DELHI METRO RAIL CORPORATION LTD.
(A Joint Venture of Govt. of India & Govt. of NCT, Delhi)

“Electrification work at S&T Equipment Lab at Chawri Bazar
Metro Station of DMRC”

TENDER DOCUMENT

No. DMRC/O&M/E&M/UG/2014/Electrical-S&T lab

* NOTICE INVITING TENDER
* INSTRUCTION TO TENDERER
* SPECIAL CONDITIONS OF CONTRACT
* OTHER TERMS AND CONDITIONS
* BILL OF QUANTITY
SECTION 1

NOTICE INVITING TENDER

1.1 GENERAL

Delhi Metro Rail Corporation (DMRC) Ltd. Invites sealed Open tenders from the eligible contractors listed in Govt./Semi Govt./PSU organization & working contractor of DMRC (refer clause 1.2.2 of NIT) “Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC”.

1.1.1 The details of the Tender are as per following:

- Estimated cost of work: Rs 41, 93, 700/- (inclusive of all taxes)
- Tender Security amount: Rs. 83,874/-
- Cost of Tender form (Non-Refundable): Rs.5250/- (Rs.5000 plus 5% Vat)
- Completion period of the Work: Three months (from 10th day of issue of LOA)
- Tender documents on sale: 15.10.14 to 05.11.2014 (working days)
- Date & time of Submission of Tender: 14/11/2014 at 1500 hrs
- Date & time of opening of Tender: 15:30 hrs. On 14/11/2014

The tender documents (non-transferable) can only be obtained from the office of Deputy General Manager/E&M/UG, 2nd Floor, Metro Bhawan, Fire Brigade Lane, Barakhambha Road New Delhi-110001. Downloaded tender document will not be entertained. Tender document shall only be issued only after submission of requisite documents as per clause 1.2 (below).

Payment shall be made by demand draft drawn in favour of DMRC Ltd. payable at New Delhi.

1.2 POINTS TO BE NOTED

1.2.1 Works envisaged under this contract are required to be executed in all respects up to the period of completion mentioned above.

1.2.2 Only those agencies, who have experienced in this field for not less than 5 years & completed one single work of similar nature of at least 80% each value of contract or two similar work of at least 50% each value of contract and 3 works of at least 40% each value of contract in Govt. /Semi Govt./PSU organization during last five years ending Aug 2014 are eligible to participate. Similar nature of work: “Electrical installation work which includes internal electrification works & other associated building works”

NOTE:

(i) Successfully completed portion of ongoing works shall not be considered for qualifying this criteria.

(ii) Following documents shall be considered for evaluating the criteria of work experience

(a) Self attested copies of work order, BOQ along with completion certificate for completed work
Self attested copies of work order, BOQ and latest certificate from appropriate authority for quantum of work executed for work under progress.

1.2.3 **Financial Standing (Annual turnover):** Application should have average Annual Turnover of last three audited financial years should not be less 80% of total estimated cost of work.

1.2.4 Applicant must not have been blacklisted or deregistered by any Govt. or Public sector undertaking during the last 5 years.

1.2.5 Net worth of applicants should be positive.

The tender will be issued only to those tenderers who will submit the related experience, completion certificates of desired value.

Self attested copy of VAT/Service tax registration certificate, PAN no. along with the Demand draft against the cost of tender.

1.2.6 The mere fact that the tenderer is Pre-qualified as shall not imply that his bid shall automatically be accepted. The same should contain all Financial & other details as required for the consideration of tender.

1.2.7 Tender document consists of the following:
   a. Notice Inviting Tender - consisting of
      i. Notice Inviting Tender
      ii. Scope of Work
      iii. Tender prices
   b. Instructions to Tenderers
   c. General Conditions of Contract
   d. Special Conditions of Contract
   e. Bill of Quantities.

1.2.8 The tenderers may obtain further information in respect of these tender documents from the office of Deputy General Manager /E&M/UG office, 2nd Metro Bhawan Fire Brigade lane, Barakhambha Road New Delhi-110001

1.2.9 Tenderer is cautioned that the tender containing any material deviation from the tender document which consists of NIT, Instructions to tenderers, General conditions of contract, Special conditions of contract, Bill of quantities is liable to be summarily rejected as non-responsive.

1.2.10 DMRC 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 DMRC for rejection of his proposal.

(ARUN SHARMA)
DGM / E&M/UG

Delhi Metro Rail Corporation Ltd
2nd floor, Metro Bhawan, Fire Brigade lane, Barakhambha Road
New Delhi-110001
SECTION 2

SCOPE OF WORK

2.0 Brief Scope
The contractor will execute the work i.e. “Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC.”

The scope of work includes the following:

2.0 The work shall be carried out as per detailed requirement in BOQ as per DMRC specification.
2.1 Contractor shall provide the material as per BOQ or list of approved make enclosed as per Annexure-B or with the approval of engineer in-charge DMRC.
2.2 Contractor shall get approved the sample before procurement of material from authorized in-charge of DMRC.
2.3 Contractor shall lay the 70% wiring from normal supply source & 30% from emergency lighting in consultation with DMRC engineer in-charge.
2.4 Contractor shall carried out the wiring/cables etc. with proper dressing and saddle as direction of engineer in-charge.
2.5 Contractor shall provide the fire extinguishers at the location specified by engineer in-charge.
2.6 Contractor shall submit the hydraulic test reports for the fire extinguishers.
2.7 Contractor shall bring all tools & tackles required to carry out the work, no T&P etc. shall be provided by DMRC.
2.8 Contractor shall get the site report verified by Station engineer in-charge as per the Performa enclosed in Annexure-C.
2.9 Contractor shall paste the sticker with required information as per DMRC format, enclosed in Annexure D of fire extinguisher on the unit itself.
2.10 The contractor shall also be responsible to repair the defects / faults arise during the period of 12 months after the completion of work.
2.11 Contractor shall follow the relevant IE rules / acts etc. during execution of work.
2.12 Contractor shall carry out the work as per direction of engineer in-charge.
2.13 Contractor shall clean & dispose the released scrap/material etc. as per DMRC environmental policy.
2.14 As per the site requirement work may be carried out during night hours, nothing shall be paid extra on this account.
2.15 No storage space will be provided.
2.16 Nothing shall be paid extra on account of movement/ transportation of material/T&P/ manpower etc.
2.17 provisional Electrical panel drawing is placed at Annexure E, however the contractor shall design the panel as per site condition in consultation with DMRC engineer in-charge..
2.18 Tenderers are advised to visit the site before quoting the rates.
2.0 **Manpower deployment**

2.0.1 The contractor shall deploy the manpower in consultation with Engineer in-charge and carry out the activities in hygienic manner.

2.0.2 The manpower can also be deployed during OFF days/holidays/night hours as per site requirements for which nothing shall be paid extra.

2.0.3 All the work associated with finishing complete in all respect shall be carried out by contractor for which nothing shall be paid extra.

2.16 DMRC is an ISO-14001 & OHSAS 18001 certified Organization for Environment, Health & safety. The work is to be carried out as per International Norms/Standards and in such a manner that all premises always look Neat & Clean. Similarly, the waste disposal is also carried out in totally sealed manner without affecting the Environment.
SPECIFICATION FOR ELECTRICAL WORK FOR S&T LAB AT CHAWRI BAZAR

Contents

PART 1 : Technical specifications - General
PART 2 : Technical specifications - Conduit Wiring
PART 3 : Technical specifications - Cable laying
PART 4 : Technical specifications - Electrical fittings, fixtures and fans
PART 5 : Technical specifications – Electrical Panel and DB’s
PART 6 : Technical specifications - Earthing
PART 7 : Technical specifications - Painting
PART 8 : Technical specifications – Testing
PART – 1

TECHNICAL SPECIFICATIONS – GENERAL

- These specifications indicate the General requirements for internal electrical work including wiring system, Electrical panel, cable laying, Distribution boards, earthling and other related works.
- These specifications are drawn to indicate essential requirements and precautions to be taken regarding internal electrical installation for ensuring efficient, safe, economical and practicable use of electrical materials and equipment, in conformity with statutory regulations and easy maintainability of the installations.
- Complete work shall be carried out conforming to the provisions of Indian Electricity Act and relevant Indian standard Specifications (ISS).
- On completion of works, wiring diagram for complete installation shall be prepared by the contractor and 3 copies of the same shall be supplied to DMRC.
- All wiring diagrams shall indicate clearly in plan the main switch board, distribution board, the runs of various mains and sub mains and the position of points with their classifications and controls.
- All circuits shall be indicated and numbered in wiring diagram and all points shall be given the same number as the circuit to switch they are electrically connected. Distributions boards shall also be marked to indicate the circuit number controlled by them.
- Location of Electrical panel, distribution boards, switch boards, light fittings, cable routes, conduit wiring routes etc. shall be marked at site and approval of Engineer-in-charge obtained before proceeding with the installation work.
- For all materials and equipments Indian standard Specifications shall apply. In the absence of ISS, relevant British Standards shall be applicable. All Specifications, publications mean the latest edition.
- All cables, wires shall be properly tagged, clamped, numbering of each MCB / RCCB/ MCCB, circuit.
- For Lighting Circuit
  - Normal Supply (70% of total lights)
  - Emergency Supply (30% of total lights)
- Fire-Extinguisher shall be installed at a standard height of 1.2 mtrs. from floor at the loc. Identified by Engineer-Incharge.
PART – 2

TECHNICAL SPECIFICATIONS FOR CONDUIT WIRING

- For the building, conduit system of wiring shall be provided.

