

Tender Document

OPERATION AND MAINTENANCE SERVICES FOR METRO RAIL TRANSIT SYSTEM ON THE ORANGE LINE IN LAHORE (ALI TOWN TO DERA GUJLAN)



**THE PUNJAB MASSTRANSIT
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SECTION 01 - INVITATION TO THE BID

SECTION 1: INVITATION TO THE BID

Punjab Mastransit Authority, Government of the Punjab (GoPb) invites bids for the "Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran)". Registered companies and Joint Ventures complying with criteria given in this document, are eligible for this tender, hereafter referred to as Bidders.

- This Request for Proposal ('RFP') does not constitute a binding agreement or an offer or invitation by the Punjab Masstransit Authority (PMA) to any party other than the qualified Bidders to submit the Bids. The principle purpose of this RFP is to provide the Bidders with information that shall form the basis of their proposals or bids. This RFP contains the minimum requirements and information desired by the Authority. The contents hereof may be supplemented by the Authority as it deems appropriate. Each Bidder may conduct its own investigations and analysis and check the accuracy, reliability and completeness of the information given in this RFP to its satisfaction. The Authority makes no representation or warranty and shall incur no liability under any law, rules or regulations as to the accuracy, reliability or completeness of the RFP. The Authority may, at its sole discretion but without being under any obligation to do so, update, improve or supplement the information in this RFP.
- Bidders must ensure that they submit all the required documents indicated in the Bidding Documents without fail. Bids received without valid documentary evidence, supporting documents and various requirements mentioned in the Bidding Documents are liable to be rejected at the initial stage. The data sheets, valid documentary evidences for the critical components as detailed hereinafter should be submitted by the Bidder for scrutiny. It is intimated that no objection/revision/supplement shall be entertained regarding the terms and conditions of the Bidding Documents submitted by the Bidder. Alternative bids will not be considered. The attention of bidders is drawn to the provisions of clause 10 of this document "Bidder's Eligibility and Bid Responsiveness" regarding the rejection of Bids which are not substantially responsive to the requirements of the Bidding Document.
- Potential bidders who are interested in obtaining the RFP package must visit the website of the Punjab Masstransit Authority (PMA) www.pma.punjab.gov.pk or the Punjab Procurement Regulatory Authority (PPRA) www.ppra.punjab.gov.pk and download the RFP Document and visit the same for all updates on this RFP such as addendums etc. . Simultaneously, representatives of the bidders must obtain discs (USBs) from the Office of the Employer during office hours (i.e. 9 a.m. to 5:30 p.m. Pakistan Standard Time), containing critical information including annexure/attachments to the RFP. The data contains Concept Design, Technical Specification, Drawings, Maintenance Manuals and Product Brochures which could not be uploaded on the aforesaid websites due to size limitations. The data forms an integral part of the RFP and it would not be possible for bidders to be eligible for the Tender and to prepare bids without carefully reviewing its contents. The USB will be available against deposit of PKR 7000/- in the Account N0. 6010045522200017 at any branch of Bank of Punjab.
- This Bidding Process will be governed under Punjab Procurement Rules, 2014, as amended from time to time. In this document, unless otherwise mentioned to the contrary, "Rule" means a Rule under the Punjab Procurement Rules 2014. As per Rule 12, 12(1), and 12 (3) this Tender is being placed online at PPRA's website, as well as being advertised in print media. As per Rule 38(2),

Single Stage - Two Envelope Procedure shall be followed. As authority competent to accept the tender, Client reserves the right to cancel the tender, or reject all bids prior to acceptance of bid as per PPRA Rule 35

- Queries of the Bidders (if any) for seeking clarifications must be received in writing at the office of Punjab Masstransit Authority, 5th Floor, Arfa Software Technology Park (ASTP), Lahore, PAKISTAN or emailed to the specified address on or before **January 29, 2019**. All queries shall be responded to within due time. The Punjab Masstransit Authority shall hold a pre-bid meeting at 1100 hours on **January 30, 2019**; at the Committee Room, Punjab Masstransit Authority, 5th Floor, Arfa Software Technology Park (ASTP), Lahore, PAKISTAN. The minutes of pre-bid meeting and addendums if any will be treated as part of this RFP.
- All bids must be accompanied by a Demand Draft / Pay Order/ Bank Guarantee of **PKR Twenty (20) Million as bid security in favor of “ The Punjab Masstransit Authority”** issued by a scheduled bank allowed carrying financial transactions in PAKISTAN. *Clause 20 gives details on Tender Security.*
- Complete bids along with the Demand Draft / Pay Order/ Bank Guarantee, Tender Forms, Affidavits, etc., must be dropped in Tender Box placed at the Office of the Punjab Masstransit Authority, 5th Floor, Arfa Software Technology Park (ASTP), Lahore, PAKISTAN, on or before **1100 hours on February 21, 2019**. The bids received late due to any reason whatsoever shall not be entertained. The Technical bids will be publicly opened in the Committee Room of the Punjab Masstransit Authority, 5th Floor, Arfa Software Technology Park (ASTP), at **1130 hours on February 21, 2019**.
- Bidders are also required to state, in their proposals, the name, title, fax number and e-mail address of the bidder’s authorized representative through whom all communications shall be directed until the process has been completed or terminated. Client will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.
- The Bidder is advised to obtain for himself, at his own cost and responsibility, all information that may be necessary for preparing the Bid and entering into a Contract for execution of the Works/facility. This shall include but not be limited to the following:
 - relevant laws, rules, and regulations of Pakistan including Income Tax and Sales Tax laws/rules
 - customs duties and other import taxes applicable in Pakistan
 - information regarding port clearance facilities, loading and unloading facilities, storage facilities, transportation facilities and congestion at Pakistan seaports.
 - investigations regarding transport conditions and the probable conditions which will exist at the time the Equipment will be actually transported.
- The contact detail for all correspondence in relation to this bid is as follows:
Email: rizwan.aziz@pma.punjab.gov.pk
Punjab Masstransit Authority
5th Floor, Arfa Software Technology Park (ASTP),
Lahore, PAKISTAN

SECTION 02 - INSTRUCTIONS TO THE BIDDERS

SECTION 2: INSTRUCTION TO THE BIDDERS

1. Definitions

- 1.1. **“PMA”** is a Punjab Mass Transit Authority, established by the Government of Punjab.
- 1.2. **“Successful Bidder”**: The one technically qualified bidder with lowest financial bid, who has the probability of award of contract subject to necessary approvals and applicable policies.
- 1.3. **“Registered Company”** means a company duly registered under Companies Ordinance 1984 with Security and Exchange Commission of Pakistan
- 1.4. **“Bidder”** means a registered company or joint venture that has submitted its bid as per the criteria/specifications listed.
- 1.5. **“Services”** means the tasks to be performed pursuant to the Contract.
- 1.6. **“Confirmation”** means confirmation in writing.
- 1.7. **“Pre-Bid Conference”** means the meeting conducted by the procuring entity on given date and time prior to actual date of bid opening.
- 1.8. **“Procurement Methods”** means any one of the procurement modes / methods as provided in the Punjab Procurement Rules 2014 published by the Punjab Procurement Regulatory Authority (PPRA), Government of Punjab, as amended from time to time.
- 1.9. **“RFP”** means Request for Proposals, including any amendments that may be made by the procuring entity for the selection of bidder.
- 1.10. **“Proposal”** means the Technical Proposal and the Financial Proposal for the provision of the Services submitted by a bidder in response to RFP.
- 1.11. **“SBD”** means Standard Bidding Documents.
- 1.12. **“SCC”** means the Special Conditions of Contract.
- 1.13. **“TEC”** means the Technical Evaluation Committee, constituted for the purpose of evaluating the Proposals received.

- 1.14. **“Terms of Reference”** or **“TOR”** means the document which explains the objectives, scope of work, activities, task to be performed, respective responsibilities of the procuring entity and the bidder, and expected results and deliverables of the assignment.
- 1.15. **“GoPb”** means Government of the Punjab
- 1.16. **“GoP”** means Government of Pakistan
- 1.17. **“Project”** means the Metro Rail transit System on the Orange Line (from Ali Town to Dera Gujran)
- 1.18. **“Metro Line”** Electrically driven rail transit system that is operated entirely on its own right of way. The track mainly consists of two parallel rows of steel along with other arrangements. The system operates in Metropolitan cities with full segregation from general road and pedestrian traffic.
- 1.19. **“Type 1 Metro”** A Metro Line having a design carrying capacity of more than 30,000 passengers per hour per direction.
- 1.20. **“Type 2 Metro”** A Metro Line having a design carrying capacity of more than 18,000 to 30,000 passengers per hour per direction.
- 1.21. **“Type 3 Metro”** A Metro Line having design carrying capacity of more than 10,000 to 18,000 passengers per hour per direction.
- 1.22. **“Type 4 Metro”** A Metro Line having design carrying capacity of 2,000 to 10,000 passengers per hour per direction.

2. Headings and Titles

In this document, headings and titles shall not be construed to be part thereof or be taken into consideration in the interpretation of the document and words importing the singular only shall also include the plural and vice versa where the context so requires.

3. Notice

- 2.1 In this document, unless otherwise specified, wherever provision is made for exchanging notice, certificate, order, consent, approval or instructions amongst the Service Provider and the Client, the same shall be:
 - 2.1.1 in writing;

- 2.1.2 issued within reasonable time;
- 2.1.3 served by sending the same by courier or registered post or by hand to their principal office in Pakistan or such other address as they shall notify for the purpose; and
- 2.1.4 The words "notify", "certify", "order", "consent", "approve", "instruct", shall be construed accordingly.

4. Tender Scope

Punjab Masstransit Authority, GoPb, invites/requests Proposals (hereinafter referred to as “the Tenders”) for the Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran). Service level requirements for these services are outlined in relevant sections in this document.

5. Contract Type and Duration

Contract will be for 11 years, extendable upon mutual consent.

Sponsorship of Operation: Punjab Masstransit Authority– GoPb

Technical Evaluation: Punjab Masstransit Authority, GoPb.

Contract Signing: Formal Contract will be signed between technically qualified bidder with the lowest financial bid, and the Client (Punjab Masstransit Authority, GoPb).

