent required to allow the excess of persons or the transport or shifting of material; be provided with suitable means to prevent the fall of persons or materials. l) When persons are employed on a roof where there is a danger of falling

	<p>from a height exceeding suitable precaution shall be taken to prevent the fall of persons or materials.</p> <p>m) Suitable precautions shall be taken to prevent persons being struck by article which might fall from scaffolds or other working places.</p> <p>n) Safe means of access shall be provided to all working platforms and other working places.</p> <p>o) The contractor shall have to make payment to the labourers as per minimum wages act.</p>
	<p>CLAUSE 21-B: The contractor shall comply with the following regulation as regards the hoisting appliances to be used by him.</p> <p>a) Hoisting machines and tackle, including their attachments, anchorage's and supports shall:</p> <p style="padding-left: 40px;">i) be of good mechanical construction, sound material and adequate strength and free from patent defect; and</p> <p style="padding-left: 40px;">ii) be kept in good repair and in good working order.</p> <p>b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.</p> <p>c) Hoisting machines and tackle shall be examined and adequately tested after erection on the site and before use and be re-examined in position at intervals to be prescribed by MMRCL.</p> <p>d) Every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.</p> <p>e) Every crane driver or hoisting appliance operator shall be properly qualified.</p> <p>f) No person who is below the age of 21 years shall be in control of any hoisting machine, including any scaffold which or give signals to the operator.</p> <p>g) In the case of every hoisting machine and of every chain, ring hook shackle, swivel and pulley block used in hoisting or lowering or as a means of suspension the safe working load shall be ascertained by adequate means.</p> <p>h) Every hoisting machine and all gear referred to in the proceeding regulation shall be plainly marked with the safe working load.</p> <p>i) In the case of a hoisting machine having a variable safe working load each safe working load and the conditions under which it is applicable shall be clearly indicated.</p> <p>j) No part of any hoisting machine or of any gear referred to in regulation 7 above shall be loaded beyond the safe working load except for the purpose of testing.</p> <p>k) Motors, gearing transmissions, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards</p> <p>l) Hoisting appliances shall be provided with such means as will reduce to a minimum the risk of the accidental descent of the load.</p> <p>m) Adequate precautions shall be taken to reduce to a minimum risk of any part of a suspended load becoming accidentally displaced.</p>
	<p>CLAUSE 21-C: The contractor / contractors will have to make payments to the laborers as per Minimum Wages Act, (1950).</p>

Measures for prevention of fire	CLAUSE 22: The contractor shall not set fire to any standing jungle, trees, brushwood or grass without a written permit from the Engineer.
	When such permit is given and also in all cases when destroying out or dig up trees, brushwood, grass etc., by fire, the contractor shall take unnecessary measures to prevent such fire spreading to or otherwise damaging surrounding property.
	The contractor shall make his own arrangements for drinking water for the labour employed by him.
Liability of contractor for any damage done in or outside work area	CLAUSE 23: Compensation for all damages done intentionally or unintentionally by contractor's labour whether in or beyond the limits of MMRCL property including any damage caused by the spreading of the fire mentioned in clause 22 shall be estimated by the Engineer or such other officer as he may appoint and the estimates of the Engineer subject to the decision of the Executive Director/Elect. on appeal shall be final and the contractor shall be bound to pay the amount of the assessed compensation on demands failing which the same will be recovered from the contractors as damages in the manner prescribed in Clause 1 or deducted by the Engineer from any sums that may be due or become due from MMRCL to the contractor under this contract or otherwise.
	The contractor shall bear the expenses of defending any action or other legal proceedings that may be binding by any person for injury sustained by him owing to neglect of precautions to prevent the spread of fire and he shall pay any damages and cost that may be awarded by the court in consequence.
Employment of female labour	CLAUSE 24: Deleted
	CLAUSE 25: No work shall be done on a Sunday without the sanction in writing of the Engineer.
Work not to be sublet unless it is permitted contract may be rescinded and security deposit forfeited for subletting it without approval or for bringing a public officer if contractors become insolvent	CLAUSE 26: The contractor shall not assign or sublet without the written approval of the Engineer. And if the contractor shall assign or sublet his contract or attempt so to do or become insolvent or commence any proceedings to get himself adjudicated an insolvent or make any composition with his creditors, or attempt to do or if bribed, grateful, gift, loan perquisite, reward or advantage, pecuniary or otherwise shall either directly or indirectly be given, promised or offered by the contractor or any of his servants or agents to any public officer or person in the employment of MMRCL in any way relating to his office or employment or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer may there upon by notice in writing rescind the contract, and the security deposit of the contractor shall thereupon stand forfeited and be absolutely at the disposal of MMRCL and the same consequences shall ensure as if the contract had been rescinded under Clause 3 hereof and in addition the contractor shall not be entitled to recover or be paid for any work therefore actually performed under the contract.
Sum payable by way of compensatio	CLAUSE 27: All sums payable by a contractor by way of compensation under any of these conditions shall be considered as reasonable compensation to be