**Point Wiring:**
- Point wiring shall include all works necessary for complete wiring of a switch circuit of any length from the tapping point on the distribution circuit to the following through the switch.
- Connector
- Socket and Outlets (in the case of socket outlets points)
- MCB protected Socket (in the case of FCU outlet points)
- The following shall be deemed to be included in the point wiring.
- Item for one point are as below:
  - 1.5 sq. mm ISI marked, FR PVC, single core copper conductor cable
  - 20 mm dia. ISI marked, steel conduit
  - 20 mm inspection/ solid bends
  - 20 mm sockets
  - 20 mm iron staples/ saddles/ screws
  - 20 mm junction box, one way
  - Modular GI box for 2 module
  - Modular base & cover plate for 2 module
  - S.P. 5/6 amps, one way modular switch, ISI marked
  - PVC fastener 40mm long
  - Cement, paint, sand etc.
- Earth wire from the distribution boards to all current carrying apparatus through switch boards, M. S. Boxes etc.
- For power socket wiring 4 sq. mm wire shall be used.
- For MCB protected socket wiring 6 sq. mm wire shall be used.
- Connection to connector socket outlets, switch, luminaries etc.
- Looping in the same switch board and inter connections between points on the same circuit.
- All points in the distribution system shall be measured under point wiring irrespective of length of circuit from the distribution board.

**Sub-Main wiring**
- The sub-main wiring shall mean the length of wiring from main building panel board/distribution switch board to another main/distribution switch board, measured along the run of wiring. Such wiring shall be measured on linear basis.

**System of Wiring:**
- The wiring shall be carried out as per the system specified in the tender Schedule. Power wiring shall be kept separate and distinct from lighting. All conductors shall run as far as possible along the walls and ceiling so as to be easily accessible and capable of being thoroughly inspected. In all types of wiring due consideration shall be given for neatness, good appearance and safety.
- The balancing of circuits in 3 wires on poly phase installation shall be arranged to the satisfaction of Engineer-in-charge. In large/important rooms light fans and socket outlet points shall be distributed over more than one circuit as directed by the Engineer-in-charge.
- 15 Amp socket outlet point shall be rated at 1000W respectively, unless the actual values of loads are known or specified.
- Joints and loop back:
  - Neutral conductor and earth continuity wire shall be brought to each circuit board, circuit switch in halls. These shall be terminated inside the switch board and shall be of adequate sizes to accommodate minimum of 1 No. 5 Amps socket outlet and control switch in future.
  - Wherever wires are to be connected together, mechanical connector of adequate ratings shall be made use of. Under no circumstances twisted joints shall be allowed.
- Control at point of entry of supply.
- The neutral shall be distinctly marked.
- The main switch gear shall be situated as near as practical to the termination of service line and shall be easily accessible without the use of any external aid.
- On the main switch gear, where the conductors include earth conductor of a 2 wire system or on earthed neutral conductor of a multi wire system or a conductor which is to be connected thereto, the permanent indication shall be provided to identify the earthed neutral conductor (Rule 32 (i) of Indian Electricity Rules 1956 refers).

**Switch Boards:**
- All marking required under this rule shall be clear and permanent.
- All distribution boards shall be marked ‘Emergency lighting’ or ‘Lighting / power’ as the case may be and also marked with the pressure and number of phases of the supply. Each distribution board shall be provided with a circuit list giving details of each circuit which it controls and the current rating of the circuit.
- Capacity of Circuits:
- Lights and fans may be wired on a common circuit. Such circuit shall not have more than a total of 8 points of light or a load of 800 watts, whichever is less.
- The power circuits shall be designed with one outlet per circuit unless otherwise specified.
- Type and size of Conduit:
- Conduit pipe used in wiring system shall be of 16 gauge for sizes upto 32 mm and 14 gauge for sizes above 32 mm. Conduit pipes shall be solid drawn or formed by electric resistance welding (ERW) finished with galvanized or stove enameled surface. All conduit accessories shall be of thread type. Pin grip type or clamp grip type accessories shall not be used. Steel conduit of size less than 19 mm in diameter shall not be used.

**Conduit Joints:**
- Conduit pipes shall be jointed by means of screwed – screwed accessories only. In long distance straight run of conduit, inspection type completes at reasonable intervals shall be provided. In the latter case the bare threaded portion shall be treated with anti-corrosive preservative. Threads on conduit pipe in all cases shall be between 13 mm to 19 mm long sufficient to accommodate pipes to full threaded portion of couplers or accessories. Cut ends of conduit pipes shall have no sharp edges nor any burrs left to avoid damage to the insulation or conductors while pulling them through such pipes. After laying of the conduit the bare threaded portion shall be treated with two coats anti-corrosive preservative.
- Protection of conduit against rust:
- All the conduit pipes including accessories shall be given 2 coats of duco paint of white colour or any other colour if specified so as to avoid damage to conduit due to rust. It will be ensured that no bare threaded portion of conduit is allowed to be energized unless they are treated with anti corrosive preservative and painted.
- Conduit shall be laid at a minimum distance of 100 mm from the pipes of other non electrical device.
- Fixing of Conduit:
- Conduit run on surface shall be supported on M.S. Spacers 3 mm thick, painted with 2 coats of antirroborative primer, which in turn are properly screwed to the wall or ceiling. Rawl plugs or phil plug shall be used for fixing the spacers. Conduit pipes shall be fixed on the spacers using C. I. saddles of suitable size and heavy gauge (SWG). Saddles shall be at intervals of not more than 50 cm. Conduit shall be neatly run parallel or at right angle to the walls of the buildings.
- Saddles shall not be less than 24 gauge for conduit upto 25 mm diameter and not less than 20 gauge for larger diameter.
- Bends in Conduit:
- All necessary bends in the system including diversion shall be done by bending pipes or by inserting suitable solid or inspection type normal bends, elbows or similar fittings, or by fixing cast iron inspection boxes whichever is most suitable.
• Power Point wiring shall be distinctly separated for light Point wiring. Conduits not less than 25 mm and wires not less than 4 / 6 sq. mm copper shall be used for power wiring.
• Wires:
• All wiring termination shall be with crimped lugs.
• Conduits buried in concrete structure shall be put in position and securely fastened to the reinforcement and got approved by the Engineer-in-charge before the concrete is poured. Proper care shall be taken to ensure that the conduits are neither dislocated nor chocked at the time of pouring the concrete. Suitable fish wires shall be drawn in all conduits before they are embedded.
• No conduit shall be buried in concrete or plastered unless the work has been inspected and inspected and approved by the Engineer-in-charge.
PART – 3

TECHNICAL SPECIFICATIONS FOR CABLE LAYING

- All cable shall be as per BOQ. Cables shall have high conductivity stranded copper conductors and cores shall be colour coded as per Indian Standards.
- All cables shall be without any kinks or visible damage.
- All cables shall be properly terminated with glands, tinned copper lugs and cables identification tags and shall be properly crimped or soldered with lugs as directed.
- All the indoor cables shall be laid on walls, ceilings, inside shafts, with suitable supports. Distance between supports shall not be more than 50 cms.
- Cables shall be laid indoors by using 3 mm thick M.S. spacers with G.I. saddles and screws.
- Cables shall be tested before laying and after laying but definitely before connecting up to the switch gears.
- After the cable installation is complete, the entire installation shall be tested with 500 V insulation resistance tester and following reading established.
- (i) Continuity on all phases
- (ii) Insulation resistances between conductors, conductors and ground.
- All test readings shall be recorded and handed over to Engineer-in-Charge.
PART – 4

TECHNICAL SPECIFICATIONS FOR ELECTRICAL FITTINGS

• FIXTURES AND FANS
  • Fluorescent Light Fittings:
  • All fixtures shall be complete with accessories and fixing necessary for installation completed in all respects. Fixtures connected to emergency lighting systems shall have distinct markings.
  • Fixtures shall be installed at mounting heights as instructed at site by the Engineer-in-charge.
  • Fixture shall be completely wired and constructed so as to comply with the ISS and IE Regulations for Electric Light Fixtures. Fixtures shall bear manufacturer’s name & the Factory Inspection Labels.
  • Wherever specific make of fixtures are indicated in the Tender Specifications, the entire fixture shall be Factory Assembled from the manufacturers. Locally assembled fittings with components from primary manufacturers shall not be accepted.
  • Wiring within the fixture and for connection to the branch circuit wiring shall be with wire of size not less than 1.5 sq. mm. copper for 250 Volts applications. Insulation of the wire shall suit the temperature conditions inside the fixtures.
  • Detailed catalogue and technical data for all fixtures or wherever desired by the Engineer-in-charge, Sample fixtures shall be submitted for approval to the Engineer-in-charge before orders for the fixtures are placed.
  • Lamp shall be supplied and installed in all lighting fixtures provided under this contract. Lamps used for temporary lighting service shall not be used in the final lamping of fixtures. Lamps shall be of wattage and type as shown in the BOQ. Lamps for permanent installation shall not be placed in the fixtures until so directed by the Engineer-in-charge and this shall however be accomplished immediately before the building portions are ready for occupation.
  • Only two lamp ballast shall be used in any one fixture. Ballasts shall be completely enclosed inside sheet steel casing, and shall have a corrosion resistant finish. Ballasts shall contain a thermosetting type compound not subject to softening or liquefying under any operating conditions or upon ballast failure. Compound shall not support combustion and shall be of high power factor compensated to above 0.9 P.F. Ballast temperature and sound rating rise shall be specified by the manufacturer and guaranteed. Ballasts shall be for operation at the voltages and frequencies indicated and under temperature conditions prevailing in the various locations of the premises.
PART – 5

TECHNICAL SPECIFICATIONS FOR ELECTRICAL PANEL AND DISTRIBUTION BOARDS

Electrical Panel:

Bus bar chamber shall be completely compartmentalized openings made at top and bottom for switches shall be blocked with bakelite sheets and bushed openings provided for interconnecting leads.

Numbering / Marking:

Each MCCB / Ckt. shall be marked as per drawing of Electrical panel.

Testing and Inspection:

All switch boards shall be subject to factory inspection before finishing and despatch, unless inspection is waived by Engineer-in-Charge.