6. Bidder's Eligibility

6.1. General Eligibility

A bidder is generally eligible who:

- 6.1.1. Is a Local Registered Company or Foreign Company with established place of business in Pakistan, registered with the Securities & Exchange Commission of Pakistan (SECP) under section 451 of the Companies Ordinance 1984, or Joint Venture (JV) complying with criteria given in Clause No.15. (Services can only be supplied / sourced / routed from “origin” in “eligible” member countries “Eligible” is defined as any country or region that is allowed to do business in Pakistan by the law of Government of Pakistan. “Origin” shall be considered to be the place where the company / firm is incorporated)
- 6.1.2. has a registered office in the respective country of origin (In case of JV, Applicable to all members)

- 6.1.3. has been registered for at least 6 years in country of origin (In case of JV, Applicable to any one member)
- 6.1.4. Has valid Registration Certificate for Income Tax or possesses corresponding equivalent certificate from the country of origin. (In case of JV, Applicable to all members)
- 6.1.5. Has submitted Income Tax Returns for the last three tax years or possesses corresponding equivalent documents from the country of origin (In case of JV, applicable to any one member).
- 6.1.6. Bidder has not acquired the complete RFP document in USB after depositing of PKR 7000/- in the specified account.
- 6.1.7. In case of a local company forming part of the joint venture, must be registered under Companies Ordinance 1984 with Security and Exchange Commission of Pakistan.

6.2. Technical Eligibility

A bidder is technically eligible who meets or exceeds the experience requirements mentioned in the table below:

Sr. No	CATEGORY	EXPERIENCE REQUIRED
1	Operations of Trains	Experience in operations of three (03) Metro Lines (Any Type from 1 to 4) operated by the Bidder. Bidder must have an operational experience of 03 years in each Metro Line. Train Operations must be through centralized dispatching and supervision through Command and Control Centre under Main Line Signaling System consisting of Automatic Train Control System (ATC)
2	Maintenance of Rolling stock	Experience in maintenance of Rolling Stock of three (03) Metro Lines (Any Type from 1 to 4). Bidder must have an experience of 03 years of maintenance of entire Rolling Stock in each Metro Line.
3	Maintenance of Track	Experience in maintenance of Track of three (03) Metro Lines (Any Type from 1 to 4). Bidder must have an experience of 03 years of maintenance of entire Track in each Metro Line.
4	Operations and maintenance of Power Supply System	5 years of experience in High Voltage Substations (HVSS) and Traction Supply. 2 years of experience in Power SCADA and Low Voltage Power Supply & Illuminations

5	Operations and maintenance of Signaling System and Communication system	5 years of experience in ATC based Train Signaling System. 2 years of experience in Radio Based Communication System, Public Wireless System, Fiber Optic System, Fire Alarm System, Building Automation System, Clock System, Passenger Information System & Public Address System, CCTV Surveillance, Visual Control Panels for Train Operations, Access Control System, Telephone System, Audio Video Recording System
6	Operations and maintenance of various other systems	2 years of experience in Fire Fighting System, HVAC System, Escalators, Elevators, Platform Screen Doors / Automatic Passenger Gates, Water Supply, Sanitation & Sewerage System

7. Tender Cost

The Bidder shall bear all costs / expenses associated with the preparation and submission of the Tender(s) and the Client shall in no case be responsible / liable for those costs / expenses.

8. Joint Venture

Joint ventures are eligible for this tender, as long as the joint venture complies with the following conditions:

- a. The Bidders may form a joint venture. An Agreement Deed legally executed to that effect, or a Memorandum of Understanding (MOU), signed by all the partners shall be submitted with the Tender.
- b. One partner will be designated the lead partner and would enter into legal contract with Client and would be liable to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners. A power of attorney to that effect, legally executed, signed by all the partners shall be submitted with the Tender.
- c. There must be at least one locally registered company (Partner) of good repute, with relevant experience and proven track record, in the joint venture that must be the lead partner.
- d. The Lead Partner in case of joint venture shall not be allowed to assign the contract or any part thereof to another party, without permission of the Client.
- e. All the partners shall be jointly and severally liable for the execution of the Contract in

accordance with the terms and conditions of the Contract. The Tender, and in case of successful Tender, the Contract Deed, to that effect, shall be signed by the lead partner.

- f. Partners other than the lead would also be bound by the terms and conditions of the contract.

9. Examination of the Tender Document

The Bidder is expected to examine the Tender Document, including all instructions and terms and conditions.

10. Amendment of the Tender Document

- 10.1. The Client may, at any time prior to the deadline for submission of the Tender, at its own initiative or in response to a clarification requested by the Bidder(s), amend the Tender Document, on any account, for any reason. All amendment(s) shall be part of the Tender Document and binding on the Bidder(s).
- 10.2. The Client shall notify the amendment(s) in writing to the prospective Bidders.
- 10.3. The Client may, at its exclusive discretion, amend the Tender Document to extend the deadline for the submission of the Tender, in which case all rights and obligations of the Client and the Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

11. Preparation / Submission of Tender

- 11.1. The Bidder is not allowed to bid for partial procurement of services or part of the services.
- 11.2. The Tender and all documents relating to the Tender, exchanged between the Bidder and the Client, shall be in English. Any printed literature furnished by the Bidder in another language shall be accompanied by an English translation which shall govern for purposes of interpretation of the Tender.
- 11.3. The Tender shall be submitted accompanied by the prescribed Forms, Annexes, Schedules, Charts, Drawings, Documents, Brochures, Literature, detailed design, operations and maintenance plan and detailed Operation plans with milestones etc. which shall be typed, completely filled in, stamped and signed by the Bidder or his Authorized Representative.
- 11.4. The Technical and Financial proposals shall be submitted in two different envelopes, the envelopes will be clearly marked 'Technical Proposal' and 'Financial Proposal'. Each proposal shall be in two sets i.e. the original and the copy. In the event of any discrepancy between the original and the duplicate, the original shall govern.
- 11.5. The Technical Proposal shall contain the following, without quoting the price:

Documents Required For Substantial Responsiveness:-

- 11.5.1. Firm Registration record in the country of Origin (In case of JV Applicable to all members)
- 11.5.2. Firm Establishment record for at least 6 years in form of Company Registration with SECP/Certified Copy of Certificate of Incorporation OR equivalent document as applicable in the country of origin (In case of JV Applicable to any one member)
- 11.5.3. Valid NTN company registration certificates OR equivalent documents as applicable in the country of origin (In case of JV Applicable to all members)
- 11.5.4. Income tax returns for the last three years OR equivalent documents as applicable in the country of origin. (In case of JV Applicable to any one member)
- 11.5.5. Demand Draft / Pay Order/ Tender Security Form : Tender Security of PKR Twenty (20) Million vide clause 20 (Tender Security) of tender document).
- 11.5.6. Agreement Deed / MOU in case of JV
- 11.5.7. Supporting valid evidence to establish experience according to Technical Eligibility requirements.

Documents Required for Technical Evaluation and other requirements

- 11.5.1. FORM TECH-0 Cover Letter.
- 11.5.2. FORM TECH-1 Technical Proposal Submission Form.
- 11.5.3. FORM TECH-2 Organizational profile.
- 11.5.4. FORM TECH-3A List of Metro Lines operated by the Bidder.
- 11.5.5. FORM TECH-3B Details of each Metro Line operated by the Bidder.
- 11.5.6. FORM TECH-3C Details of operational features of each Metro Line Operated by the Bidder.
- 11.5.7. FORM TECH-4A List of Metro Lines for which the Bidder has maintained the Rolling Stock.
- 11.5.8. FORM TECH-4B Details of each Metro Line for which the Bidder has maintained Rolling Stock.
- 11.5.9. FORM TECH-4C Details of Service Failures of each Metro Line regarding maintenance of Rolling Stock.
- 11.5.10. FORM TECH-5A List of Metro Lines for which the Bidder has maintained the track.

- 11.5.11. FORM TECH-6 Details of experience in various other disciplines.
- 11.5.12. FORM TECH-7A Summary of total staff planned for the Project.
- 11.5.13. FORM TECH-7B Number of staff planned for key & non-key positions.
- 11.5.14. FORM TECH-7C Details of staff proposed for key positions.
- 11.5.15. FORM TECH-7D Details of staff proposed for non-key positions.
- 11.5.16. FORM TECH-7E Short curriculum vitae (CV) of staff proposed for key positions
- 11.5.17. FORM TECH-8 Financial strength
- 11.5.18. FORM TECH-9 Power of Attorney
- 11.5.19. FORM TECH-10 Undertaking
- 11.5.20. FORM TECH-11 Affidavit - Integrity Pact
- 11.6. The Financial Proposal shall comprise the following:
 - 11.6.1. FORM FIN-1 Financial Proposal Submission Form.
 - 11.6.2. FORM FIN-2 Price Summary for entire Contract Period.
 - 11.6.3. FORM FIN-3 Breakdown of Remuneration.
 - 11.6.4. FORM FIN-4 Breakdown of Direct (Non-Salary) Expenses.
- 11.7. The Bidder shall follow the instructions laid down as under:
 - 11.7.1. The Bidder shall seal the Original Technical Proposal in an envelope duly marked as under:
 - Envelope No. 1A: Original Technical Proposal for
 - Tender Name. [Name of Tender]
 - [Name of the Client]
 - [Address of the Client]
 - [Name of the Bidder]
 - [Address of the Bidder]
 - [Phone No. of the Bidder]
 - 11.7.2. The Bidder shall seal the Duplicate Technical Tender in an envelope duly marked as under:
 - Envelope No. – 1B: Duplicate Technical Proposal for
 - Tender Name. [Name of Tender]
 - [Name of the Client]
 - [Address of the Client]
 - [Name of the Bidder]
 - [Address of the Bidder]
 - [Phone No. of the Bidder]

11.7.3. The Bidder shall seal the Original Financial Proposal in an envelope duly marked as under:

Envelope No. 2A: Original Financial Proposal for
Tender Name. [Name of Tender]
[Name of the Client]
[Address of the Client]
[Name of the Bidder]
[Address of the Bidder]
[Phone No. of the Bidder]

11.7.4. The Bidder shall seal the Duplicate Financial Tender in an envelope duly marked as under:

Envelope No. – 2B: Duplicate Financial Proposal for
Tender Name. [Name of Tender]
[Name of the Client]
[Address of the Client]
[Name of the Bidder]
[Address of the Bidder]
[Phone No. of the Bidder]

11.7.5. The Bidder shall again seal the sealed envelopes of Original Technical Proposal and the Original Financial Proposal in an outer envelope, duly marking the envelope as under:

Envelope No. (1+2)A: Original Tender for
Tender Name. [Name of Tender]
Strictly Confidential
Open on [Last Date of submission of the Tender]
[Name of the Client]
[Address of the Client]
[Name of the Bidder]
[Address of the Bidder]
[Phone No. of the Bidder]

11.7.6. The Bidder shall again seal the sealed envelopes of Duplicate Technical Proposal and the Duplicate Financial Proposal in an outer envelope, duly marking the envelope as under:

Envelope (1+2)B Duplicate Tender for
Tender Name. [Name of Tender]
Strictly Confidential
Open on [Last Date of submission of the Tender]
[Name of the Client]