n to be considered as reasonable compensation without reference to actual loss.	applied to the use of MMRCL without reference to the actual loss or damage sustained, and whether any damage has or has not be sustained.
Changes in the constitution of firm to be notified	CLAUSE 28: In the case of tender by partners any change in the constitution of a firm shall be forthwith notified by the contractor to the Engineer for his information.
Work to be under direction of the Engineer	CLAUSE 29: All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer of the MMRCL for the time being, who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.
	CLAUSE 30(1): Except where otherwise specified in the contract and subject to the powers delegated to him by MMRCL then in force the decision of the Assistant General Manager / Sr. DGM (Electrical) for the time being shall be final, conclusive and binding on all parties to the contract upon all questions relating to the meaning of the specifications, designs, drawings, and instructions, hereinbefore mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or things, whatsoever if any, way arising out of or relating to the contracts designs drawings, specifications, estimates, instructions, orders or other conditions or otherwise concerning the works or the execution of failure to execute the same, whether arising, during the progress of the work or after completion of abandonment thereof.
	CLAUSE 30(2): Deleted
	CLAUSE 30 (3): Deleted
Stores of European or American manufacturer to be obtained from MMRCL	CLAUSE 31: Deleted
Lump sum estimates	CLAUSE 32: Deleted
Action where no specification	CLAUSE 33: In the case of any class of work for which there is no such specification as mentioned in Rule 1, such work shall be carried out in accordance with the MMRCL specifications and in the event of there being no MMRCL's specification, then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer.
Definition of work	CLAUSE 34: The expression "work" where used in these conditions, shall unless there be something in the subject or context repugnant to such construction, be constructed to mean the work or works contracted to be executed under on in

	virtue of the contract, whether temporary or permanent and whether original, altered, substituted or additional.
Contractor's percentage whether applied to net or gross amounts of bills	CLAUSE 35: The percentage referred to in the tender shall be deducted from or added to the gross amount of the bill before deducting the value of any stock issue.
Refund or quarry fees and royalties	CLAUSE 36: All quarry fees, royalties and ground rent for stacking materials, if any shall be paid by the contractor.
Compensation under the workmen's compensation Act	CLAUSE 37: The contractor shall be responsible for and shall pay any compensation to his workman payable under the workmen's compensation Act, 1923 (VIII) of 1923 (hereinafter called the said Act) for injuries caused to the workmen. If such compensation is payable, paid by MMRCL as principal under sub-section (1) of Section 12 of the said Act on behalf of the Contractor, it shall be recoverable by MMRCL from the contractor under Sub-section (2) of the said section. Such compensation shall be recovered in the manner laid down in Clause 1 above.
	CLAUSE 37-A: The contractor shall provide all necessary personal safety equipment and first aid apparatus available for the use of the persons employed on the site, shall maintain the same condition suitable for immediate use at any time and shall comply with the following regulations in connection therewith.
	a) The workers shall be required to use the equipment so provided by the contractor and the contractor shall take adequate steps to ensure proper use of the equipment by those concerned.
	b) When work is carried on in proximity to any place where there is a risk of drawing all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.
	c) Adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.
Claim for quantities entered in the tender or estimates	CLAUSE 38: (1) Quantities in respect of the several items shown in the tender are appropriate and respect of any of the items so long as, subject to any special provision contained in the specifications prescribing a different percentage of permissible variation, the quantity varies by more than 50%, no variation in rate shall be entertained.
	CLAUSE 39: The contractor shall employ any famine, convict or other labour of a particular kind of class if ordered in writing to do so by Engineer.
	CLAUSE 40: No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition of land or in the case of clearance works, on account of any delay in according sanction to estimates.