All field tests shall be witnessed by Engineer-in-Charge and recorded.

Distribution Board:

Each distribution boards shall be installed at similar location on each floor or as directed by Engineer incharge.
PART – 6

TECHNICAL SPECIFICATION - FOR EARTHING

SUB EARTHING:

From main panel, earthing strip shall be laid for continuous earthing. Sizes of earthing strip shall be as specified in the schedule of quantities upto the Electrical panel.

For earthing of all DB’s, equipments, boxes etc. third wire of similar size as in wiring shall be used. The earth conductors shall be earthed at both ends using properly sized lugs, either by crimping or soldering. Twisted joints are not allowed anywhere in the earthing system.
PART - 7

TECHNICAL SPECIFICATION FOR PAINTING

General: The scope of this PART covers ‘Painting’ to be carried out at Site.

Paints: Paints, oils, varnishes etc. of approved make in original tin to the satisfaction of the Engineer-in-Charge shall only be used.

Preparation of the surface: The surface shall be thoroughly cleaned and dusted before painting is started. The proposed surface shall be inspected by the Engineer-in-Charge or his authorized agent and shall have received the approval before painting is commenced.

Application: Paint shall be applied with brush. The paint shall be spread as smooth and even as possible. Particular care shall be paid to rivets, nuts, bolts, and overlapping. Before drawing out, it shall be continuously stirred in the smaller containers with a smooth stick while it is being applied. Each coat shall be allowed to dry out sufficiently before a subsequent coat is applied.

Scope: Painting on old surface in indoor situations will not include primer coat except where specially mentioned in the Schedule of Work or Special Specification. However, where rust has formed on iron and steel surfaces the spots will be painted with one anti-rust primer coat.

Precautions: All furniture, fixtures, glazing, floors, etc. shall be protected by covering. All stains, smears, splashings, dropping of every kind shall be removed. While painting of wiring etc., it shall be ensured that paintings of wall and ceiling etc. is not spoiled in any way.

Painting of conduit and accessories:

After installation, all accessible surface of conduit pipes, fittings, switch and regulator boxes, etc. shall be painted with two coats of approved enamel paint or aluminium paint as required to match the finish of surrounding wall etc.
PART 8
TECHNICAL SPECIFICATION FOR TESTING

General

On completion of an installation the following tests shall be carried out:-

Insulation Resistance Test.

Earth continuity Test.

Polarity test of switch:

In a two wire installation a test shall be made to verify that all switches in every circuit have been fitted in the same conductor throughout and such conductor shall be labelled or marked for connection to phase conductor or to the non earthed conductor of the supply.

In a three wire or a four wire installation a test shall be made to verify that every non linked single pole switch is fitted in a conductor which is labelled or marked for connection to one of the phase conductor of the supply.
FORM OF COMPLETION CERTIFICATE

I/We certify that the installation detailed below has been installed by me/us and tested and that to the best of my/our knowledge and belief, it complies with Indian Electricity Rules, 1956, as well as IS:732 – Code of practice of Electrical wiring Installations (system voltage not exceeding 650ff volts).

Electrical Installation at ______________________________________
Voltage & system of supply ________________________________

1. Particulars of Works:
(a) Electrical Installation

(i) Light point
(ii) Fan point
(iii) Power socket point
(a) 3 pin 5 / 15 amp
(b) MCB Protected Socket
Total length of underground cable & its size.

Earthing:
Test Results:
Insulation Resistance
Insulation resistance of the whole system
of conductors to earth.... Megohms
Insulation resistance between the phase Conductor & neutral -
Between phase R and neutral.... Megohms
Between phase Y and neutral.... Megohms
Between phase B and neutral.... Megohms

(iii) Insulation resistance between the phase Conductors in case of poly phase supply
Between phase R and phase Y.... Megohms
Between phase Y and phase B.... Megohms
Between phase B and phase R.... Megohms

Signature of the Supervisor
Signature of Contractor
Name and address
SECTION 3

TENDER PRICES AND SCHEDULE OF PAYMENT

3.1 Tender Prices

3.1.1 a. Unless explicitly stated otherwise in the Tender Documents, the contractor shall be responsible for the whole works & based on the Bill of Quantities, payment shall be as per accepted rates on the activities carried out as per Schedule of work.

b. The rate quoted by the tenderer shall be inclusive of all duties, taxes, fees, octroi and other levies, materials, labour etc. Service tax shall be shown separately in bill of quantity in respective column.

3.1.2 Schedule of Payment

Payment shall be made on 50% delivery of material at site & 50 % on the completion of work including complete testing & commissioning of work as per accepted rates.

Payment shall be subjected to T.D.S as per applicable law.
INSTRUCTIONS TO TENDERERS

“Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC”

GENERAL

1.2 INTRODUCTION

Sealed Open tenders are invited for “Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC” hereinafter called the ‘Employer’, for Works in accordance with this Tender Package.

The tender papers consist of the following documents, along with their annexure, appendices, addenda and errata if any.
- Notice Inviting Tender (NIT)
- Instructions to Tenderers (ITT)
- Special Conditions of Contract (SCC)
- Other Terms & Conditions
- Bill of Quantities

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

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

Deputy General Manager/E&M/UG, 2nd Floor, Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi-110001.

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

a. “Tender Security” to be furnished by the Tenderer: Amount as per NIT.

b. Tenders will be accepted in the office of Dy. General Manager/Electrical only. Late or delayed tenders will not be accepted under any circumstances.

c. Date of opening of the Tender Package: As per NIT.

d. Period for which the tender is to be kept valid: As per clause-11.0

2.0 POST QUALIFICATION REQUIREMENTS

2.0 POST QUALIFICATION REQUIREMENTS

2.1 This invitation to Open eligible tenderers who has completed the similar nature of work refer clause 1.2.2 of NIT.

2.2 The Tenderer shall submit only one tender either himself or as a lead partner/Lead Constituent in a joint venture/consortium for the work. The tenderer who submits more than one tender for the same work will be disqualified.

2.3 The tender, and, in the case of a successful tender, the Form of Agreement, shall be individually signed so as to be legally binding on all partners/constituents as the case may be.

2.4 Each page of tender shall be signed by the authorized signatory of the tenderer. Power of Attorney in favour of the signatory will be required to be furnished as detailed in Clause 16.0.

3.0 COST OF TENDERING

3.1 The Tenderer shall bear all costs associated with the preparation and submission of his tender and the Employer will in no case be responsible or liable for these costs.
4.0 SITE VISIT

4.1.1 The Tenderer is advised to visit and examine the Site of Works and its surroundings at his/their cost and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a Contract.

4.1.2 The agency shall be deemed to have inspected the Site and its surroundings before hand and taken into account all relevant factors pertaining to the Site in the preparation and submission of the Tender

TENDER DOCUMENTS

5.0 CONTENTS OF TENDER DOCUMENTS

5.1 The tenderer is expected to examine carefully all the contents of the tender documents as mentioned in Sub-clause 1.1 including instructions, conditions, forms, terms, and take them fully into account before submitting his offer. Failure to comply with the requirements as detailed in these documents shall be at the tenderer’s own risk. Tenders which are not responsive to the requirements of the tender documents will be rejected.

6.0 AMENDMENT TO TENDER DOCUMENTS

6.1 At any time prior to the deadline for the submission of tenders, the Employer may, for any reason, whether at his own initiative or in response to a clarification or query raised by a prospective tenderer, modify the tender documents by an amendment.

6.2 The said amendment in the form of an addendum will be sent to all prospective tenderers who have received the tender documents, on or prior of opening of Tender. This communication will be in writing or by telex and the same shall be binding upon them. Prospective tenderers should promptly acknowledge receipt thereof by telex to the Engineer.

PREPARATION OF TENDERS

7.0 LANGUAGE OF TENDER

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

8.0 DOCUMENTS COMPRISING THE TENDER

8.1 TENDER PACKAGE

8.1.0 The Tender package shall be sealed and addressed to Dy. General Manager / E&M/UG, DMRC duly superscripted with name of work, time and date for submission and time and date for opening. The envelope should also bear the name and address of the tenderer.

8.1.1 The Tender package will comprise of Two envelopes namely Envelope-A & Envelope-B.

Envelope-A

Envelope –A shall contain Tender security in original superscripted with Name of work & “Tender Security” At lower portion Name and address of tenderer shall be mentioned.

Envelope-B

Envelope B shall be superscripted with Name of work and the words “Commercial Bid” & shall contain all documents including price bid given in original tender documents comprising of following Forms & documents duly filled in. At lower portion Name and address of tenderer shall be mentioned.

a) Total value of similar works executed for the last three financial years along may be given in the format prescribed (Form T-V).
b) Attested copies of the PAN No. under income Tax Act. Sale tax registration certificate and /or service tax registration certificate whichever applicable, ESI registration certificate & PF Account certificate.

c) Tender documents as listed below:
   i. Notice Inviting Tender
   ii. Instructions to Tenderers
   iii. Special Conditions of Contract
   iv. DMRC’s General Conditions of Contract

d) Statement of deviations from tender documents (Form C).

e) Bill of Quantities (BOQ)

f) Experience record of similar works during the last three years and in progress on date may be furnished in the format prescribed (Form T-II).

8.2 **The prices shall be entered in the Form of Tender and the BOQ enclosed in words as well figures. These prices should include all costs associated with the contract and taxes etc.**

8.3 Documents to be submitted by the tenderer under technical and financial packages have been described under the respective Clauses 8.1 of ITT. This list of documents has been prepared mainly for the convenience of the tenderer and any omission on the part of the Employer shall not absolve the tenderer of his responsibility of going through the various clauses in the Tender Documents including the specifications and to submit all the details specifically called for (or implied) in those clauses.

8.4 All documents issued for the purposes of tendering, and any amendments issued in accordance with Clause 6.0 shall be deemed as incorporated in the Tender.