[Address of the Client]

[Name of the Bidder]

[Address of the Bidder]

[Phone No. of the Bidder]

- 14.1 As applicable, the Bidder shall again seal Envelope Nos. (1+2)A, (1+2)B in a single envelope titled the OPERATION AND MAINTENANCE OF SERVICES FOR METRO RAIL TRANSIT SYSTEM ON THE ORANGE LINE IN LAHORE (FROM ALI TOWN TO DERA GUJRAN).
- 14.2 The Bidder shall enclose soft copies of the Technical Proposal and the Financial Proposals, including all Forms, Annexes, Schedules, Charts, Drawings, Documents, Brochures, Literature, etc., in the form of MS Word Documents/ MS Excel Worksheets/ PDF/ Scanned images, with the hard copies.
- 14.3 The Tender shall be mailed through a registered courier or hand-delivered to reach at the Client's office before the closing date and time (last day of application). Any Bid received by the Employer after the deadline prescribed shall be returned unopened to such Bidder. Delays in the mail, delays of person in transit, delays in accessing the ASTP building or delivery of the Bid to the wrong office shall not be accepted as an excuse for failure to deliver the Bid at the proper place and time. It shall be the Bidder's responsibility to determine the manner in which timely delivery of his Bid is accomplished
- 14.4 This is made obligatory to affix authorized signatures with official seal on all original and duplicate (copies) documents, Annexures, copies, certificates, brochures, literature, drawings, letters, forms and all relevant documents as part of the bids submitted by the Bidder. Noncompliance with the same may cause the rejection of bid at the time of opening.
- 14.5 The financial bids of only technically qualified bidders shall be opened. The financial bids of those who are not technically qualified shall be returned to them un-opened

12. Tender Price

- 12.1. The quoted price shall be:
- 12.1.1. best / final / fixed and valid until completion of all obligations under the Contract and is subjected to adjustment only in accordance with the Contract.
- 12.1.2. in Pak Rupees (PKR);
- 12.1.3. is inclusive of all applicable taxes as per Laws of the Government of Pakistan, but shall be exclusive of Sales Tax on Services which shall be added by the Client over and above

the offered amount, as applicable/required under the relevant Tax Laws, to arrive at the Contract Price. Accordingly, the Contract Price shall be subject to adjustments for change in rate of Sales Tax on Services as and when applicable.

- 12.2. If not specifically mentioned in the Tender(s), it shall be presumed that the quoted price is as per the above requirements.
- 12.3. The price hereby quoted by the Bidders would cover the whole scope of services for the contract period.

13. Tender Security

- 13.1. The Bidder shall furnish the tender Security as part of the technical bid envelope, failing which will cause rejection of bid; as under:
 - 13.1.1. Demand Draft / Pay Order / Bank Guarantee, issued by a scheduled bank operating in Pakistan, in the name of the Client, as per the format provided in the Tender Document or in form of Demand Draft;
 - 13.1.2. A sum of PKR Twenty (20) Million;
 - 13.1.3. Have a minimum validity period of 180 days from the last date for submission of the Tender or until furnishing of the Performance Security, whichever is later.
- 13.2. The proceeds of the Tender Security shall be payable to the Client, on the occurrence of any / all of the following conditions:
 - 13.2.1. If the Bidder withdraws the Tender during the period of the Tender validity specified by the Bidder on the Tender Form; or
 - 13.2.2. If the Bidder does not accept the corrections of his Total Tender Price; or
 - 13.2.3. If the Bidder, having been notified of the acceptance of the Tender by the Client during the period of the Tender validity, fails or refuses to furnish the Performance Security, in accordance with the Tender Document.
 - 13.2.4. If the Bidder fails to provide the performance security in stipulated timeframe or format.
- 13.3. The Tender security shall be returned to the technically unsuccessful Bidder with unopened/sealed financial bid, as well as to the unsuccessful bidders following the financial bid opening procedure. The Tender Security shall also be returned to the successful Bidder on furnishing the Performance Security.

14. Tender Validity

The Tender shall have a minimum validity period of **One Hundred and Eighty days (180 days)** from the last date for submission of the Tender. The Client may solicit the Bidder's consent to an extension of the validity period of the Tender. The request and the response thereto shall

be made in writing. If the Bidder agrees to extension of validity period of the Tender, the validity period of the Tender security shall also be suitably extended. The Bidder may refuse extension of validity period of the Tender, without forfeiting the Tender security.

15. Modification / Withdrawal of the Tender

- 15.1. The Bidder may, by written notice served on the Client, modify or withdraw the Tender after submission of the Tender, prior to the deadline for submission of the Tender.
- 15.2. The Tender, withdrawn after the deadline for submission of the Tender and prior to the expiration of the period of the Tender validity, shall result in forfeiture of the Tender Security.

16. Opening of the Tender

- 16.1 Tenders shall be opened, at the given place, time and date, in the presence of the Bidder(s), if available, for which they shall ensure their presence without further invitation.
- 16.2 The Bidder's name, modifications, withdrawal, security, attendance of the Bidder and such other details as the Client may, at its exclusive discretion, consider appropriate, shall be announced and recorded.
- 16.3 No Bidder or its representative will be allowed to keep any digital device (camera, audio recorder, cell phone etc.) during tender opening meeting at given time and location. Non-compliance will cause the rejection of respective bidder.

17. Clarification of the Tender by the Client

The Client shall have the right, at his exclusive discretion, to require, in writing, further information or clarification of the Tender, from any or all the Bidder(s). No change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the corrections of ambiguities / conflicting statements / arithmetical errors discovered in the Tender. Acceptance of any such correction is solid discretion of the Client

18. Determination of Responsiveness of the Bid (Tender)

- 18.1 The Client shall determine the substantial responsiveness of the Bidder to the Tender Document, prior to the Technical Evaluation, on the basis of the contents of the Tender itself without recourse to extrinsic evidence. A substantially responsive Tender is one which:
 - 18.1.1 meets the eligibility criteria for the Bidder for the Services;
 - 18.1.2 is accompanied by the required Tender Security as part of Technical Bid;
 - 18.1.3 is otherwise complete and generally in order;

- 18.1.4 conforms to all terms and conditions of the Tender Document, without material deviation or reservation. A material deviation or reservation is one which affects the scope, quality or performance of the Services or limits the Client's rights or the Bidder's obligations under the Contract.
- 18.2 The Tender determined as not substantially responsive shall not subsequently be made responsive by the Bidder by correction or withdrawal of the material deviation or reservation. However, the Client may waive off any minor non-conformity or inconsistency or informality or irregularity in the Tender; but subject to recommendations of the Tender Evaluation Committee.

19. Correction of errors / Amendment of Tender

- 19.1. The Tender shall be checked for any arithmetic errors which shall be rectified. If there is a discrepancy between the amount in figures and the amount in words for the Total Tender Price entered in the Tender Form; the amount in words, shall govern.
- 19.2. The Bidder shall state the Tender Price for the payment terms outlined in the Conditions of Contract which will be considered for the evaluation of the Tender.

20. Rejection / Acceptance of the Tender

- 20.1. The Client shall have the right, at his exclusive discretion, to accept a Tender (lowest evaluated bid) , reject all tender(s), cancel / annul the Tendering process at any time prior to award of formal Contract, and without thereby incurring any liability to the Bidder and the decision of the Client shall be final.
- 20.2. The Tender shall be rejected if:
- 20.2.1. it is substantially non-responsive; or
 - 20.2.2. it is submitted in other than prescribed forms, annexes, schedules, charts, drawings, documents / by other than specified mode; or
 - 20.2.3. it is incomplete, un-sealed, un-signed, printed (hand written), partial, conditional, alternative, late; or
 - 20.2.4. it is subjected to interlineations / cuttings / corrections / erasures / overwriting; or
 - 20.2.5. the Bidder submits more than one Tenders; or
 - 20.2.6. the Bidder fails to meet the minimum passing score in the Technical Evaluation Criteria
 - 20.2.7. the Bidder refuses to accept the corrected Total Tender Price; or
 - 20.2.8. the Bidder has conflict of interest with the Client; or
 - 20.2.9. the Bidder tries to influence the Tender evaluation / Contract award; or

- 20.2.10. the Bidder engages in corrupt or fraudulent practices in competing for the Contract award.
- 20.2.11. there is any discrepancy between bidding documents and bidder's proposal i.e. any non-conformity or inconsistency or informality or irregularity in the submitted bid.
- 20.2.12. the Bidder submits any financial conditions as part of its bid which are not in conformity with tender document.

21. Acceptance Letter (Letter of Intent)

The Client shall, send the Acceptance Letter (Letter of Intent) to the successful Bidder, prior to the expiry of the validity period of the Tender, which shall be made part of the formal contract.

22. Performance Security

- 22.1. The successful Bidder shall furnish Performance Security as under:
 - 22.1.1. within ten (10) working days of the receipt of the Acceptance Letter from the Client;
 - 22.1.2. in the form of a Bank Guarantee, issued by a scheduled bank operating in Pakistan, as per the format provided in the Tender Document or in another form acceptable to the Client;
 - 22.1.3. denominated in Pak Rupees;
 - 22.1.4. Have a minimum validity period of one year from the date of Award Notification or until the date of expiry of yearly support period.
 - 22.1.5. The successful Bidder shall submit a Bank Guarantee of 10% of the annual contract value for a period of 11 years, on a yearly basis, with an undertaking to renew the Bank Guarantee before the end of each year on yearly basis, one month before the expiry period of the submitted bank guarantee.
 - 22.1.6. The proceeds of the Performance Security shall be payable to the Client, on occurrence of any / all of the following conditions:
 - 22.1.6.1. If the Service Provider commits a default under the Contract;
 - 22.1.6.2. If the Service Provider fails to submit the bank guarantee for the next year one month before the expiry of already submitted bank guarantee in stipulated timeframe.
 - 22.1.6.3. If the Service Provider fails to fulfill any of the obligations under the Contract
 - 22.1.6.4. If the Service Provider violates any of the terms and conditions of the Contract.

22.2. The Service Provider shall cause the validity period of the performance security to be extended for such period(s) as the contract performance may be extended. The Performance Security shall be returned to the Bidder within thirty working days after the expiry of its validity on written request from the Service Provider.

23. Redressing of Grievances by the Client

23.1. The Client shall constitute a committee comprising of odd number of persons, with proper powers and authorizations, to address the complaints of bidders that may occur prior to the entry into force of the procurement contract.

23.2. Any bidder feeling aggrieved by any act of the Client after the submission of his bid may lodge a written complaint concerning his grievances not later than fifteen days after the announcement of the bid evaluation report.

23.3. The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint.

Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.