Employment of famine etc. labour	CLAUSE 41: Deleted
Claim for compensation for delay in the starting the work	CLAUSE 42: The contractor shall not enter upon or commence any portion of work except with the written authority and instructions of the Engineer or of his sub-ordinate in charge of the work, failing which the contractor shall have no claim to ask for measurements or payment for work.
Claim for compensation for delay in the execution of work	CLAUSE 43: (i) No Contractor shall employ any person who is under the age of 14 years. (ii) No contractor shall employ donkeys or other animals with breaching of string or thin rope. The breaching must be at least three inches wide and shall be of tape (Newar). (iii) No animal suffering from sores, lameness or emaciation or which is immature shall be employed on the work. (iv) The Engineer or his Agent is authorized to remove from the work any person or animal found working which does not satisfy these conditions and no responsibility shall be accepted by MMRCL for any delay caused in the completion of the work due to such removal.
Entering upon or commencing any portion of work	(v) The contractor shall pay fair and reasonable wages to the workmen employed by him in the contract undertaken by him.
Minimum age of persons employed; the employment of donkeys And or other animals and the payment of fair wages	In the event of any dispute arising between the contractor and his workmen on the grounds that the wages paid are not fair and reasonable the dispute shall be referred to workmen on the grounds that the wages paid are not fair and reasonable the dispute shall be referred without delay to the Engineer, who shall decide the same. The decisions of the Engineer shall be conclusive and binding on the contractor, but such decision shall not in any way affect the conditions in the contract regarding the payment to be made by MMRCL at the sanctioned rates.
	(vi) Contractor shall provide drinking water facilities to the workers. Similar amenities shall be provided to the workers engaged on large work in urban areas.
	CLAUSE 44: Payment to contractor shall be made by cheque drawn on any bank with division convenient to them provided the amount exceeds Rs. 10/-. Amount not exceeding Rs. 10/- will be paid in cash.
	CLAUSE 45: Any contractor who does not accept these conditions shall not be allowed to tender for work.

Method of payment	CLAUSE 46: If Government declares a state of scarcity of famine to exist in any village situated within 10 miles of the work, the contractor shall employ upon such parts of the work, as are suitable for unskilled labour, any person certified to him by the Engineer or be any person to whom the Engineer may have delegated this duty in writing to be in need of relief and shall be bound to pay to such persons, wages not below the minimum which Government may have fixed in this behalf. Any disputes which may arise in connection with the implementation of this clause shall be decided by the Engineer whose decision shall be final and binding on the contractor.
Acceptance of condition before tendering for works	CLAUSE 47: The price quoted by the contractors shall not in any case exceed the control price, if any, fixed by Government or reasonable price which it is permissible for him to charge a private purchaser for the same class and description, the controlled price of the price permissible under Hoarding and Profiteering Ordinance 1943 as amended from time to time. If the price quoted exceeds the controlled price or the price permissible under Hoarding and Profiteering Prevention Ordinance, the contractor will specifically mention this fact in this tender along with the reasons for quoting such higher prices. The purchaser at his discretion will in such case exercise the right of revising the price at any stage so as to conform to the controlled price or the price permissible under the Hoarding and Profiteering Prevention Ordinance. The discretion will be exercised without prejudice to any other action that may be taken against the contractor.
Employment of Scarcity of Labour	CLAUSE 48 : Deleted
	CLAUSE 49: In case of materials that may remain surplus with the contractors from those issued for the work contracted for the date as containment of the materials being surplus will be taken as the date of sale for the purpose of sales tax and the sales tax will be recovered on such sale.
	CLAUSE 50: Deleted
	CLAUSE 51: "All amounts, whatsoever, which the contractor is liable to pay to the MMRCL in connection with the execution of the work including the amount payable in respect of (i) materials and or stones supplied/issued hereunder by the MMRCL to the contractor (ii) hire charges in respect of heavy plant, machinery and equipment given or hired by the MMRCL to the contractor shall be deemed to be arrears of land revenue and the MMRCL may without prejudice to any other rights and remedies of the MMRCL, recover the same from the contractor as arrears of land revenue".
	CLAUSE 52: "A contractor shall comply with the provision of the Apprentice Act, 1961 and the rules and orders issued there-under from time to time if he fails to do so, his failures will be breach of the contract and the Engineer may in his direction cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provision of the Act".