9.0 **TENDER PRICES**

9.1 The tenderer is required to quote for all the items as per tender documents.

9.2 The Tenderer shall keep the contents of his tender and rates quoted by him confidential.

10.0 **CURRENCIES OF THE TENDER**

10.1 Tender prices shall be quoted in Indian Rupees only.

11.0 **TENDER VALIDITY**

11.1 The tender for the first year shall remain valid and open for acceptance for a period of 90 days from the Last date of submission of tender.

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

12.0 **TENDER SECURITY**

12.1 The tenderer shall furnish, as tender security, an amount as mentioned in NIT.

12.2 The tender security will be in the form of a Demand draft in the name of Delhi Metro Rail Corporation Ltd.

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

12.4 The tender securities of unsuccessful tenderers shall be discharged/returned by the Employer as promptly as possible but not later than 30 days after the expiration of the period of tender validity.
12.5 The tender security of the successful tenderer shall be returned upon the tenderer executing the Contract Agreement after furnishing the required performance guarantee for performance, as mentioned in this Tender Document.

12.6 The tender security shall be forfeited:
1. If a Tenderer withdraws his tender during the period of tender validity, or
2. If the Tenderer does not accept the correction of his tendered price in terms of Clause
3. In the case of a successful tenderer, if he fails to:
   a. Furnish the necessary performance guarantee for performance.
   b. Enter into the Contract within the time limit specified in Clause 26.0
   c. Commence the work as per Terms and Conditions of Tender after issuance of LOA.

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

13.0 FORMAT AND SIGNING OF TENDERS
13.1.1 If the tender is submitted by a proprietary firm it shall be signed by the proprietor above his full name and the full name of his firm with its current address.
13.1.2 If the tender is submitted by a limited company or a limited corporation, it shall be signed by a duly authorized person holding the power of attorney for the firm. A certified copy of the power of attorney shall accompany the tender.
13.2 The documents required to be submitted by the Tenderer will be as described under Clause 8.0 herein.
13.3 Entries to be filled in by the Tenderer shall be typed or written in indelible ink. Each page of such document should be signed in full at the bottom by the person submitting the Tender along with the date of signing. Each page of printed documents should be initialed at the bottom by the person submitting the tender along with the date of initialing.
13.4 The complete tender shall be without alterations, overwriting, interlineations or erasures except those to accord with instructions issued by the Employer, or as necessary to correct errors made by the tenderer. All amendments/corrections shall be initialed by the person signing the tender.
13.5 All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

SUBMISSION OF TENDERS
14.0 SEALING AND MARKING OF TENDERS
14.1 The Tenderer shall follow the procedure as indicated below:
14.1.1 Each tender will be submitted in one set which shall contain documents as detailed in Appendix - I.
14.1.2 The contents of Tender Package shall be as detailed under Clauses 8.0 hereon.
14.2 No responsibility will be accepted by the Employer/Engineer for the misplacement or premature opening of a tender, not sealed or marked as per aforesaid instructions.

15.0 SUBMISSION OF TENDERS
15.1 Tenders should be submitted in the tender box kept at the following address:
   Deputy General Manager/E&M/UG, 2nd Floor, Metro Bhawan, Fire Brigade Lane, Barakhambha Road New Delhi-110001 on date and time as mentioned in NIT.
15.2 Tenders shall be submitted in person to the Office of DMRC. The Engineer/Employer cannot take any cognizance and shall not be responsible for delay in transit.
15.3 Tenders sent telegraphically or through other means of transmission (telefax etc.) which cannot be delivered in a sealed envelope shall be treated as defective, invalid and shall stand rejected.

16.0 LATE TENDERS
16.1 Any tender received in the office of DMRC after the deadline prescribed for submission of tenders will be returned unopened to the tenderer.

TENDER OPENING AND EVALUATION
17.0 TENDER OPENING
17.1 The Employer or his authorized representative will open the Tender package in the presence of tenderers or their Authorized representatives on date and time as mentioned in of NIT in the office of Dy. General Manager/E&M/UG, 2nd Floor, Metro Bhawan, Fire brigade Lane, Barakhamba Road, New Delhi 110001. If such nominated date for opening of Tender is subsequently declared as a Public Holiday by the Employer, the next official working day shall be deemed as the date of opening of Tender at the same time. The Tender of any Tenderer who has not complied with one or more of the foregoing instructions may not be considered.

17.2 The tenderers name, the presence or absence of the requisite tender security and such other details as the Employer or his authorised representative, at his discretion, may consider appropriate will be announced at the time of tender opening.

18.0 PROCESS TO BE CONFIDENTIAL
18.1 Except the public opening of tender, information relating to the examination, clarification, evaluation and comparison of tenders and recommendations concerning the award of Contract shall not be disclosed to tenderers or other persons not officially concerned with such process.

18.2 Any effort by a tenderer to influence the Employer/Engineer in the process of examination, clarification, evaluation and comparison of tenders and in decisions concerning award of contract, may result in the rejection of the tenderers tender.

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

20.0 DETERMINATION OF RESPONSIVENESS
20.1 Prior to the detailed evaluation of tenders, the Engineer will determine whether each tender is responsive to the requirements of the tender documents.

20.2 For the purpose of this Clause, a responsive tender is one, which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation. "Deviation" may include exceptions, exclusions & qualifications. A material deviation or reservation is one which affects in any substantial way the scope, quality, performance or administration of the works to be undertaken by the tenderer under the Contract, or which limits in any substantial way, the Employer's rights or the tenderers obligations under the Contract as provided for in the Tender documents and / or is of an essential condition, the rectification of which would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders at reasonable price.

20.2 If a tender is not substantially responsive to the requirements of the tender documents, it will be rejected by the Employer, and will not subsequently be
permitted to be made responsive by the tenderer by correction or withdrawal of the non-conformity or infirmity. However minor clarifications if required may be asked from the Tenderer.

20.3 The decision of the Engineer/Employer as to which of the tenders are not substantially responsive or have impractical / methods or Programme for execution shall be final.

21.0 EVALUATION OF TENDER

21.1 The Employer will carry out technical evaluation of submitted technical proposals to determine that the tenderer has a full comprehension of the work of the contract. Where a tenderer’s technical submittal has a major inadequacy his tender will be considered to be non-compliant and will be rejected.

21.2 Technically acceptable tenders will be eligible for consideration of their financial proposals.

21.3 The evaluation of Financial proposals by the Employer / Engineer will take into account, in addition to the tender amounts, the following factors:

a). Arithmetical errors corrected by the Employer/Engineer in accordance with Clause 22.0

b). Such other factors of administrative nature as the Employer/Engineer may consider to have a potentially significant impact on contract execution, price and payments, including the effect of items or unit rates that are unbalanced or unrealistically priced.

21.4 Offers, deviations and other factors, which are in excess of the requirements of the tender documents or otherwise will result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.

21.5 Price adjustment provisions applicable during the period of execution of the contract shall not be taken into account in tender evaluation.

22.0 CORRECTION OF ERRORS

22.1 Tenders determined to be technically acceptable after technical evaluation will be checked by the Engineer/ Employer for any arithmetical errors in computation and summation during financial evaluation. Errors will be corrected by the Employer / Engineer as follows:

a. Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and

b. Where there is a discrepancy between the unit price and the total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted will normally govern unless in the opinion of the Employer / Engineer there is an obviously gross misplacement of the decimal point in the unit price, in which event, the total amount as quoted will govern.

22.2 If a Tenderer does not accept the correction of errors as outlined above, his tender will be rejected and the tender security forfeited.

AWARD OF CONTRACT

23.0 AWARD CRITERIA

23.1 The Employer will award, the Contract to the tenderer, whose tender has been determined to be substantially responsive, technically & financially suitable, complete and in accordance with the tender documents.

24.0 EMPLOYER’S RIGHT TO ACCEPT ANY TENDER AND TO REJECT ANY OR ALL TENDERS
24.1 The Employer reserves the right to accept or reject any tender, and to annul the tender process and reject all tenders, at any time prior to award of Contract.

25.0 NOTIFICATION OF AWARD

25.1 Prior to the expiry of the period of tender validity prescribed by the Engineer/Employer, the Engineer/Employer will notify the successful tenderer by telegram or telefax, to be confirmed in writing by registered letter, that his tender has been accepted. This letter (hereinafter and in the Conditions of Contract called ‘the Letter of Acceptance’) shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion of the works by the Contractor as prescribed by the Contract (hereinafter and in the conditions of Contract called ‘the Contract Price’). The “Letter of acceptance” will be sent in duplicate to the successful tenderer, who will return one copy to the Employer duly acknowledged and signed by the authorised signatory, within three days of receipt of the same by him. No correspondence will be entertained by the Employer from the unsuccessful Tenderers.

25.2 The Letter of Acceptance will constitute a part of the contract.

25.3 Upon “Letter of acceptance” being signed and returned by the successful tenderer, the employer will promptly notify the unsuccessful tenderers and discharge / return their tender securities.

26.0 SIGNING OF AGREEMENT

26.1 The Employer shall prepare the Agreement in the Proforma (Form E) included in this Document, duly incorporating all the terms of agreement between the two parties. Within 45 Days from the date of issue of the letter of acceptance, the successful tenderer will be required to execute the Contract Agreement.

27.0 PERFORMANCE SECURITY

27.1 Within 30 days of receipt of the letter of Acceptance the successful Tenderer shall furnish performance security in the form of a bank guarantee from branch in India of a schedules foreign bank or from a scheduled commercial bank in India acceptable to the employer for an amount of 10% of contract value in types & proportions of currencies in which the contract Price is payable. The approved from provided in the “Instructions to Tenderers” documents, or any other form approved by the Employer shall be used for Bank Guarantee. The Bank Guarantee shall be valid up to Defect Liability Period. If the bank guarantee not submitted within stipulated time 10% of contract value will be deducted from the first running bill.