23.4. Any bidder not satisfied with the decision of the committee of the Client may follow the process mentioned vide Statutes and Regulations.

**SECTION 03 - DRAFT AGREEMENT AND
TERMS OF REFERENCE**

CONTRACT AGREEMENT

FOR

**OPERATION & MAINTENANCE SERVICES FOR METRO RAIL TRANSIT
SYSTEM ON THE ORANGE LINE IN LAHORE (FROM ALI TOWN TO
DERA GUJLAN)**



January, 2019

CONTRACT AGREEMENT
FOR
OPERATION & MAINTENANCE SERVICES FOR METRO RAIL TRANSIT
SYSTEM ON THE ORANGE LINE IN LAHORE (FROM ALI TOWN TO
DERA GUJLAN)

Contract No.

This Contract Agreement is made on the _____ day of _____ (month) 2019

By and between

THE PUNJAB MASSTRANSIT AUTHORITY (PMA) (hereafter called the “Employer/Client”), established under the Punjab Masstransit Authority Act 2015 (as modified from time to time), 5th Floor, Arfa Software Technology Park, 346-B Ferozpur Road Lahore, through Managing Director, PMA, which expression shall, wherever the context so permits and requires, mean and include its successors-in-interest, nominee(s), legal representatives, executors, administrators, transferees, attorneys and permitted assigns, on the ONE PART

And

_____ (hereafter called the “Service Provider”),
_____ on the OTHER PART.

The Employer and the Service Provider are hereinafter collectively referred to as "Parties".

RECITALS

WHEREAS,

- (a) The Government of the Punjab through The Employer intends to spend a part of its budget / funds for making eligible payments under this contract. Payments made under this contract will be subject, in all respects, to the

terms and conditions of the Contract in lieu of the Services as described in the contract Price Table.

- (b) The Employer has requested the Service Provider to provide certain Services as described in Price Table & Tender Documents; and
- (c) The Service Provider, having represented to the Employer that it has the required professional skills, and personnel and technical resources, has agreed to provide such services on the terms and conditions set forth in this Contract.

NOW this Contract Agreement witnesseth as follows:-

1. In this Contract Agreement, words and expressions 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 Contract, the priority of the Contract Documents shall be as follows:-
 - a) The Contract Agreement;
 - b) Preamble to Conditions of the Contract;
 - c) The Conditions of Contract and Annexures ;
 - d) The Service Level Agreement;
 - e) The Request for Proposal documents;
 - f) The Bidders Bid Documents;
 - g) Preliminary and Detailed Design of the Project;
 - h) BOQs and Specifications of E&M Equipment delivered under the EPC Contract No. PMA-CR-NORINCO-OL between PMA and CR-NORINCO;
 - i) Conditions of Commercial Contract Signed on April 20, 2015 between PMA and CR-NORINCO (Contract No. PMA-CR-NORINCO-OL) including all of its associated documents;
 - j) Any other documents forming part of the Contract.

Explanation: In case of any discrepancy on the same issue between the above

documents, those of a later date shall govern.

NOW THEREFORE, the Parties to this Contract agree as follows:

1. The Employer requires O&M Services from the Service Provider based on output or performance based parameters which are stipulated in the Service Level Agreement (SLA). The input of Employer shall be limited to roles mentioned in the Contract.
2. The Employer hereby covenants to pay to the Service Provider, in consideration of the services provided as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract in consideration of provision of the Services remedying of defects / damage therein.
3. In consideration of the payments to be made by the Employer to the Service Provider, as hereinafter mentioned, the Service Provider hereby covenants with the Employer to provide the O&M Services as laid down in this Contract and to remedy defects /damages therein, at the time and in the manner, in conformity in all respects with the provisions of the Contract.
4. The monthly Contract Price for the Services required shall be in Pakistan Rupees (PKR) ----- [----- only] which includes all applicable taxes but excludes Sales Tax on Services. Breakup of the Contract Price are as follows:-

This Contract shall become effective upon issuance of Letter by the Employer to the Service Provider to commence commercial operation on the Orange Line on date mentioned therein.

IN WITNESS WHEREOF the parties hereto have caused this Contract Agreement to be executed on the day, month and year first before written in accordance with laws of Pakistan.

This Contract and all its attachments have been prepared, signed and sealed in six (06) copies as original stamped signature by both parties; all six (06) original copies have the same validity.

**FOR: THE PUNJAB MASSTRANSIT
AUTHORITY
5th Floor, Arfa Software Technology Park
346 - Ferozpur Road,
Lahore
(THE EMPLOYER)**

**FOR : _____

(THE SERVICE PROVIDER)
(REPRESENTATIVE OF _____)**

SIGNATURE: _____

SIGNATURE: _____

CNIC: _____

PASSPORT NO: _____

NAME: _____

NAME: _____

DESIGNATION: _____

DESIGNATION: _____

(Seal)

(REPRESENTATIVE OF _____)

SIGNATURE: _____

PASSPORT NO: _____

NAME: _____

DESIGNATION: _____

(Seal)

WITNESSED BY:

WITNESSED BY:

SIGNATURE: _____

SIGNATURE: _____

CNIC: _____

PASSPORT NO: _____

NAME: _____

NAME: _____

ADDRESS: _____

ADDRESS: _____

CONTRACT DOCUMENT

FOR

**OPERATION & MAINTENANCE SERVICES
FOR
METRO RAIL TRANSIT SYSTEM ON THE
ORANGE LINE IN LAHORE (FROM ALI
TOWN TO DERA GUJRAN)**



**Commercial Documents
Conditions of Contract**

January, 2019

PREAMBLE TO CONDITIONS OF CONTRACT

<p>Contract Name</p>	<p>Operation & Maintenance Services For Metro Rail Transit System on the Orange Line in Lahore (From Ali Town To Dera Gujran)</p>
<p>Service Provider</p>	<p>Sub-clause 1.6</p> <p>Service Provider means Line 2 Service Provider 1 abbreviated as L2SP1 who enters into Contract with the Employer for rendering of Services defined in this Request for Proposal.</p>
<p>Effective Date</p>	<p>Sub-clause 2</p> <p>The Effective Date ("Effective Date") is the date of start of Commercial Operations i.e. the Commencement Date.</p>
<p>Commencement Date</p>	<p>Sub-Clause 1.1</p> <p>The Commencement Date shall be 30-07-2019 or any date thereafter fixed by the Employer. The period between the date of issuance/acceptance of Letter of Award and Commencement Date shall be taken as Mobilization Period.</p> <p>Before the expiry of the Mobilization Period, the Employer shall:</p> <p>(a) complete all construction works of the OLMRTS, including Civil Works and E&M Works, or any other relevant works before the OLMRTS can be put into operation, and accomplish all obligations during construction period in any related contract thereof ;</p> <p>(c) obtain and issue all Approvals, permits, licenses (if any) required for the system operation.</p>
<p>Approvals</p>	<p>Sub-Clause 3.3</p> <p>Approvals means any and all permissions, clearances, licenses, authorisations, consents, sanctions, no-objections, approvals (if any) of or from any Government Authorities required in connection with the provision of the Services and for undertaking, performing or discharging the obligations contemplated by this Agreement.</p>

<p>Mobilization Services and Advance Payment</p>	<p>Sub-Clause 10.22</p> <p>The purpose of the Mobilization Services to be performed by the L2SP1 is to ensure the operational readiness of the System for commencement of the Train Operations. The advance payment no greater than 12% of the total contract amount calculated for five years (5) of Services may be released to the L2SP1 upon submission of a Advance Payment Guarantee for the equivalent amount.</p>
<p>Overall Services</p>	<p>Sub-Clause 1.9</p> <p>The Overall Services which are henceforth called Line 2 Main Contract Services (L2MCS) shall be as under:-</p> <ol style="list-style-type: none"> 1. Overall Operation & Maintenance of all Electrical and Mechanical (E&M) systems including Train Operation and including operation of allied systems procured, furnished, installed and commissioned under EPC Contract(PMA-CR-NORINCO-OL) i.e. all hardware, all software and allied systems constituting the Orange Line Metro Train System (OLMRTS) (Annexures A-1, A-1.1...A-1.5) 2. Support to Automated Fare Collection Services (Annex A-2) 3. Support to Security and Safety Services (Annex A-3) 4. Support to Housekeeping and Janitorial Services (Annex A-4). <p>The L2SP1 shall render L2MCS according to the Scope of Work at Annexures A-1, A-1.1...A-1.5, A-2, A-3 and A-4.</p>
<p>Fully Functional Opening</p>	<p>The Parties agree that the commencement of the Train Operation shall be based on a fully functional opening of the System in its entirety.</p>
<p>Penalty Limit</p>	<p>Sub-Clause 6.2</p> <p>If the Services provided to the Employer do not reach the Key Performance Indicators in any month, the top limit of penalty to be imposed on the L2SP1 shall not exceed 10% of monthly Contract Price of the L2SP1.</p>

Overall Contract Period	<p>Clause 7</p> <p>The Overall Contract Period shall be the period from the Effective Date of the Contract until the completion of Overall L2MCS.</p>
Duration of the Overall L2MCS	<p>Clause 7.1</p> <p>Duration of the Overall L2MCS Period is 11 years from Commencement date of Train Operation unless otherwise extended or reduced in accordance with terms and conditions mutually agreed by the Parties.</p>
Ruling Language	<p>Sub-Clause 9.1</p> <p>The ruling language shall be English.</p>
Day to Day Communications	<p>Sub-Clause 9.2</p> <p>The language for day to day communication between the L2SP1 and the Employer is English.</p>
Passenger Service Hours	<p>Sub-Clause 9.3.</p> <p>The normal Passenger Service Hours of OLMRTS shall be 16 hours per day. (starting from the first station in both directions) or as changed by the Employer with a 3 days prior notice to the L2SP1 in line with the capacity of the OLMRTS.</p>
Fare Policy	<p>The Employer shall be responsible for setting Fares and establishing policies in relation to Fares, including the tax on fares issues (if any).</p>
Terms of Payment	<p>Clause 12</p> <p>The terms of payment shall be as stated in Sub-clause 15 of Conditions of Contract.</p>
Currency of Payment	<p>Sub-Clause 12.5.1 (c)</p> <p>All payments by the Employer to the L2SP1 shall be made in Pakistan Rupees (PKR) through cheque drawn on Bank of Punjab</p>
Foreign Exchange	<p>Sub-Clause 10.6 (b)</p> <p>The responsibility of foreign exchange and transfer of funds to foreign countries, if any, shall fully rest with the L2SP1.</p>

Import Duties and Taxes	Sub-Clause 39.1
Applicable Law	Sub-Clause 43.1 The Contract in all respects shall be read and construed and shall operate as a Pakistani Contract in conformity with the Laws of Islamic Republic of Pakistan.
Language and Place of Arbitration	Clause 31 The language of arbitration shall be in English, and the place of arbitration shall be in Lahore, Punjab, Pakistan.
Third Party Liability	Sub-Clause 29.3 The amount of insurance against third party liability taken out by the L2SP1 shall not be less than PKR 250 Million per occurrence with number of occurrences unlimited.
Notices to Employer	Sub-Clause 40.2. The address of the Employer for notices is the same as given in Sub-Clause 1.1.12 here above.