CLAUSE 53: The contractor shall duly comply with all the provisions of the Central Government (Regulation and Abolition Act, 1970 (37 of 1970) and the Maharashtra Contract Labour (Regulation and Abolition) Rules, 1971 as amended from time to time and all other relevant statutes and statutory provisions concerning payment of wages particularly to workmen employed by the contractor and working on the site of the work.

In particular, the contractor shall pay wages to each worker employed by him on the site of the work at the rates prescribed under the Maharashtra Contract Labour (Regulation and Abolition) Rules, 1971. If the contractor fails or neglects to pay wages at the rates or makes short payment and the MMRCL makes such payment of wages in full or part thereof less paid by the contractor as the case may be, the amount so paid by the MMRCL to such workers shall be deemed to arrears of land revenue and the MMRCL shall be entitled to recover the same as such from the contractor or deduct the same from the amount payable by the MMRCL to the contractor hereunder or from any other amounts payable to him by the MMRCL.

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Annexure ISchedule A (Part-A & Part-B)Schedule of RatesPART-A

Bill of Quantities for Repairs, Installation, Testing, Commissioning and Maintenance of 4 (Nos) Manual Swing Door Lifts (Make-OTIS) including Annual Maintenance Contract (AMC) for 1(one) year after expiry of the guarantee period for SRA project, HDIL Premier Building No. 10, Kiro Road, Vidyavihar, Kurla (W), Mumbai – 400070.

BILL OF QUANTITIES					
BUILDING NO 10, WING C, D PREMIER, KURLA(W)					
Sr. No.	Particular's/Item	Unit	Quantity	Rate(Rupees)	Amount(Rupees)
1.	Main Controller Collective Microprocessor based Control Panel Board Including (Main Mother board card, Rectifier, Relay card, Transformer and Main Relay Contactor, Auxiliary cards, Phase reverse cum failure card with all the circuit wirings fixed in closed type circuit) Reputed/Approved Make.	Nos	02	65000	130000
2.	AC Drive V3F Drive (Yaskawa/Toshiba/ Fuji) makes with Break resistance (10-HP/7.5kW)	Nos	02	75000	150000
3.	Supplying and fixing 1 No. New Car Operating Push Button Box Unit with Deluxe Type Round Button with inbuilt(LED) Red illuminated system in call buttons with (Gr + 12 + Stop + Alarm + Fan + Light switch) with floor position Digital display system with Up / Down indicator with Stainless Steel Plate finishing with all the necessary fabrication.	Nos	02	28000	56000
4.	Travelling Cables- Supplying & Fixing 4C & 12 C Flat PVC Make with ISI	Set	2	45000	90000

	all the fixing accessories. (1 Sq.mm)				
5.	Wiring -Complete new wiring with copper flexible wire, Shaft wiring, Machine room wiring, Landing Push button wiring, Cage/Cabin wiring & supplying and fixing landing locks (at all the floor-13) Reed switches wirings, Terminal wiring with necessary additional cable (Polycab Makes)	Set	02	38500	77000
6.	Supplying & Fixing Final Limit switches for Up and Down Limit Operation with all fixing accessories (Reputed Make)	Nos	04	2500	10000
7.	Supplying & Fixing Up/Down Level Terminal operation switches with all fixing accessories (Reputed Make)	Nos	04	2500	10000
8.	Supplying & Fixing Up/Down Slow Level Terminal operation switches with all fixing accessories. (Reputed)	Nos	04	2500	10000
9.	Supplying & Fixing Terminal Cutting Cam for Limits(Reputed)	Nos	02	2500	5000
10.	Floor Levelling System Supplying & fixing new type electronic sensitive proximity floor levelling switches at every floor in the lift shaft, with necessary shaft wiring, with piping for the mean wiring, replacement of reed switches, Magnets with brackets & clips for floor levelling systems with necessary fixing attachments. (Reputed)	Set	02	12500	25000
11.	Fixing new Car Gate Switch Roller with accessories. (Reputed)	Nos	02	2500	5000
12.	Supplying & fixing Car Guide Shoe Liner in Lift Cabin (Reputed)	Set	08	4000	32000
13.	Supplying & Fixing Counter Weight Guide Shoe Liner in Counter weight(Reputed)	Set	08	3500	28000