28.0 Cancellation of Letter of Acceptance (LOA) and Form of Tender.

28.1 In case Successful tenderer fails to commence the work (for whatsoever reasons) as per Terms and Conditions of Tender after issuance of LOA then the LOA shall be cancelled and the tender security shall be forfeited.

29.0 Defect Liability Period

29.1 Defect Liability Period shall be 12 months from the date of issue of Completion Certificate, for the defects left by contractor in execution of work.

30.0 The General Contract Conditions can be seen by the contractor at the office of Dy. GM/E&M/UG on any working day.
# APPENDIX I

**CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE TENDER**

*COMPILED FROM THE PROVISIONS IN THIS VOLUME*

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Document</th>
<th>Reference to Clause No. of &quot;Instructions to Tenderers&quot;</th>
<th>Document enclosed Yes/No</th>
</tr>
</thead>
</table>

## TENDER PACKAGE COMPRISING OF:

### i. TECHNICAL PACKAGE

1. Tender Security  
   Reference: 12.0  
   Document enclosed: Yes

2. Tender documents  
   Reference: 8.1  
   Document enclosed: Yes

3. Power of attorney for individuals signing on behalf of Company/Firm  
   Or  
   Power of attorney in favour of the leading member of Joint Venture / Consortium.  
   Reference: 2.4 & 13.0  
   Document enclosed: Yes

4. Financial Data (Form T-V)  
   Reference: 8.1.2 (j)  
   Document enclosed: Yes

5. Self attested copies of the following documents:  
   i. Pan No. as per Income Tax Act.  
   ii. Sales Tax Registration Certificate/VAT registration certificate  
   iii. Service Tax Registration Certificate  
   iv. PF Registration No./ Exemption undertaking  
   v. ESI Registration No./ Exemption undertaking  
   Reference: 8.1.1 (k)  
   Document enclosed: Yes

6. Statement of deviations from Tender Documents (Form C)  
   Reference: 8.1.2(h)  
   Document enclosed: Yes

7. Experience record (Form T-II).  
   Reference: 8.1.2(j)  
   Document enclosed: Yes

8. Bill of Quantities  
   Reference: 8.2.1  
   Document enclosed: Yes
INDEX ON

PROFORMA OF FORMS

1. PROFORMA OF FORMS – GENERAL
   (Items (iv) applicable only for successful tenderers)
   FORM
   i. Form of Tender with Appendix A
   ii. Performa for Statement of Deviations C
   iii. Form of Performance Security (Guarantee) by Bank D
   iv. Form of Agreement E

2. PROFORMA OF FORMS – POST QUALIFICATION PARTICULARS
   FORM
   i. General Information T-I
   ii. Experience Record T-II
   iii. Resources Proposed for the Work-Personnel T-III
   iv. Resources Proposed for the work- Machinery & Equipment T-IV
   iv. Financial Data T-V
FORM OF TENDER

Note:

i. The Appendix forms part of the Tender

ii. Tenderers are required to fill up all the blank spaces in this Form of Tender and Appendix.

Name of Work: As in the NIT clause No. 1.1

To

Dy. GM/ E&M/UG,
DMRC,
2nd, Floor, Fire Brigade Lane,
Barakhamba Road New Delhi-110001

1. Having visited the site and examined the General Conditions of Contract as well as Special Conditions of Contract, Specifications, Instructions to Tenderers, for the execution of above named works, we the undersigned, offer to execute and complete such works and remedy defects therein in conformity with the said Conditions of Contract, Specifications, and Addenda for the sum of Rs.____________________________ (Amount in figures and words) for ___________or such other sum as may be ascertained in accordance with the said conditions.

2. We acknowledge that the Appendix forms an integral part of the Tender.

3. We undertake, if our Tender is accepted, to commence the works as per LOA to commence and to complete the whole of the Works comprised in the Contract within three months from the day of Issue of LOA, as indicated in the Appendix.

4. If our Tender is accepted, we will furnish at our option a Bank Guarantee for Performance as security for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with Clause 15.0 of the General Conditions of the Contract and as indicated in the Appendix.

5. We have independently considered the amount shown Clause 57.5 of the General Conditions of Contract as liquidated damages and agree that they represent a fair estimate of the damages likely to be suffered by you in the event of the work not being completed in time.

6. We agree to abide by this Tender for a minimum period of 90 days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiry of that period or any extended period mutually agreed to.

7. Unless and until a formal Agreement is prepared and executed, this Tender, together with your written acceptance thereof, shall constitute a binding contract between us.

8. We declare that the submission of this Tender confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related to the award and performance of this Contract. We further
Confirm and declare that no agency commission or any payment, which may be construed as an agency commission has been, or will be, paid and that the tender price does not include any such amount.

9. We acknowledge the right of the Employer, if he finds to the contrary, to declare our Tender to be non-compliant and if the Contract has been awarded to declare the Contract null and void.

10. We understand that you are not bound to accept the lowest or any tender you may receive.

11. If our Tender is accepted we understand that we are to be held solely responsible for the due performance of the Contract.

Dated this........day of........... 2014
Signature ........................................
Name........................................ in the capacity of ............................
Duly authorized to sign Tenders for and on behalf of.................................
Address ...........................................................

Witness – Signature ..............................
Name ....................................................
Address ........................................................
Occupation ..................................................
APPENDIX TO THE FORM OF TENDER

Condition of Contract
Clause No.

i. Amount of Bank Guarantee as Performance Security 27.0 of ITT
ii. Contract Period from the date of issue of LOA 1.1.1 of NIT

Signature of authorized signatory on behalf of Tenderer

Date ............... Name ......................
Place ............. ........ Address .....................
# PROFORMA FOR STATEMENT OF DEVIATIONS

(Refer Clause 8.1.1)

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

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Clause</th>
<th>Deviations</th>
<th>Remark (Including justification)</th>
<th>Price adjustment for withdrawal of each deviation/s.</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

2. The following are particulars of deviations from the requirements of the “Instructions to Tenderers,” “General Conditions of Contract” and “Special Conditions of Contract”.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Clause</th>
<th>Deviations</th>
<th>Remark (Including justification)</th>
<th>Price adjustment for withdrawal of each deviation/s.</th>
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</thead>
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</tr>
</tbody>
</table>

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**Signature of Tenderer**

**Note**

1. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating ‘No Deviations’.

2. The tenderer shall indicate price adjustment against each deviation, which he shall like to add to the tender price for withdrawing unconditionally his deviations if the same are unacceptable to the Employer.
FORM D
PAGE 1 OF 2

FORM OF PERFORMANCE SECURITY (GUARANTEE) BY BANK
(Refer Clause 27.0 of “Instructions to Tenderers”)

1. This deed of Guarantee made this day of_______ 2014 between Bank of________________(hereinafter called the “Bank”) of the one part, and Delhi Metro Rail Corporation Limited (hereinafter called “the Employer”) of the other part.

2. Whereas Delhi Metro Rail Corporation Limited has awarded the Contract for ------------------------- (hereinafter called “the contract”) to M/s__ [Name of the Contractor]__ (hereinafter called “the Contractor”).

3. AND WHEREAS the Contractor is bound by the said Contract to submit to the Employer a Performance Security for a total amount of Rs.___________________________________ (Amount in figures and words).

4. Now the Undersigned_________________________________________________(Name of the Bank) being fully authorised to sign and to incur obligations for and on behalf of and in the name of_______________________________(Full name of Bank), hereby declare that the said Bank will guarantee the Employer the full amount of Rs.________________________________ (Amount in figures and Words) as stated above.

5. After the Contractor has signed the aforementioned Contract with the Employer, the Bank is engaged to pay the Employer, any amount up to and inclusive of the aforementioned full amount upon written order from the Employer to indemnify the Employer for any liability of damage resulting from any defects or shortcomings of the Contractor or the debts he may have incurred to any parties involved in the Works under the Contract mentioned above, whether these defects or shortcomings or debts are actual or estimated or expected. The Bank will deliver the money required by the Employer immediately on demand without delay without reference to the Contractor and without the necessity of any proceeding or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Contractor. The Bank shall pay to the Employer any money so demanded notwithstanding any dispute/disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator relating thereto and the liability under this guarantee shall be absolute and unequivocal.

6. This Guarantee is valid for a period of 15 Months from the date of signing. (The initial period for which this Guarantee will be valid must be for at least 12 months longer than the anticipated expiry date of contract.

7. At any time during the period in which this Guarantee is still valid, if the Employer agrees to grant a time extension to the Contractor or if the Contractor fails to complete the Works within the time of completion as stated in the Contract, or fails to discharge himself of the liability or damages or debts as stated under Para 5, above, it is understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by the Employer and at the cost of the Contractor.

8. The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Contractor.
9. The neglect or forbearance of the Employer in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by the Employer for the payment hereof shall in no way relieve the bank of their liability under this deed.

10. The expressions “the Employer”, “the Bank” and “the Contractor” hereinbefore used shall include their respective successors and assigns.

In witness whereof I/We of the bank have signed and sealed this guarantee on the __________day of _______ (Month) 2014 being herewith duly authorized.

For and on behalf of

the______________________________Bank.

Signature of authorised Bank official

Name : .................................
Designation : ...........................
I.D. No. : .............................
Stamp/Seal of the Bank : ..........

Signed, sealed and delivered for and on behalf of the Bank by the above named________
In the presence of :

Witness 1.
Signature .............................
Name .................................
Address .............................

Witness 2.
Signature ............................
Name .................................
Address .............................
FORM OF AGREEMENT
(Refer Clause 26.0 of “Instructions to Tenderers”)

This Agreement is made on the ___________ day of _____________ 2014 Between Dy. General Manager/E&M/UG, Metro Bhavan, 2nd floor, Fire Brigade Lane, Barakhambha Road New Delhi-110001 hereinafter called “the Employer” of the one part and _________________ (Name and Address of Contractor) __________________________________________________________ hereinafter called “the Contractor” of the other part.