CONDITIONS OF CONTRACT

1. DEFINITIONS AND INTERPRETATIONS

In the Contract (as hereinafter defined), the following words and expressions shall have the meanings hereby assigned to them:

- 1.1 "Commencement Date" means the date specified in the Preamble to Conditions of Contract.
- 1.2 "Conditions" means the Preamble to Conditions of Contract and the Conditions of Contract.
- 1.3 "Contract" means the agreement between the Employer and the L2SP1 for the delivery of Overall Services mentioned in the preamble as well as the allied documents to the Agreement. Any subsequent document mutually agreed and signed by the Employer and the L2SP1, shall also be deemed part of the Contract.

- 1.4 "Contract Agreement" means the documents recording the Agreement of the Contract for delivery of L2MCS between the Employer and the L2SP1.
- 1.5 "Contract Price" means the sum stated in the Contract Agreement as payable to the L2SP1 for the provision of Services mentioned in the Contract subject to such additions thereto or deductions therefrom as may be made under the provisions hereinafter contained in accordance with the provisions of the Contract.
- 1.6 "Service Provider" (henceforth called Line 2 L2SP1 and abbreviated as L2SP1) means the same entity whose tender for Overall Services has been accepted by the Employer and the legal successors in title to the L2SP1 for L2MCS of the Orange Line but does not (except with the consent of the Employer) include any assignee of the L2SP1.
- 1.7 "Employer" means Punjab Masstransit Authority (PMA) and the legal successors in title to the Employer including any assignee and representative of the Employer.
- 1.8 "Equipment" means machinery, apparatus, materials and all things procured, furnished, installed and commissioned under the EPC Contract (No. PMA-CR-NORINCO-OL) for Orange Line System. The word 'Goods' is synonymous with the word "Equipment".
- 1.9 "Overall Services" means Services as defined in the Preamble to be rendered such that all provisioned systems are fully functional, and that they operate in a reliable manner in line with their intended use i.e. for the transportation of passengers, as and when required. However, Services shall not mean works such as maintenance of E&M Equipment other than Tracks and Rolling Stock, commercial development and loss/profit emerging from the operation of the Corridor. Services shall also not mean any works outside the context of Scope of Work mentioned in Annexures A-1, A-1.1...A-1.5, A-2, A-3 and A-4.
- 1.10 "Force Majeure" has the meaning assigned to it under Clause 30.
- 1.11 "Performance Security" means a guarantee issued by a scheduled Pakistani bank submitted by the L2SP1 as per Sub-Clause 10.2 against payments to be made by the Employer for delivery of L2MCS under Sub-Clause 12 The Performance Security shall be renewed annually such that it stands valid throughout the duration of the Contract.
- 1.12 "Subcontractor" means any person (other than the L2SP1) named in the Contract for any part of the Services, or any person to whom any part of the Operation Services has been subcontracted with the consent of the Employer, and the Subcontractor's legal successors in title but does not include any assignee of the Subcontractor.
- 1.13 "Corridor/Systems" means the place or places, provided or made available by the Employer where L2MCS are to be done by the L2SP1. The Corridor includes all premises located on the Depot with exception of PMA Offices, the entire length of track inside the depot, entire track length from Dera Gujran to Ali Town, the entire track inside the Stabling Yard, all OLMRTS stations and allied facilities including rolling stocks, the high voltage substations and all premises inside the Stabling Yard.
- 1.14 "Handing-Over documents" means the documents signed by both Parties by means of which the Corridor is to be given by the Employer to the L2SP1 in accordance with Sub-Clause 11.1.2.
- 1.15 "Month" means calendar month according to Gregorian calendar.
- 1.16 "EPC Contract" means the Contract already signed and executed between PMA and CR-NORINCO titled Engineering, Procurement and Construction of Metro Rail Transit System on the Orange Line (from Ali Town to Dera Gujran).
- 1.17 "Project" means the Metro Rail transit System on the Orange Line (from Ali Town to Dera Gujran) henceforth referred as OLMRTS.

- 1.18 "Non-public Areas"; All areas in the corridor that are restricted for passenger entry/use including such areas at stations, depot, stabling yard, track and high voltage sub-stations.
- 1.19 "System Handover" means the handing over of the operation of the System from the Employer to the L2SP1.
- 1.20 "Cure Period " means the time in calendar days given by either party to the other party in the Notice of Default for remedying/making good a specific default (s). Such period shall be deemed to have started from the date of receipt of such Notice of Default by the other party.

2. EFFECTIVENESS

The Contract will become effective on the Effective Date.

The Effective Date ("Effective Date") is the date as specified in the Preamble.

3. HEADINGS AND TITLES

The headings and titles in these Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction of the Contract.

3.1. Interpretation

Words importing persons or parties shall include firms and corporations and any organization having legal capacity. Words importing the singular only also include the plural and vice versa where the context requires.

3.2. Written Communication

Wherever in the Contract, any provision is made for a communication to be "written" or "in writing" this means any hand-written, type-written or printed communication, including telex, E-mail, cable and facsimile transmission.

3.3. Notices, Consents and Approvals

Wherever in the Contract, any provision is made for the giving of notice, consent or approval by any person, such consent or approval shall not be unreasonably withheld. Unless otherwise specified, such notice, consent or approval shall be in writing and the word "notify" shall be construed accordingly.

3.4. Periods

In these Conditions, a "day" means a calendar day and a "year" means the number of calendar days in that particular year.

3.5. Subcontracting of L2MCS

- a) The L2SP1 shall not subcontract the whole of the Services under L2MCS.

Except where otherwise provided in the Contract, the L2SP1 may subcontract any other part of the Services or substitute/replace a subcontractor by another Subcontractor after intimation to and approval of the Employer of such engagement through email; provided that, in obtaining such approval, the L2SP1 may be required to bring to the Employer's notice all material details of the sub-contracting arrangement, and Provided that in such case the L2SP1 shall be responsible for its obligations under the Contract as if no sub-contracting occurred.

The L2SP1 shall guarantee that any and all subcontractors of the L2SP1 shall, for performance of any part of the L2MCS under the contract, comply fully with the terms and conditions of the Contract applicable to delivery of services under such part under the contract. The Employer shall be entitled to recover from the L2SP1 or from the performance security provided by the L2SP1 any such amount which become due to the Employer due to any default by the sub-contractor.

The L2SP1 shall not, however, require such consent for purchases of materials or to place contracts for minor details.

- b) The L2SP1 shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents or employees as fully as if they were the acts, defaults or neglects of the L2SP1, his agents or employees.
- c) The L2SP1 shall not be responsible for the acts, defaults and neglects of any Subcontractor engaged by the Employer.

3.6. No Contractual Relation between Subcontractor and the Employer

Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor, delivering any part of L2MCS, and the Employer.

4. SERVICES REQUIRED:

Both Parties agree and recognize that operating OLMRTS is a large and complex undertaking involving a large number of work tasks to be executed prior to the Commencement Date of regular public mass transit operation. The L2SP1 during such period prior to Commencement Date must carry out detail steps to set up an organizational structure, recruit and train human resources, prepare complex standard operating procedures for the system, standard operating procedures for the employees, management rules and plans, safety rules and plans, Operation Plans, maintenance plans for track and rolling stock and system maintenance management plans.. In addition, the L2SP1 shall conduct several simulations and physical mock exercises /operation rehearsals, conduct large number of checks/rechecks, make arrangement for continuous supply of materials for operation, setup back office facilities and carry out other such tasks under the work plans, which are necessary but are part of the internal works of the L2SP1.

The Employer also agrees and recognizes that in order to achieve operational readiness, the L2SP1 must mobilize and be given sufficient time to execute all the work tasks required, as mentioned in Clause 7 prior to the Commencement Date.

The L2SP1 shall achieve operational readiness on or before Commencement Date as stipulated in the Preambles.

The L2SP1 shall after Commencement Date execute the scope of services stipulated in Annexures A-1, A-1.1, A-1.2, A-1.3, A-1.4, A-1.5, A-2, A-3 and A-4.

5. SAFETY, HEALTH AND ENVIRONMENT

5.1. The Employer shall be responsible for:

- 5.1.1. directly regulating any interventions within the right of way owned by the Employer. In case any intervention, which is outside the Employer's right of way, but is preliminarily judged that it may affect the safety of OLMRTS, or cause interference or potential hazard to L2MCS, are spotted or planned, the Employer shall interface with relevant local authorities to ensure that such interventions are either stopped or carried out after proper evaluation with respect to safety of OLMRTS.

- 5.1.2. coordination and implementation of emergency responding mechanism, making emergency rescue plans, organizing periodic rehearsals; coordination of competent departments of the government, such as agencies for firefighting, police, medical aid, meteorology, disaster management, environment, to handle situations/incidents of emergency;
- 5.1.3. protection and security of the Corridor, except non-public areas, through trained personnel;
- 5.1.4. coordination with relevant government authorities/agencies in the event of an accident leading to damage of property, injury or death;
- 5.1.5. safety and security of the Chinese employees of the L2SP1 and their accommodation in Lahore;

5.2. The L2SP1 shall be responsible for:

- 5.2.1. the security related work with respect to the scope of L2MCS such as train operation, dispatching and controlling, passenger services with ticketing, health of employees and using machineries, equipment and internet information etc. ;
- 5.2.2. setting up a safety department consisting of expert level staff to implement safety rules/plans in handling safety issues; the safety department shall
 - a) ensure that relevant safety training is mandatorily provided to all personnel of the L2SP1 engaged in OLMRTS;
 - b) maintain a safety awareness program through frequent distribution of relevant briefs and brochures to implement the safe operation of the Services;
 - c) co-operate with the Employer's fire, security and safety advisors and their reasonable instructions;
 - d) comply with the lawful directions of the Employer in response to any accident or emergency;
 - e) ensure safe execution, provision, control, and performance of the Services;
 - f) maintain first aid kits for the employees of the L2SP1 at depot, stabling yard, stations and HV substations.