14.	Automatic Rescue Device System (ARD) (As per PWD Rules)	Nos	02	65000	130000
15.	New Batteries for ARD system. (12V/26Amp) Reputed Make	Nos	12	3500	42000
16.	Supply & Fixing new UPS system for Emergency light, Fan alarm (Half hour backup)	Set	02	15000	30000
17.	Supply and installation of Passenger overload system.	Nos	02	35000	70000
18.	Supplying & Fixing of (1 at halfway Junction Box & 1 at Lift top Junction) with necessary wire connector strips with necessary fixing accessories. (Reputed Make)	Nos	02	2500	5000
19.	Supplying & Fixing New Maintenance Boxes.	Nos	02	2500	5000
20.	Supplying Fixing New Door Open Bell.	Nos	02	1500	3000
21.	Fixing New Pit Switch	Nos	02	1500	3000
22.	Supplying and fixing new Floor Announcement System	Nos	02	15000	30000
23.	Supplying & fixing new safety guard at cabin Top	Nos	02	4500	9000
24.	Supplying & fixing new Toe guard at lift bottom side.	Nos	02	3000	6000
25.	Main Machine Over hauling. Renew the existing gear oil, cleaning the worm shaft, worm gear, Thrust bearing & oil chamber with all the work. (Reputed Make)	Set	02	8800	17600
26.	Supplying & Fixing ELCB (Reputed Make) 60A	Nos	02	6000	12000
27.	Door Overhauling Overhauling & cleaning of all the Doors with proper alignment.	Nos.	26	2500	65000
	TOTAL (WING C +D)				1055600
	AMC FOR ONE YEAR (WING C+D)				80000
	GROSS TOTAL (WING C+D)				1135600
	(33% OF TOTAL COST) SERVICE TAX (15%)				56212
	(67% OF TOTAL COST) MVAT (13.5%)				102715
	GRAND TOTAL (LIFTS WING C &D)				12,94,527/-

BILL OF QUANTITIES					
BUILDING NO 10, WING E, F PREMIER, KURLA(W)					
Sr. No.	Particular's/Item	Unit	Quantity	Rate(Rupees)	Amount(Rupees)
1.	Main Machine Supplying & Fixing New Machine with 1.00MPS with all fabrication work with all transportation & installation (7.5 HP Motor) Reputed /Approved Make	Nos	02	160000	320000
2.	Main Controller Collective Microprocessor based Control Panel Board Including (Main Mother board card, Rectifier, Relay card, Transformer and Main Relay Contactor, Auxiliary cards, Phase reverse cum failure card with all the circuit wirings fixed in closed type circuit) Reputed/Approved Make.	Nos	02	65000	130000
3.	AC Drive V3F Drive (Yaskawa/Toshiba/ Fuji) makes with Break resistance (10-HP/7.5kW)	Nos	02	75000	150000
4.	Supplying and fixing 1 No. New Car Operating Push Button Box Unit with Deluxe Type Round Button with inbuilt(LED) Red illuminated system in call buttons with (Gr + 12 + Stop + Alarm + Fan + Light switch) with floor position Digital display system with Up / Down indicator with Stainless Steel Plate finishing with all the necessary fabrication.	Nos	02	28000	56000
5.	Travelling Cables- Supplying & Fixing 4C & 12 C Flat PVC Make with ISI all the fixing accessories. (1 Sq.mm)	Set	2	45000	90000
6.	Wiring -Complete new wiring with copper flexible wire, Shaft wiring, Machine room wiring, Landing Push button wiring, Cage/Cabin	Set	02	38500	77000