Whereas the Employer is desirous that [*** certain Goods and Services should be provided and] certain Works should be executed, Contract for -------------------------- hereinafter called “the Works” and has accepted a Tender by the Contractor for the execution and completion of such works (*** as well as guarantee of such works) and the remedying of defects therein.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
   (a) Letter of acceptance
   (b) Special Conditions of Contract
   (c) Other Terms & Conditions of Contract
   (d) Notice Inviting Tender
   (e) Bill of Quantities
   (f) Form of Tender with Appendix
   (g) Addendums, if any
   (h) Other conditions agreed to and documented as listed below:
      (i) Statement of deviations (if applicable)
      (ii) Any other item as applicable

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works by **________ and remedy any defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of defects therein, the Contract Price of **Rs________ being the sum stated in the letter of acceptance subject to such additions thereto or deductions there from as may be made under the provisions of the Contract at the times and in the manner prescribed by the Contract.

5. OBLIGATION OF THE CONTRACTOR

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

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

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

For and on behalf of the Contractor

Signature of the authorised official

Name of the official

Stamp/Seal of the Contractor

For and on behalf of the Employer

Signature of the authorised official

Name of the official

Stamp/Seal of the Employer

SIGNED, SEALED AND DELIVERED

By the said __________________ Name ____________________
on behalf of the Contractor in the presence of:
Witness __________________
Name ________________
Address __________________

By the said __________________ Name ____________________
on behalf of the Employer in the presence of:
Witness __________________
Name ________________
Address __________________

Note:

+ To be made out by the Employer at the time of finalization of the Form of Agreement.

** Blanks to be filled by the Employer at the time of finalization of the Form of Agreement.

*** to be deleted if not applicable
**GENERAL INFORMATION**

(Refer Clauses 2.2)

**Notes:**

(i) Attach an attested photocopy of Certificate of Registration and ownership as well as of Constitution and legal status.

1. **Names of participating member**
   (a) ..............................................

2. **Address, telephone, telefax, cable numbers**
   
<table>
<thead>
<tr>
<th>Registered Office</th>
<th>Office for correspondence</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td></td>
</tr>
</tbody>
</table>

3. **Contact persons address, telephone etc.**
   
   | (a)               |                           |
   | (b)               |                           |
   | (c)               |                           |
# EXPERIENCE RECORD

(Refer Clause 8.1.1)

1. Details of experience.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Period</th>
<th>Details of work handled</th>
<th>Total Cost of work in Rs.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

Notes:

i) Details submitted in any other Performa will not be considered.

ii) The details of work including the cost of the work should be supported by attested copy of each client’s certificate.

iii) Additional pages may be attached if required.

iv) All the pages must be signed by the authorized signatory of the tenderer.
# DETAILS OF PERSONNEL

(Refer Clause 8.1.1)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Designation</th>
<th>No. of Personnel Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>1</td>
<td>Engineer</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Supervisors</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Technician</td>
<td></td>
</tr>
</tbody>
</table>
Resources for the works - Machinery & Equipment
(Refer Cause 8.1.1)

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Description Of Machines/Equipments</th>
<th>Nos. available</th>
<th>Location</th>
</tr>
</thead>
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</tbody>
</table>
FINANCIAL DATA

(Refer Clause 8.1.1)

Total value of work done
during the period 2011-12 to 2013-2014

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Year 2011-2012</th>
<th>Year 2012-2013</th>
<th>Year 2013-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>1.</td>
<td>Total value of work done</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### FINANCIAL DATA
(Refer Clause 8.1.1)

#### List of all Ongoing Contracts

<table>
<thead>
<tr>
<th>Name of the applicant (constituent member in case of Group)</th>
<th>Total number of works in hand</th>
<th>Number of contracts of each type</th>
<th>Number for which applicant went in for Arbitration</th>
<th>Number of contracts in which date of completion given in the original has already burst</th>
<th>Total value of works as on 31/03/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Year 2011-2012 Year 2012</td>
</tr>
</tbody>
</table>

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

1. In compliance to the provisions of the Minimum wages act 1948 and rules made there under in respect of any employees engaged by me/us, I/We hereby declare that the labour engaged by me/us have been fully paid for. In the event of any outstanding due to be payable to any labour/labours engaged by me/us, Cooperation is entitled to recover the same from any money due to accruing to me/us in consideration of payment to such labour/labours.

2. Certified that all valid insurance policies as per GCC clauses are available. Copies of Insurance policies are enclosed/already submitted.

3. Certified that EPF, Payment of wages act, 1948, workmen compensation Act, 1923 Contractor Labour Act, 1938, Factories Act, 1948 have been fully complied with by me/us. Photocopies of challans for EPF/ESI deposited are enclosed herewith

Signature and seal of contractor
The following are the Scheduled Banks in India (Public Sector)
1. State Bank of India
2. State Bank of Bikaner and Jaipur
3. State Bank of Hyderabad
4. State Bank of Indore
5. State Bank of Mysore
6. State Bank of Patiala
7. State Bank of Saurashtra
8. State Bank of Travancore
9. Andhara Bank
10. Allahabad Bank
11. Bank of Baroda
12. Bank of India
13. Bank of Maharashtra
14. Canara Bank
15. Central Bank of India
16. Corporation Bank
17. Dena Bank
18. Indian Overseas Bank
19. Indian Bank
20. Oriental Bank of Commerce
21. Punjab National Bank
22. Punjab and Sind Bank
23. Syndicate Bank
24. Union Bank of India
25. United Bank of India
26. UCO Bank
27. Vijaya Bank

The following are the Scheduled Banks in India (Pvt. Sector)
1. Vysya Bank Ltd.
2. Axis Bank Ltd.
3. Indusind Bank Ltd.
4. ICICI Banking Corporation Bank Ltd.
5. Global trust Bank Ltd.
6. HDFC Bank Ltd.
7. Centurion Bank Ltd.
8. Bank of Punjab Ltd.
9. IDBI Bank Ltd.

The following are the Scheduled Foreign Banks in India
1. American Express Bank Ltd.
2. ANZ Gridlays Bank Plc.
3. Bank of America NT & SA
4. Bank of Tokyo Ltd.
5. Banquc Nationale de Paris
6. Barclays Bank Plc
7. Citi Bank N.C.
8. Deutsche Bank A.G
9. HSBC
10. Standard Chartered Bank
11. The Chase Manhattan Bank Ltd.
Special Conditions of Contract

1. **Advance Payment**: No Advance of any type shall be paid.

2. **Price Variation Clause**: The Price Variation Clause is not applicable in this contract. The rate quoted shall be inclusive of all taxes and duties.

3. **Termination of Contract**: If the contractor fails to perform satisfactorily, the contract can be terminated at any time without assigning any reason by giving 15 days notice to the Contractor.

4. **Penalty**: A penalty will be imposed @Rs.200/- per day per call, in case poor work quality. However, the maximum penalty shall be limited to 10% of the total cost of the contract.

5. **Safety of Personnel**: The Contractor will take full responsibility for the Safety of his Staff, Materials etc.

6. **Quantity Variation Clause**: The Quantity of items of total cost mentioned may vary by +/-25% of BOQ.

7. The contractor shall also be responsible to comply instructions as per Delhi Labour Welfare Fund notified by Govt. of NCT, Delhi.

8. Any Damage/Breakage to the DMRC property during the execution of work will be at the risk & cost of the Contractor & in this regard The DMRC’ decision will be final regarding amount of damage/breakage etc. The amount will be deducted from contractor’s bill.

9. Materials identified as such by the Engineer and advised to the contractor, shall not be dispatched from the site without written authority from the Engineer.

10. The contractor shall liaison with DMRC staff well in advance to avoid delay and wastage of his manpower.

11. The work is to be carried out as per the recommendation of manufacturers and only original spares /materials consumables shall be used.

12. The contractor shall supply the items of the same make as installed. For those items where no make has been specified, the contractor shall supply items of reputed brands/make with ISI mark only after approval of Engineer In-charge. The Contractor if awards either partly or fully of any work covered under contract to a Sub-contractor/OEM/Third party, he shall submit the documentary proof from the contractor concerned, that such award will not in any way affect the performance of the equipment/Plant, prior to the start of such work. Also, the sub-contractor firm name, address and availability of trained manpower shall be furnished for the approval.

13. The DMRC shall have the right to make minor alterations/additions/substitutions in the specifications in the scope of work or issue instructions that may be deemed necessary during the period of the contract and contractor shall carry out the work in accordance with the instructions which may be given to him by Authorized DMRC’ representative.

14. The contractor shall on request of Engineer-in-charge forthwith remove from the works any person employed thereon by him who in the opinion of Engineer-in-charge may misconduct himself or suspicious from security point of view and such persons shall not again be employed on the work without permission of the Engineer-in-charge.

15. The DMRC’ General Conditions of Contract are applicable.

16. The DMRC’ General Conditions of Contract can be seen by the contractor at the office of Dy.GM/E&M/UG on any working day.
Terms and Conditions

1. The Contractor during the Execution of work shall follow the Indian Electricity Rules, Indian Electricity Act & all other Statutory Rules, Regulations & Acts as available on date & during the period of contract.

2. The Contractor shall be responsible to fulfill all statutory liabilities, if any towards his staff such as payment of minimum wages, PF, ESI and any other dues etc including all amendments issued by the Govt. from time to time. Being a Principal Employer, DMRC may ask to submit documents in original.

3. The work is to be carried out under the guidance of DMRC only.

4. No T&Ps shall be issued to the contractor. All T&Ps, Instruments, Machines, etc. will be brought by the Contractor only. The cost of all these items shall be borne by the contractor.

5. Labour- No labour shall be provided by DMRC.

6. Transport: No separate charges will be paid for transport.

7. As per site conditions the contractor may have to carry out the work during night hours. No extra payment shall be made on this account.