6. SERVICE-LEVEL PARAMETERS

6.1. Service Level Agreement (SLA)

- 6.1.1. The L2SP1 shall, pay the penalty depending on its performance in achieving the agreed performance regime (as measured by the Service Level Agreement in Section 04).
- 6.1.2. The penalty for failure to achieve Service Level Agreement parameters will be implemented in accordance with SLA.
- 6.1.3. Except for information available through PSCADA, BAS, NMS or complaint management system, or other system generated reports known to the L2SP1; any other information, if any, used by the Employer to evaluate SLA will be transferred to the Service Provide once a week on request; The Service Provide will have the right to justify through concrete evidence the outcome of the aforesaid systems, on as-and-when basis, that are subject to penalties as per

SLA, prior to settlement of monthly payments, but in any case no later than one week from the submission of the Invoice.

6.1.4. The SLA penalty is the final and full remedy of the Employer for the L2SP1's failure to achieve the SLA targets, and such penalty shall be deemed to have offset any breach whatsoever due to the lapses/deficiencies in performance.

6.2. Any breach of defined service levels will entail penalties which shall not exceed 10% of the monthly payments of each system to the L2SP1.

7. CONTRACT PERIOD

7.1. Contract period or Duration of the Contract shall be as mentioned in Preamble to Conditions.

In case both Parties mutually agree to extend the Contract Period, such extension shall be in accordance with Clause 14 for Contract Amendment, provided that the Employer declares its intention to extend the Contract and completes the amendment process no later than 6 months prior to the conclusion of the Operation Period.

Provided that both parties do not agree to extend the Contract, the Service Provide shall seek in writing a Handing Back Certificate (HBC) from the Employer at least 2 months before the expiry of the Contract. The Employer will issue such a certificate within 45 days provided that the equipment handed back is in good condition. Upon obtaining the HBC, the Service Provide shall be deemed clear of all obligations. However, until issuance of HBC which does not affect liability of contractor/L2SP1 to keep System in fully operational condition even after expiry of contract, the L2SP1 shall be bound to continue rendering O&M services, and the Employer shall continue pay for such additional O&M Services. In addition, during this period of 45 days, the Employer and the L2SP1 shall work jointly to solve any pending issues (if any). The final Invoice from the L2SP1 shall include any such period of Services, which in any case shall not exceed 45 days. If such HBC is not issued by the 45th day beyond the expiry of the Contract, the HBC shall be deemed to be issued, provided that there are no pending issues on the part of the L2SP1.

7.2. Methodology for Hand Back

Upon completion/conclusion of the L2MCS, other than settlement arising out of termination of the Contract, the L2SP1 shall transfer to the Employer the possession of the following:

7.2.1. Initial System Assets stipulated in Clause 11, except unreplenished consumables and spare parts, if any;

7.2.2. all/any spare parts in the inventory which are already paid by the Employer against a previously issued work order;

7.2.3. all/any such parts to be replenished by the L2SP1 due to L2SP1's Risk Events/Defect Liability/Warranty;

7.2.4. all/any spare parts enroute for delivery, as ordered against a previously issued work order and to be subsequently paid by the Employer.

7.2.5. all software and its licenses procured in the name of Employer.

8. CONTRACT DOCUMENTS AND INFORMATION

The L2SP1 shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any

particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the decision of the Employer whose award shall be final.

9. CONTRACT LANGUAGE

9.1. Ruling Language

Where versions of the Contract are prepared in different languages, the version which is to prevail is specified in the Preamble. The language of such version is referred to as the ruling language.

9.2. Day to Day Communications

The language for day to day communications is stated in the Preamble.

9.3. Passenger Service Hours

The Service Hours shall be as stated in the Preamble.

9.4. Documents Mutually Explanatory

Subject to Contract Agreement, the Contract documents shall be taken as mutually explanatory.

9.5. L2SP1's Use of Employer's Document

The Employer's documents and other information provided by the Employer to the L2SP1 shall remain the property of the Employer. These shall not, without the consent of the Employer, be used, copied or communicated to a third party by the L2SP1 unless necessary, solely for the purposes of the Contract.

9.6. Errors by Employer

Except for the documents furnished under the EPC Contract, the Employer shall be responsible for the Employer's documents and for any other written information supplied by the Employer. If such Employer's documents, information or details are incorrect and so crucial that they result in inadequate delivery of L2MCS, the Employer shall not penalize the L2SP1 or hold the Service Provide responsible for any losses arising from such errors.

10. OBLIGATIONS OF THE L2SP1

10.1. General Obligations

The L2SP1 shall commence the L2MCS on the date specified in the Preamble to Conditions of Contract and shall proceed with the same expeditiously and without delay. The Scopes of Services of the Service Provide are detailed in Annexure A-1, A-1.1...A-1.5, A-2, A-3 and A-4.

The time period available between the Effective Date of this Contract Agreement and commencement date, i.e. the Mobilization Period, shall be effectively used by the L2SP1 to recruit necessary human resource to meet the delivery of Scope of Services of L2MCS and to generally store adequate quantities of operation materials i.e. consumables, spare parts, maintenance equipment, repair tools etc. for ensuring delivery of uninterrupted L2MCS.

10.2. **Performance Security**

The L2SP1 shall provide a Performance Security under the Contract in the prescribed Form. The said Security shall be furnished by the L2SP1 within fifteen (15) days after the signing of the Contract Agreement for delivery of L2MCS.

The required performance security shall be renewed annually and kept valid for twenty-eight (28) days beyond the L2MCS Contract Period under intimation to the Employer. The cost of complying with the requirements of this Sub-Clause shall be borne by the L2SP1. The L2SP1 shall ensure such performance security is renewed one month before its expiry such that there is no time during contract duration in which the L2SP1 has no cover of the performance security. No payment shall be made to the L2SP1 for duration during which the performance security is invalid/ineffective.

Provided that in case of any variation in the Contract Price, the L2SP1 shall ensure that performance security amount is adjusted such that it meets the requirement for threshold under this Sub-clause.

10.3. **Period of Validity**

Unless otherwise the Contract stands extended subject to mutual agreement of both parties, no claim shall be made against the Performance Security after the conclusion of the Operation Period and the Performance Security shall be returned to the L2SP1 within fourteen (14) days of the issuance of the full Hand Back Certificate.

10.4. **Claims under Performance Security**

Whether or not the Performance Security is stated by its terms to be payable upon the demand of the Employer, a claim shall not be made under the Performance Security unless one of the following conditions is satisfied:

- a) The L2SP1 is in breach of the Contract and fails to remedy the breach within thirty (30) days after receiving written notice from the Employer requiring him to do. The notice shall state the intention to claim under the Performance Security, the amount claimed and the breach relied upon, or
- b) the Employer and the L2SP1 have agreed in writing that the amount demanded is payable to the Employer, and the amount has not been paid within thirty (30) days thereafter, or
- c) the Employer has obtained an award in arbitration under Clause 31 and the amount awarded has not been paid within thirty (30) days after the award, or
- d) the L2SP1 has gone into liquidation or has become bankrupt; or
- e) if the L2SP1 terminates the contract for convenience.
- f) if the L2SP1 fails to submit the performance security for the next year, one month before the expiry of already submitted performance security.

The Performance Security shall be binding irrespective of variations and changes in the duration of the Operation Services or extensions in completion time of the undergoing Operation Services, which are granted or agreed upon under the provisions of the Contract.

In every case the Employer shall, when making the claim, send a copy to the L2SP1.

10.5. Corridor Data

The L2SP1 shall gather data and fully familiarize himself, at his own cost and risk, on climatic, hydrological and general conditions in Lahore and on the Corridor, and for the operation of OLMRTS. The L2SP1 shall satisfy himself regarding any circumstances which may influence or affect his overall O&M scope of work on the Corridor and associated costs, such as the health, hydrological and climatic conditions, or circumstances which may influence L2SP1's risks and contingencies;

During the Operation Period, subject to the notification by Government of Punjab, if any, the Employer will pass on such critical information with respect to health and security to the L2SP1 on as and when basis.

10.6. Sufficiency of Contract Price

The L2SP1 shall be deemed to have satisfied himself on and taken account of the agreed Contract Price, including the following:

- a) all the conditions and circumstances affecting the Contract Price;
- b) all the economic, financial and legal variables including but not limited to foreign exchange rates, inflation rates, minimum wage rates, customs and tax rates (i.e. only 7% withholding tax is to be borne by the L2SP1) and all related labor and legal obligations.
- c) the possibility of carrying out the Operation Services as described in the Contract;
- d) the general circumstances at the Corridor;
- e) the general labor position at the Corridor; and
- f) any other circumstances/conditions/factors which may influence or affect the agreed Contract Price of Operation Services.

Note: The Employer shall not be responsible for providing information/data regarding any of the above items. The L2SP1 shall not claim any adjustment on account of its inability to account for any factor in the Contract Price.

Note: The L2SP1 however shall be entitled to adjustments, if any, applicable to the Contract Price stipulated in sub Clause 12.2 of this Contract.

10.7. Physical Obstructions and Conditions

Refer to Clause 25 Risks and Responsibility

10.8. Schedule to be Furnished

Within two weeks after signing of the Contract Agreement, the L2SP1 shall submit to the Employer, for his approval, the Operation preparation schedule which shall contain the program on critical activity based format and resource planning schedule, including the following:

- i. Employment of local and expatriate labour (both technical or otherwise) of various categories;
- ii. Procurement of Operation material
- iii. Operation rehearsal schedule.

Approval of the Schedule by the Employer shall not relieve the L2SP1 from any obligation under the Contract. The Employer shall approve such Schedule within 7 days from the date of submission; after which, if it is not approved, the Schedule shall be deemed to have been approved. The Schedule may be revised subject to mutual agreement between both Parties.

10.9. L2SP1's Representative

No later than 30 days before the Commencement Date, the L2SP1 shall employ one or more competent representatives to superintend the carrying out of the L2MCS on the Corridor such as the lead management personnel. They shall be fluent in the language for day to day communications. His name, duty, authority any changes therein shall be communicated in writing to the Employer before L2MCS on Corridor begins.

Any instruction or notice which the Employer gives to the L2SP1's representative shall be deemed to have been given to the L2SP1. The L2SP1's Representative shall be a competent and skilled person. He shall be present on the respective portion of the Corridor during all Passenger Service hours and shall not be transferred from the Corridor without informing the Employer.

The L2SP1 may on its own or on the request of the Employer, replace the L2SP1's Representative by giving the Employer not less than 14 days' advance notice of the replacement's name, address, duties and authority, and of the date of appointment.

10.10. Objection to L2SP1's Employees and Misconduct

The L2SP1 shall, upon the Employer's written instruction, remove from the Services any person employed by him in the execution of the Operation Services, who misconducts or is incompetent or negligent. The decision of Employer in this regard shall be final.

10.11. Language Ability of Superintending Staff of L2SP1

A reasonable proportion of the L2SP1's superintending staff shall have Operation Services knowledge and be able to speak English language.