	wiring & supplying and fixing landing locks (at all the floor-13) Reed switches wirings, Terminal wiring with necessary additional cable (Polycab Makes)				
7.	Supplying & Fixing Final Limit switches for Up and Down Limit Operation with all fixing accessories (Reputed Make)	Nos	04	2500	10000
8.	Supplying & Fixing Up/Down Level Terminal operation switches with all fixing accessories (Reputed Make)	Nos	04	2500	10000
9.	Supplying & Fixing Up/Down Slow Level Terminal operation switches with all fixing accessories. (Reputed)	Nos	04	2500	10000
10.	Supplying & Fixing Terminal Cutting Cam for Limits(Reputed)	Nos	02	2500	5000
11.	Floor Levelling System Supplying & fixing new type electronic sensitive proximity floor levelling switches at every floor in the lift shaft, with necessary shaft wiring, with piping for the mean wiring, replacement of reed switches, Magnets with brackets & clips for floor levelling systems with necessary fixing attachments. (Reputed)	Set	02	12500	25000
12.	Fixing new Car Gate Switch Roller with accessories. (Reputed)	Nos	02	2500	5000
13.	Supplying & fixing Car Guide Shoe Liner in Lift Cabin (Reputed)	Set	08	4000	32000
14.	Supplying & Fixing Counter Weight Guide Shoe Liner in Counter weight(Reputed)	Set	08	3500	28000
15.	Automatic Rescue Device System (ARD) (As per PWD Rules)	Nos	02	65000	130000
16.	New Batteries for ARD system. (12V/26Amp) Reputed Make	Nos	12	3500	42000

17.	Supply & Fixing new UPS system for Emergency light, Fan alarm (Half hour backup)	Set	02	15000	30000
18.	Supply and installation of Passenger overload system.	Nos	02	35000	70000
19.	Supplying & Fixing of (1 at halfway Junction Box & 1 at Lift top Junction) with necessary wire connector strips with necessary fixing accessories. (Reputed Make)	Nos	02	2500	5000
20.	Supplying & Fixing New Maintenance Boxes.	Nos	02	2500	5000
21.	Supplying Fixing New Door Open Bell.	Nos	02	1500	3000
22.	Fixing New Pit Switch	Nos	02	1500	3000
23.	Supplying and fixing new Floor Announcement System	Nos	02	15000	30000
24.	Supplying & fixing new safety guard at cabin Top	Nos	02	4500	9000
25.	Supplying & fixing new Toe guard at lift bottom side.	Nos	02	3000	6000
26.	Main Machine Over hauling. Renew the existing gear oil, cleaning the worm shaft, worm gear, Thrust bearing & oil chamber with all the work. (Reputed Make)	Set	02	8800	17600
27.	Supplying & Fixing ELCB (Reputed Make) 60A	Nos	02	6000	12000
28.	Door Overhauling Overhauling & cleaning of all the Doors with proper alignment.	Nos.	26	2500	65000
	TOTAL (WING E +F)				1375600
	AMC FOR ONE YEAR (WING E+F)				80000
	GROSS TOTAL (WING E+F)				1455600
	(33% OF TOTAL COST) SERVICE TAX (15%)				72052
	(67% OF TOTAL COST) MVAT (13.5%)				131659
	GRAND TOTAL (LIFTS WING E&F)				16,59,311/-

GRAND TOTAL FOR PART A (LIFT WING C, D, E, F)	12,94,527+16,59,311=29,53,838/-
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PART-B

Bill of Quantities for Repairs, Installation, Testing, Commissioning and Maintenance of 4 (Nos) Auto Swing Door Lifts (Make-Schindler) including Annual Maintenance Contract (AMC) for 1(one) year after expiry of the guarantee period for SRA project, HDIL Premier Building No. 10, Kiro Road, Vidyavihar, Kurla (W), Mumbai – 400070

BILL OF QUANTITIES					
BUILDING NO 10, WING C, D, E, F PREMIER, KURLA(W)					
Sr. No.	Particular's/Item	Unit	Quantity	Rate(Rupees)	Amount(Rupees)
1.	Main Controller Collective Microprocessor based Control Panel Board Including (Main Mother board card, Rectifier, Relay card, Transformer and Main Relay Contactor, Auxiliary cards, Phase reverse cum failure card with all the circuit wirings fixed in closed type circuit) Reputed/Approved Make.	Nos	04	65000	260000
2.	AC Drive V3F Drive (Yaskawa/Toshiba/ Fuji) makes with Break resistance (10-HP/7.5kW)	Nos	04	75000	300000
3.	Supplying and fixing 1 No. New Car Operating Push Button Box Unit with Deluxe Type Round Button with inbuilt(LED) Red illuminated system in call buttons with (Gr + 12 + Stop + Alarm + Fan + Light switch) with floor position Digital display system with Up / Down indicator with Stainless Steel Plate finishing with all the necessary fabrication.	Nos	04	28000	112000
4.	Travelling Cables- Supplying & Fixing 4C & 12 C Flat PVC Make with ISI all the fixing accessories. (1 Sq.mm)	Set	04	45000	180000
5.	Wiring- Complete new wiring with copper flexible wire, Shaft wiring, Machine room wiring, Landing Push button wiring, Cage/Cabin wiring & supplying and fixing	Set	04	38500	154000