8. The tenderer may visit the site / take a ride in metro to acquaint themselves with requirements before submitting the offer; they are further advised to get clarifications if any, firm from this office, before submission of tender.

9. Contractor shall be responsible for insurance cover under the following requirements:
   i. Contractor’s all risk & third party.
   ii. Liability under the workmen’s compensation act 1923, minimum wages act1948 and contract labour (regulation and abolition) act, 1970.
   iii. Accident to staff, engineers, supervisors and other who are not governed by workmen’s compensation Act.
   iv. Damage to material, machinery and works due to fire, theft etc.
i. **Contract / LOA / Agreement No.:**

ii. **Beneficiary Name:**

iii. **Beneficiary Address:**

<table>
<thead>
<tr>
<th>Line-1:</th>
<th>Line-2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>District / City:</td>
<td>State / UT:</td>
</tr>
<tr>
<td>PIN CIDE:</td>
<td>Tele / Fax:</td>
</tr>
<tr>
<td>Mobile Alert:</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

iv. **Bank Details:**

<table>
<thead>
<tr>
<th>Bank Name:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Branch Address:</td>
<td></td>
</tr>
<tr>
<td>Beneficiary A/c No.:</td>
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</tr>
<tr>
<td>Beneficiary A/c Type (Saving / Current):</td>
<td></td>
</tr>
<tr>
<td>Beneficiary A/c Name:</td>
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</tr>
<tr>
<td>9-Digit Branch MICR Code:</td>
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<tr>
<td>IFSC Code of the Branch</td>
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</table>

[Stamp & Signature of Authorized Signatory]

Note: along with one cancelled cheque
**VENDOR MASTER DATA CREATION / CHANGE REQUEST FORM**

<table>
<thead>
<tr>
<th>Account Group (In case of New Vendor Creation Only)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing Organization (In case of New Vendor Creation Only)</td>
<td></td>
</tr>
<tr>
<td>VENDOR NUMBER (In case of Change Only)</td>
<td></td>
</tr>
<tr>
<td><strong>NAME #</strong></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td><strong>SEARCH TERM %</strong></td>
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</tr>
<tr>
<td>Search Term</td>
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</tr>
<tr>
<td><strong>STREET ADDRESS #</strong></td>
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</tr>
<tr>
<td>Street / House No.</td>
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</tr>
<tr>
<td>Postal Code / City</td>
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</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNICATION #</strong></td>
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</tr>
<tr>
<td>Telephone No.</td>
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<tr>
<td>Mobile No.</td>
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<tr>
<td>Fax No.</td>
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<tr>
<td>E-Mail</td>
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</tr>
<tr>
<td><strong>TAX INFORMATION #</strong></td>
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<tr>
<td>VAT Registration No.</td>
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<tr>
<td>PAN Number</td>
<td></td>
</tr>
<tr>
<td><strong>BANK DETAIL #</strong></td>
<td></td>
</tr>
<tr>
<td>Bank Name</td>
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<tr>
<td>Branch Address</td>
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<td>Country</td>
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<tr>
<td>Beneficiary A/c Type (Saving / Current)</td>
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<tr>
<td>Beneficiary A/c Name</td>
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</tr>
<tr>
<td>Beneficiary A/c Number</td>
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</tr>
<tr>
<td>Branch MICR Code (Optional)</td>
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<tr>
<td>Branch IFSC Code</td>
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<tr>
<td>Bank Key</td>
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<tr>
<td><strong>ALTERNATIVE PAYEE IN DOCUMENT %</strong></td>
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<tr>
<td>Permitted Payee, if any</td>
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<tr>
<td><strong>ACCOUNTING INFORMATION %</strong></td>
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<tr>
<td>Reconciliation Account</td>
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<tr>
<td>Sort Key</td>
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<td>Cash Management Group</td>
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<td><strong>PAYMENT DATA %</strong></td>
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<td>Payment Terms</td>
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<td>Chk Cashing Time</td>
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<tr>
<td><strong>AUTOMATIC PAYMENT TRANSACTIONS %</strong></td>
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<tr>
<td>Payment Method</td>
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<td>House Bank</td>
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<td><strong>WITHHOLDING TAX INFORMATION %</strong></td>
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<td>Withholding Tax Type (Separated by comma in case of more than one)</td>
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<td>W/Tax Code</td>
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<tr>
<td>Liable (Y / N)</td>
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<td>Rec. Type</td>
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<td>W / Tax ID</td>
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</tbody>
</table>

* Bank Details except Bank Key is required to be verified by the Bank on its letter head duly signed and stamped. (Certificate to be enclosed along with the request)

# Attached documentary proof (Copy of LOA, PAN Card Copy etc.)

% To be filled in by concerned finance office. All data to be filled in **CAPITAL Letters** only.

---

**Official Initiating Request; (Dy. HOD of Executive Department)**  
**Signature**

**Name**

**Designation**

**Mobile Number**

**For Use in Corporate Finance Office**

**Vendor Number Generated in SAP (In case of New Vendors only)**

**Date Creation / Edit**

**Task Performed By**

**Signature**

**Name**

**Designation**

---

Page 47 of 56
**Bill of Quantity**  
*Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC*

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Description of Work</th>
<th>Unit</th>
<th>Qty.</th>
<th>Rate</th>
<th>Amount</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>WIRING</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Wiring for light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.1</td>
<td><strong>Group B Points</strong></td>
<td>Points</td>
<td>127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/recessed steel/PVC conduit including dismantling as required.</td>
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<td></td>
<td></td>
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<tr>
<td>1.2.1</td>
<td><strong>Group B Points</strong></td>
<td>Points</td>
<td>21</td>
<td></td>
<td></td>
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<tr>
<td>1.3</td>
<td>Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.</td>
<td>Each</td>
<td>141</td>
<td></td>
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<tr>
<td>1.4</td>
<td>Supplying and fixing following size/ modules, GI box alongwith modular base &amp; cover plate for modular switches in recess etc as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.1</td>
<td>1 or 2 Module (75mmX75mm)</td>
<td>Each</td>
<td>5</td>
<td></td>
<td></td>
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<tr>
<td>1.4.2</td>
<td>8 Module (125mmX125mm)</td>
<td>Each</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.3</td>
<td>12 Module (200mmX150mm)</td>
<td>Each</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Supplying and fixing following modular switch/ socket on the existing modular plate &amp; switch box including connections but excluding modular plate etc. as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5.1</td>
<td>5/6 amps switch</td>
<td>Each</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5.2</td>
<td>6 pin 15/16 amp socket outlet</td>
<td>Each</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5.3</td>
<td>15/16 amp switch</td>
<td>Each</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>POWER SOCKET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.</td>
<td>Metre</td>
<td>291</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.</td>
<td>Metre</td>
<td>665</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 &amp; 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.</td>
<td>Each</td>
<td>80</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>WIRING FOR INDOOR UNITS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.1</td>
<td>4 X 6 sq. mm + 2 X 6 sq. mm earth wire</td>
<td>Metre</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.2</td>
<td>2 X 6 sq. mm + 1 X 6 sq. mm earth wire</td>
<td>Metre</td>
<td>665</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.3</td>
<td>Supply and installation of MCB Protected socket 20 Amps. DBOXx Combo DP with Steel enclosure</td>
<td>Each</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>ISOLATOR, RCCB, MCB</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 mill amperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.1</td>
<td>25 amps</td>
<td>Each</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, “C” curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.1</td>
<td>Single pole</td>
<td>Each</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.2</td>
<td>Double pole</td>
<td>Each</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td><strong>CABLES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1.1</td>
<td>3 x 4 sq. Mm</td>
<td>Metre</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td><strong>CABLE LAYING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1.1</td>
<td>Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)</td>
<td>Metre</td>
<td>100</td>
<td></td>
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<tr>
<td>6.1.2</td>
<td>Above 185 sq. mm and upto 400 sq. Mm (clamped with 40x3mm MS flat clamp)</td>
<td>Metre</td>
<td>200</td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td><strong>CABLE TRAYS &amp; EARTHING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Cable tray (supply and erection of perforated type Hot dip G.I. Cable tray of 14 G of specific dimensions. The cable tray shall be hung from ceiling / fixed to wall with necessary ceiling suspensors, tee, nats, with tees, bends etc. All necessary required hard ware for mounting nuts etc. together cable tray along with fabricated supports as per site condition shall be included in cable tray rate. The tray shall be continuously earthed with 19 X 3 mm cu. strip. The cost of strip shall be included along with cable tray rates complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1.1</td>
<td>150 X 50 mm²</td>
<td>Meter</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>TERMINATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1</td>
<td>Supplying and making end termination with brass compression gland and Cu. lugs for following size of PVC insulated and PVC sheathed / XLPE copper conductor cable of 1.1 KV grade as required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1.1</td>
<td>4 X 70 sq. mm</td>
<td>Each</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1.2</td>
<td>4 X 240 sq. mm</td>
<td>Each</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>FIRE EXTINGUISHERS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1</td>
<td>Supply and installation of ISI marked (IS 2171) Portable Dry chemical powder type fire extinguisher with Gun metal cap and nozzle and complete in all respects including initial fill and wall suspension bracket.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.2</td>
<td>Supply and installation of ISI marked (IS:2878) fire extinguisher, carbon-dioxide type capacity 4.5 kgs flat base including valve, discharge hose of not less than 10 mm dia, 1 M long and complete in all respect including initial fill with CO2 gas conforming to IS 307-1986 filled to a filling rate of not more than 0.667 and wall suspension bracket.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9.2</td>
<td>Each</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>AUTOMATIC SPRINKLER SYSTEM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1</td>
<td>Providing and fixing of M.S. Black steel heavy duty (class “c”) pipes, and fitting like flangs (MS steel flanges at every 24 m length and as required) tees, elbows, bands, junctions, reducers etc. clamps / structural steel supports as required / direct at site including cutting and making good the walls, RCC etc. Cutting chases and filling conc. 1:3:6 (1 cement:3 coarse sand : 6 stone aggregate of 12 mm normal size including painting the exposed pipes with desired shade of two or more coats enamel paint a coat of primer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1.1</td>
<td>25 mm dia</td>
<td>RM</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1.2</td>
<td>50 mm dia</td>
<td>RM</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1.3</td>
<td>Ball Valve for 50 mm dia</td>
<td>Each</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.2</td>
<td>Providing and fixing 15 mm dia, Quartzoid bulb type G.M. Sprinkler Head (Pendent / Upright / conventional, as required) (UL / FM/LPC/TAC listed/set to operate at 68 deg. C approved chrome plated complete with decorating plate (Rosette)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.2</td>
<td>Each</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>SIGNAGES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11.1 **Supply, Installation and commissioning of Emergency Exit light** suitable for 11 / 8 W maintained surface mounted florescent luminare. The fitting shall comprise maintenance free battery with 3 hour backup and continuous charging. The fitting shall be similar to MK make XLSB/M/3F/N or Prolite make PEL 111 or MDS Legrand make 61738 or equivalent