10.12. Employment of Local Personnel

The L2SP1 shall, to the extent practicable and reasonable, employ staff and labour from sources within Pakistan.

10.13. L2SP1's Equipment

The L2SP1 shall provide all his Equipment necessary to carryout and complete the L2MCS. All L2SP1s' Equipment shall, when brought on to the Corridor, be deemed to be exclusively

intended for the execution of the Operation Services. The L2SP1 shall not remove from the Corridor any such equipment, except when it is no longer required for the completion of the Operation Services.

10.14. Safety Precautions

The L2SP1 shall observe all applicable regulations regarding safety on the Corridor for Operation Services. In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the safety requirements of the Government of Pakistan, the Provincial Government or any other associated regulatory authority with such modifications thereto as the Employer may authorize or direct and the L2SP1 shall take or cause to be taken such further measures and comply with such further requirements as the Employer may determine to be reasonably necessary for such purpose.

The L2SP1 shall prepare, maintain, and submit reports to the Employer as and when the Employer may prescribe. The L2SP1 shall be liable to indemnify/defend the Employer in relation to any suits or damages which the Employer may be required to bear in relation to any safety failures solely attributable to the L2SP1.

10.15. Electricity Water & Sewerage Gas Wireless and Phones

The Employer at its own cost has already made arrangements for providing the utilities of power electricity, water/sewerage, gas, and telephones as well as radio/wireless facility only on the Corridor. Upon intimation by the Employer, the L2SP1 shall be required to make monthly bill payments of all such facilities on the Corridor, promptly on or before the due date, without fail. In case of monthly electricity, water/sewerage and radio/wireless license renewal charges, the L2SP1 shall immediately clear such dues and forward the payment receipt to the Employer. After clearing such charges, L2SP1 will submit the evidence of payment to the Employer for reimbursement on as and when basis. Upon receipt of such evidence, the Employer will reimburse the electricity, water/sewerage and radio/wireless charges for the exact amount without deduction of any taxes within minimum of seven (07) and maximum of sixty (60) days from the date of submission of reimbursement. However, the Employer shall not reimburse monthly charges against any use of Gas, Cell Phones and Telephones consumed and paid by the Service Provider. Any penalties levied as per SLA for misuse/wastage of facilities, associated cost of any losses to the Employer and charges of consumption on sub-meters/connections, if any, shall be adjusted by the Employer from the monthly invoice. Subject to the aforesaid, the L2SP1 shall be entitled to use for the purposes of the Operation Services such utilities, facilities and services as may be available on the Corridor.

The L2SP1 shall, before the trial running and the commencement of the L2MCS on the Corridor, seek the approval of the Employer as to his detailed requirements of electricity for the entire Contract period. However, all additional indoor installation costs shall be borne by the L2SP1 through arrangement of sub-meters installed after approval of the Employer. The L2SP1 shall at his own cost provide any apparatus/meters/wiring necessary for such use. The L2SP1 shall also bear all charges for restoration of a facility and consequential loss to the Employer if any such facility is disconnected due to non-payment.

The Employer shall not reimburse or bear the cost of distribution net, services for continuous supply of electricity, potable water, cell phones, telephones and costs of any other utilities and their consumption by L2SP1's own personnel in their own offices and accommodations.

The Employer shall not reimburse or bear the cost of electricity, water/sewerage, gas or any other utilities that L2SP1 may consume for its own head office, homes and admin offices outside the Corridor.

10.16. **Authority for Access**

No persons other than the employees of the L2SP1 and his Sub-contractors shall be allowed on the non-public areas of the Corridor except with the written consent of the Employer.

The L2SP1 shall facilitate and allow the inspections/visit of the Operation Services by the representatives of the Employer, provided that such inspections/visits shall not affect or disturb the delivery of Operation Service.

10.17. **Compliance with Statutes, Regulations, Laws**

The L2SP1 shall, in all matters arising in the performance of the Contract, comply in all respects with, give all notices and pay all fees required by the provisions of any national or state statute, ordinance or other law or any regulation or bye-law of any duly constituted authority. Unless otherwise stipulated in this Contract, the L2SP1 shall not claim any such costs from the Employer over and above the Contract Price already agreed; and all such charges shall be deemed to be included in the Contract Price.

10.18. Intentionally left blank

10.19. **Patent Rights**

For any issues related with the patent rights of any hardware or software supplied and commissioned under the EPC Contract by CR-NORINCO, the Employer shall indemnify and hold the L2SP1 harmless against and from all claims of infringement.

10.20. **Photographs of Operation Services and Advertisement Prohibited**

Except with the prior written authorization of the Employer the L2SP1 shall not exhibit or permit to be exhibited any photographs or advertisement on the Operation Services. Any authorized exhibition shall be immediately removed if the Employer so requires.

The Employer shall be entitled to display, install any advertisement in any form or lease/rent space on the OLMRTS infrastructure, including but not limited to stations, rolling stock, etc. to any third parties, provided that such display, installation do not affect or disturb the delivery of Operation Service.

For the revenues from such advertisement, the Employer shall have the exclusive right and the L2SP1 shall extend the necessary support to the Employer.

10.21. **Performance of Services**

In carrying out the Services the L2SP1 shall act at all times in compliance with the Scope of Services under clause A-1.1... through A-4.

10.22. Advance Payment Guarantee

- 10.22.1. The L2SP1 shall provide to the Employer a bank guarantee, at least 7 days prior to the advance payment (i.e. effective date) by the Employer, as notified by the Employer. The advance payment guarantee shall be valid for the period from the effective date until 48 months after the commencement date or termination of this Agreement or full recovery of the mobilization advance, whichever occurs earlier.
- 10.22.2. The Advance Payment Guarantee shall be in the amount of the Advance payment stated in the Preamble against Mobilization of the L2SP1. The amount within such a Guarantee may be accordingly reduced each month by refunding relevant amount. The whole amount shall be adjusted at the rate of 25% per month during the consecutive months starting with first full service month from the commencement date.
- 10.22.3. The Mobilization Bond shall come into full force and effect upon the date when the L2SP1 receives Advance payment, and shall be encashable in accordance with the terms thereof.

10.23 When it is shown through an evidence to the Employer that there are deliberate practices which restrict free competition or which imply abuse of the dominant position which the L2SP1 could have obtained as a result of this contract, or of this Contract in conjunction with other contracts related to the functionality of the Mass Transit System, in such cases, the L2SP1 shall immediately terminate the employment of the person(s) responsible according to evidences, and the consequences, if any, shall be settled between the L2SP1 and the Employer.

11. OBLIGATIONS OF THE EMPLOYER

11.1. System Handover

11.1.1. Initial System Assets

11.1.1.1. Initial system assets include OLMRTS civil Works, E&M Works, interface Works, listed in the System Handover List, required by the L2SP1 in order to perform the L2MCS or undertake its obligations under this Agreement (to the extent not under the possession and control of the L2SP1), which are to be handed over to the L2SP1 by Employer in accordance with the System Handover Arrangement pursuant to Clause 11.1.2; System Handover Procedure. Such a list shall be determined between both Parties at least two (2) months prior to the Commencement Date.

11.1.1.2. For avoidance of doubt, Initial System Assets shall include the following as a minimum:

- a) All relevant Civil Works constructed under the EPC Contract, including offices for the L2SP1, and depot, stabling yard and stations;
- b) relevant E&M works/equipment furnished, installed and commissioned under the EPC Contract, including all system software;
- c) other relevant assets (e.g. furniture).
- d) 1 set of paper version of formal as-built drawings submitted by the EPC Contractor;

- e) 1 set of paper version of technical specifications submitted by the EPC Contractor;
- f) 1 set of paper version of equipment operation and maintenance manual submitted by the EPC Contractor.

11.1.2. **System Handover Procedure**

Provided that the taking over certificate is issued to the contractor under EPC Contract (CR-NORINCO), in prior to or coterminous to the handover process, the L2SP1 and the Employer shall prepare a list to be handed over to the L2SP1 as per Clause 11.1.1 for implementation of L2MCS.

The Employer shall confirm and verify such list, after which the contents of the list shall be signed by the handing party, i.e. the Employer and the receiving party, i.e. the L2SP1, after which the handing over process shall be deemed to have been completed in all respects. Henceforth, this list shall be called Schedule A. L2SP1 shall enter Schedule A in the Inventory Management Information System (IMIS) as stipulated in Clause 54.4 (16).

The successful completion of the handing over process shall be deemed to give the L2SP1 all necessary rights (such as possession etc.) that the L2SP1 requires on the handed over assets to fully carry out and deliver the Operation Service during the Operation Period. However, the rights and possession may not be exclusive to the Contractor. However, the Employer may withhold any such right or possession until the Performance Security has been received.

Both parties shall make best efforts to complete the handing over process no later than 30 days before the Commencement Date.

It is clarified that the ownership of the Initial System Assets remains with the Employer. L2SP1 shall not mortgage or sell any property handed over to it by the Employer. L2SP1 shall also not obtain any financial assistance and/or loan by mortgaging the assets of LOLMTP, from any financial institution.

11.1.3. **Delay in commencement**

If the L2SP1 suffers delay and/or incurs Cost as a result of a failure by the Employer to comply with the Commencement Date specified in the Preambles for commencing operation of the OLMRTS due to reasons attributable to the Employer, except where the Employer is not responsible for such delay, the L2SP1 shall give notice to the Employer and shall be entitled subject to claims under Clause 22 to payment of any such Cost, within two months through an addition to the monthly Contract Price restricted to that month.

If the Employer suffers delay as a result of a failure by the L2SP1 to commence the operation, due to delay in its obligations during the Mobilization Period, except where the L2SP1 is not responsible for such delay, the Employer shall give notice to the L2SP1 and shall be entitled to liquidated damages, at the rate of 0.02% of the Advance payment as damages in respect of the delayed preparations, payable (per day) in the currencies in which the Contract Price is payable.

If the L2SP1 is requested to commence the Train Operation Services earlier than the agreed Commencement Date, the L2SP1 shall have the sole right to determine the feasibility of such request and be entitled to reasonable additional cost if such request is agreed by the Employer.

After receiving such notice, the Employer shall consult the L2SP1 in an endeavor to reach an agreement. If the agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Employer shall give notice to the L2SP1 of each agreement or determination together with the necessary methodology and calculation. Each Party shall give effect to each agreement or determination, unless the L2SP1 gives notice, to the Employer, of his dissatisfaction with such determination within 14 days of receiving it. Either Party may then refer the dispute to Arbitration in accordance with Clause 31.