	landing locks (at all the floor-13) Reed switches wirings, Terminal wiring with necessary additional cable (Polycab Makes)				
6.	Supplying & Fixing Final Limit switches for Up and Down Limit Operation with all fixing accessories (Reputed Make)	Nos	08	2500	20000
7.	Supplying & Fixing Up/Down Level Terminal operation switches with all fixing accessories (Reputed Make)	Nos	08	2500	20000
8.	Supplying & Fixing Up/Down Slow Level Terminal operation switches with all fixing accessories. (Reputed)	Nos	08	2500	20000
9.	Supplying & Fixing Terminal Cutting Cam for Limits(Reputed)	Nos	04	2500	10000
10.	Floor Levelling System Supplying & fixing new type electronic sensitive proximity floor levelling switches at every floor in the lift shaft, with necessary shaft wiring, with piping for the mean wiring, replacement of reed switches, Magnets with brackets & clips for floor levelling systems with necessary fixing attachments. (Reputed)	Set	04	12500	50000
11.	Fixing new Car Gate Switch Roller with accessories. (Reputed)	Nos	04	2500	10000
12.	Supplying & fixing Car Guide Shoe Liner in Lift Cabin (Reputed)	Set	16	4000	64000
13.	Supplying & Fixing Counter Weight Guide Shoe Liner in Counter weight(Reputed)	Set	16	3500	56000
14.	Automatic Rescue Device System (ARD) (As per PWD Rules)	Nos	04	65000	260000
15.	New Batteries for ARD system. (12V/26Amp) Reputed Make	Nos	24	3500	84000
16.	Supply & Fixing new UPS system for Emergency light,	Set	04	15000	60000

	Fan alarm (Half hour backup)				
17.	Supply and installation of Passenger overload system.	Nos	04	35000	140000
18.	Supplying & Fixing of (1 at halfway Junction Box & 1 at Lift top Junction) with necessary wire connector strips with necessary fixing accessories. (Reputed Make)	Nos	04	2500	10000
19.	Supplying & Fixing New Maintenance Boxes.	Nos	04	2500	10000
20.	Supplying Fixing New Door Open Bell.	Nos	04	1500	6000
21.	Fixing New Pit Switch	Nos	04	1500	6000
22.	Supplying and fixing new Floor Announcement System	Nos	04	15000	60000
23.	Supplying & fixing new safety guard at cabin Top	Nos	04	4500	18000
24.	Supplying & fixing new Toe guard at lift bottom side.	Nos	04	3000	12000
25.	Main Machine Over hauling. Renew the existing gear oil, cleaning the worm shaft, worm gear, Thrust bearing & oil chamber with all the work. (Reputed Make)	Set	04	8800	35200
26.	Supplying & Fixing ELCB (Reputed Make) 60A	Nos	04	6000	24000
27.	Door Overhauling Overhauling & cleaning of all the Doors with proper alignment.	Nos.	52	2500	130000
	TOTAL (WING C +D+E+F)				2111200
	AMC FOR ONE YEAR (WING C+D+E+F)				160000
	GROSS TOTAL (WING C+D+E+F)				2271200
	(33% OF TOTAL COST) SERVICE TAX (15%)				112424
	(67% OF TOTAL COST) MVAT (13.5%)				205430
	GRAND TOTAL (LIFTS WING C, D, E, F) PART B				25,89,054/-

GRAND TOTAL FOR PART A+ PART B (LIFT WING C, D, E, F)	29,53,838 + 25,89,054 = 55,42,892/-
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Cost of work: Rs. 55,42,892 (Fifty-Five lacs Forty-Two Thousand Eight Hundred Ninety-Two Only) Inclusive of All Taxes.