| Points | 7 |

12 **ELECTRICAL PANEL**

12.1 Electrical Panel of size = 1825 X 1750 mm

12.2 **INDICATING PANEL**

| Nos. | All incoming MCCB shall have MFM - parameters digital multifunction meter shall indicate A/V with RS-485 port C.T. Shall be of 15 VA class 1 type and shall be resin cast type 3 nos. Phase LED type indicating lamps, each lamp shall have on toggle switch backed up with HRU fuse, 3 nos. indicating LED type indicating lamp on each incoming feeder for indicating the status of feeder |

12.3 **MULTIFUNCTION METER**

| Nos. | L&T, Vega Model B with parameters (V, A, f, Power, Energy, Run & ON hours, RPM + Neutral current, MD (kW & kVA), MD reset), LED Display, RS 485 Communication |

12.4 **INCOMERS**

| Each | 1 |

12.4.1 MCCB 4P, 630 Amps.

12.4.2 L&T, DN3-630D, 250 - 630 A, Breaking capacity - 36 kA, 4P, Cat. No.- CM930070000X1, With Microprocessor Release MTX1.0

12.4.3 1 Incomer (Normal Supply)

12.4.4 1 Incomer (DG Supply)

12.4.5 1 Spare

12.5 **INTERLOCKINGS**

| Each | Both MCCB shall be interlocked with each other electrically as well as mechanically, Only one I/C shall ON at a time |

12.6 **OUTGOINGS**

| Nos. | MCCB, DN2-250D, 100 - 250 A, Breaking capacity - 36 kA, Cat. No.- CM921510000X1, with Microprocessor Release MTX1.0 |

12.6.1 1 No. for VRV Outdoor Units

12.6.2 1 No. for VRV Outdoor Units

12.6.3 1 No. Spare feeder

12.6.4 1 No. Spare feeder

12.6.5 DN2-250D, 63 - 160 A, Breaking capacity - 36 kA, 4P, Cat. No. CM921520000X1, With Microprocessor Release MTX1.0

12.6.6 1 No. for UPS

12.6.7 1 No. for SMPS

12.6.8 1 No. Spare feeder

12.7 **Supply, Installation, Testing, Commissioning of Electrical Panel**

| Nos. | 1 |

12.8 Cartridge

12.9 T&P @ 2% of sum
<table>
<thead>
<tr>
<th></th>
<th>DISTRIBUTION BOARDS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Supply and Installation of Double Door 8 Way</td>
<td>Nos.</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>EARTHING</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.</td>
<td>Metre</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Supply and Installation of</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>L&amp;T MCCB, DH 125 A, Thermal Release 100-125 A, 35 KA. Cat. No. SL986070000 with SS Enclosure for DH 100/125 Cat. No. ST299670000</td>
<td>Nos.</td>
<td>2</td>
</tr>
</tbody>
</table>

|   | Supply and Installation of Wall fan, 400 mm                                                | Each | 10 |

<table>
<thead>
<tr>
<th></th>
<th>SUPPLY OF ITEMS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Phillips, Fixture Cat. No. TCS 150 2 X TL-5 28 W M1 EBT with Tubelight TL-5 28 W</td>
<td>Nos.</td>
<td>141</td>
</tr>
</tbody>
</table>

|17.2| Supply of 4 C X 240 Sq. Mm Cu. Cable, LSZH, XLPE, GI Wire Armoured, core colour coded         | RM  | 200 |

|17.3| Supply of 4 C X 70 sq. Mm Cu. Cable, FRLS, XLPE, GI Wire Armoured, Core colour coded          | RM  | 100 |

**TOTAL**

Amount in Words (Incl. all taxes).______________________________

Signature & Seal of contractor
# Annexure - "B"

## LIST OF APPROVED MAKES FOR E&M

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Description</th>
<th>Make</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PIPES (MS &amp; GI)</td>
<td>TATA/ JINDAL HISSAR</td>
</tr>
<tr>
<td>2</td>
<td>PAINTS FOR EXPOSED PIPES</td>
<td>ASIAN PAINTS/ BERGER/ SHALIMAR</td>
</tr>
<tr>
<td>3</td>
<td>BRANCH PIPE WITH NOZZLE</td>
<td>NEWAGE/ SAFEGUARD / MINIMAX</td>
</tr>
<tr>
<td>4</td>
<td>SPRINKLERS</td>
<td>TYCO/ SPRAYSAFE (UK) / RELIABLE (USA) / GRINNEL / STAR</td>
</tr>
<tr>
<td>5</td>
<td>FLOW SWITCHES</td>
<td>SWITZER/ FORBES MARSHALL / VIKING /GEM /MACDONALD /</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GRINNEL / SYSTEM SENSOR / MORLAY IAS</td>
</tr>
<tr>
<td>6</td>
<td>PORTABLE FIRE EXTINGUISHERS</td>
<td>MINIMAX / SAFEX</td>
</tr>
<tr>
<td>7</td>
<td>MCCB</td>
<td>L&amp;T D Range with With Microprocessor Release MTX1.0</td>
</tr>
<tr>
<td>8</td>
<td>CABLE TRAY</td>
<td>STEEL WAYS, BHARATI, M.M. ENGG, ASIAN ANCILLARIES,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DOLPHIN, MEM</td>
</tr>
<tr>
<td>9</td>
<td>PANEL VENDORS</td>
<td>SIEMENS, SCHNEIDER, ABB, TRICOLITE, ADLEC, ADVANCE</td>
</tr>
<tr>
<td>10</td>
<td>SIGNAGE</td>
<td>PROLITE</td>
</tr>
<tr>
<td>12</td>
<td>LUMINARIES</td>
<td>Philips / Osram / Bajaj / Thorn / Crompton</td>
</tr>
<tr>
<td>13</td>
<td>SWITCHES &amp; SOCKET OUTLETS</td>
<td>Crabtree, Anchor, MDS, LK (Schneider)</td>
</tr>
<tr>
<td>14</td>
<td>COPPER CONDUCTOR FRLS, PVC</td>
<td>National, Ecko, Finoles, Havells, Grandly, NICCO,</td>
</tr>
<tr>
<td></td>
<td>INSULATED WIRES</td>
<td>Asian, Poly Cab</td>
</tr>
<tr>
<td>16</td>
<td>FRLSZH, PVC CABLES</td>
<td>Polycab, Ducab Dubai, Cords Cables, KEI, Rashi Cables.</td>
</tr>
<tr>
<td>17</td>
<td>FRLS, CABLES</td>
<td>Fort Gloster, Nicco, Finoles, Asian/ RPG, KEI, Havells,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Polycab, CCI, Universal</td>
</tr>
<tr>
<td>18</td>
<td>ENERGY METERS</td>
<td>L&amp;T, Secure, Conzerv (Schneider)</td>
</tr>
<tr>
<td>19</td>
<td>MCB / MCCB</td>
<td>L&amp;T, ABB, SIEMENS, SCHNEIDER</td>
</tr>
<tr>
<td>20</td>
<td>GI Conduit Pipes</td>
<td>BEC, AKG, NIC, Steel Craft - ISI Marked</td>
</tr>
<tr>
<td>21</td>
<td>GI conduit accessories</td>
<td>Confirming to BIS as per approved samples.</td>
</tr>
<tr>
<td>22</td>
<td>Distribution Boards</td>
<td>L&amp;T Hager, MDS, Siemens, ABB, INDO, ASIAN, Havells, GE,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Schneider</td>
</tr>
</tbody>
</table>

## REMARKS

1. Contractor shall use the material of approved make as indicated above unless specified otherwise in BOQ or as approved by Employer’s Representative.

2. The contractor shall ensure the correct selection of the approved make meeting the specifications and application duties. Before placing order for procurement the sample of approved make shall be got verified for its suitability to the specification and application duty. However, Employer’s Representative / Engineer reserves the right to opt for best preferred listed make.
Annexure-“C”

Format for completion of Electrification work at S&T Equipment Lab at Chawri Bazar Metro Station of DMRC

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Item No. as per BOQ</th>
<th>Qty. Verified</th>
<th>Completed / Pending</th>
<th>Sig. of Engineer In-charge</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>for example - Item no. 1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Format of Slip to be pasted on Fire-Extinguisher

<table>
<thead>
<tr>
<th>Delhi Metro Rail Corporation (DMRC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month / Year of Mfg: - ______________</td>
</tr>
<tr>
<td>Date of filling: - ______________</td>
</tr>
<tr>
<td>Due date of refilling: - ______________</td>
</tr>
<tr>
<td>Date of Hydraulic Pressure Testing: - ______________</td>
</tr>
<tr>
<td>Location: - ______________</td>
</tr>
</tbody>
</table>