However, if and to the extent that the Employer's failure was caused by any error or delay by the L2SP1, including an error in or delay in the submission of any of the L2SP1's Documents, the L2SP1 shall not be entitled to such extension of time, Cost or profit as well as any such payment for the delayed period.

11.2. Assistance with Local Regulations

The L2SP1 shall be solely responsible to obtain necessary legal and regulatory guidance from legal and professional firms at its own costs to ascertain the application of any laws or regulation.

The Employer shall assist the L2SP1 in ascertaining the nature and extent of any laws, regulations, orders or bye-laws, and customs in the country where the Operation Services are to be provided, which may affect the L2SP1 in the performance of his obligations under the Contract. The Employer shall, if so requested, procure for the L2SP1 copies thereof and information relating thereto at the L2SP1's cost.

11.3. Operation Services on the Corridor

Any building, structure, foundation or means of access on the Corridor to be provided by the Employer shall be in a condition suitable for the reception, movement, installation and conduct of the Operation Services within the time or times indicated in the Program.

11.4. Consents, Approvals and Permits

The Employer shall be responsible for and issue to the L2SP1 all approval, permissions, letters, certificates and Licenses to enable the L2SP1 to fulfil its obligations according to the laws and regulations of Pakistan prior to the Commencement Date. The Employer shall also be responsible for obtaining permits-to-Operation Services and approvals from any other department/authority and right of way from private owners, if required. The Employer will bear the cost of logistics, fees, etc. for such activities.

At least 30 days before the Commencement Date, the L2SP1 shall seek and obtain from the Employer the operating licenses of trains by paying the relevant license fees. The L2SP1 shall renew such licenses on annual basis.

The Employer shall be responsible to:

- a) maintain/renew any licenses of vehicles (including construction vehicles), licenses for wireless/ radio frequency/spectrum that are procured by the Employer and are registered in the name of the Employer. Usage fee in this regard, if any, shall also be paid by the Employer.
- b) issue, publicize and implement passenger codes after consultation with the L2SP1;
- c) arrange inspection and certification of fire fighting equipment.

The L2SP1 shall be responsible to design and implement a mechanism for certification and qualification of train drivers, at least 30 days before the Commencement Date;

11.5. Import Permits and Licenses

The L2SP1 shall submit to the Employer, in good time, for any materials to be imported into Pakistan and identify as to what assistance of the Employer is required for obtaining by the L2SP1 of all necessary import permits or licenses. The Employer shall be responsible to provide the requisite documents if any for getting such import permits and licenses in time.

11.6. Other duties of the Employer

The Employer shall perform its duties of evaluating, assessing, approving, issuing, notifying, ordering, complying, and performing various other actions as prescribed in the Clauses of this Contract.

At the request of the L2SP1, the Employer shall arrange and obtain all permits, licenses or documents required by the local Environmental and other Departments, if any, in reasonable time having regard to the commencement of the L2MCS till the time for the completion of the L2MCS.

11.7. Employer's Financial Arrangement

The Employer shall be responsible for making payment to the L2SP1 with the amount agreed in the Contract Price against rendering of Operation Services plus adjustment/addition if any, applicable to the Contract Price as stipulated in this Contract.

11.8. Employer's Representative

- a) As soon as practical after the date of signing of the contract, the Employer shall appoint the Employer's Representative to act on its behalf under the Agreement who shall continue in this role during the implementation of the Agreement. In this event, the Employer shall give notice to the L2SP1 of the name, address, duties and authority of the Employer's Representative.
- b) The Employer's Representative shall carry out the duties assigned to him, and shall exercise the authority delegated to him, by the Employer. Unless and until the Employer notifies the L2SP1 otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer under the Agreement.

- c) The Employer may replace the Employer's Representative by giving the L2SP1 advance notice of the replacement's name, address, and the date of appointment, as and when such replacement occurs.

11.9. **On-Corridor and Personnel Safety**

The Employer shall be in-charge of all on-Corridor and personnel safety, as specified in Clause 5.

11.10. Facilitaiton for **Operation and Maintenance**

In relation to the operation and maintenance of the System, the Employer shall:

- a) provide assistance to the L2SP1 upon the L2SP1's request;
- b) provide the necessary standards and/or other documents legal or otherwise applicable to OLMRTS to the L2SP1 for compliance purpose;
- c) be responsible for the conduct and functioning of all Employer's Personnel and shall take prompt and appropriate action if there is any misconduct;
- d) The Employer shall accept the equivalent Chinese certificate or license of Chinese technical employees (provided that evidence, in English, of certification or the license has been provided). In instances where equivalent certification under laws of Pakistan is available, the L2SP1 shall endeavour to obtain such license to comply to such laws.

11.11. **Interface**

The Employer shall be responsible for:

- a) interfaces with other transportation carriers; and
- b) Coordination with the land development authority in Lahore to control the land use with respect to safe operation of the OLMRTS.
- c) implement SOPs (standard operating procedures) to control entry of guest/visitors/media personnel/inspectors to depot, stabling yard or technical areas of the stations, in a manner to limit their initial interface to the Employer.

11.12 **Left Blank Intentionally**

11.13 When the L2SP1 notices any defects of the Civil Works and/or E&M Works of OLMRTS in delivering L2MCS, the Employer shall be immediately notified of such defects, after which, the Employer shall coordinate with the other contractors to maintain/repair/replace any defective part. Upon the sole discretion of the L2SP1, if the maintenance/repair/replacement work for the defects cannot meet the requirement for safe Train Operation as to the satisfaction of both Parties, the Train Operation shall remain suspended until the defects are duly remedied.

11.14 The Employer shall ensure that the L2SP1 can fulfill his contractual obligations by coordinating between the L2SP1 and other relevant parties. The L2SP1 is solely the user and operator of the OLMRTS. The Employer shall be responsible for all supporting services and facilitations with respect to delivery of

the L2MCS by the L2SP1 and guarantee that such operation services shall be implemented under secure conditions.

12. Payment

12.1 Procedure for Payment

The procedure for payments to L2SP1 shall be as under:

The L2SP1 shall submit an Application for Payment (Invoice) for a calendar month to the Employer; within the first five (05) workdays of the following month, in the prescribed format and monthly Operation price specified in Contract Agreement.

The Application for Payment shall be accompanied by such invoices, receipts or other documentary evidence (if any) as stipulated in this Agreement, Service Level Agreement or any other associated documents/communication, and as the Employer may require; state the amount claimed; and set forth in detail, particulars of the Services provided from (a) the first day of the calendar month or (b) the date of commencement of operations, whichever is later, to the last day of the calendar month.

Upon receipt of the Application for Payment together with relevant supporting documents, the Employer shall review the package to ascertain whether it is complete or any additional documents are needed. If the Application for Payment is complete and correct, the Employer shall provide a Certificate of Payment within fourteen (14) calendar days on the prescribed format.

The Employer may withhold a Certificate of Payment or make any adjustments on account of any defects/shortcomings in the services provided for the calendar month.

The Employer may make any correction or modification in a Certificate of Payment that properly be made in respect of any previous certificate of payment, whether positive or negative, issued and payment made; after verification and confirmation by both Parties.

The Employer shall make payment for the Services provided, to the L2SP1, as per the terms of payment of the Contract, through a payment mechanism stipulated in the Contract Agreement in the agreed currency (ies) stated in the Preambles.

12.2 Certificates and Payment

Terms of Payment against L2MCS

- a) On or before the Fifth Workday of each calendar month, the L2SP1 shall submit to Employer,
 - i. Its Application for Payment for the preceding calendar month, and
 - ii. any Special Applications for Payment under Clause 22.3 and 22.4 along with supporting documents, i.e. work orders, verified receipts from the Customs, claims etc.

- iii. any evidence of claims/settlements paid by the insurance company for previous month, and/or any difference amount due to the L2SP1 to be paid by the Employer, or previously paid by the Employer to be returned to the Employer;
 - iv. any payment due to the L2SP1 caused by damage attributable to other service provider(s) employed by the Employer.
 - v. Average monthly repayment of advance payment during 58 months from the commencement date, to be repaid in Pakistan Rupee.;
- b) In case the Employer reasonably determines that the L2SP1 has not met its Contractual Requirement/Obligation, other than those pertaining to the E&M equipment, during the applicable period, the Employer may withhold under Clause 12.11 an amount equal to the value of the deficiency/inadequacy in conduct of the Contractual Requirement/Obligation until such contractual requirement is completed.

In the event of any such withholding, the Employer shall deliver to the L2SP1, not later than the Payment Due Date for the payment from which such withholding is being made, a written Notice specifying the basis for the withholding. The L2SP1 shall be paid such withheld amount, without interest, on succeeding Payment Date(s) or earlier when and to the extent the L2SP1 demonstrates and the Employer reasonably agrees that the L2SP1 has performed the Contractual Requirement/Obligation satisfactorily.

If the Employer and the L2SP1 agree before the next Payment Due Date that any amount withheld was wrongly withheld, the Employer shall pay such amount on the next Payment Due Date or earlier.

In the event of any withholding dispute that is not resolved by the next Payment Due Date, the L2SP1 shall have the right to pursue the matter as per Clause 31 of the condition of contract on Arbitration. If the arbitrator concludes that the withholding was justified, then L2SP1 shall not be entitled to be paid the withheld amount unless and until it addresses any reasons for withholding that are confirmed by the arbitrator. If the arbitrator concludes that the withheld payment was wrongly withheld, then the Employer shall, on the next Payment Due Date or earlier, pay to L2SP1, the wrongly withheld amount.

- c) In the event that the L2SP1 owes the Employer any amounts under the Contract and such amounts remain unpaid for 30 Calendar Days after Notice thereof, the Employer may offset such amounts from the following payment(s) until the amount receivable is exhausted.
- d) The L2SP1 shall not cease or reduce the rate of its performance under the Contract on account of any withholding under Clause 12.11.
- e) No payment on account of L2MCS shall be made during a period in which the performance security is not valid.

12.3 Deduction of Payment Against Lack/Unavailability of Train Operation under L2MCS

If at any time any payment would fall due for Train Operation or part of L2MCS and, if there shall be any lack/unavailability of Services in whole or part of L2MCS in respect of which such payment is proposed, the Employer may deduct the whole or part of such payment that is evaluated to be the equivalent to the cost of lack/unavailability of services in accordance with Section 04 i.e Service Level Agreement.

12.4 Extra Payment

No extra payment in respect of overtime work, additional materials in, or special conditions or hardship shall be claimed by the L2SP1 unless otherwise provided in the Contract or such payments have been previously authorized in writing by the Employer through a work order. Employer shall not make any payments with respect to oil, lubricants, filters, fuel (diesel or petrol), cleansing material such as cloth or liquids/sprays, disposable items, perfumes, rodent removal supplies/material, waste disposal related cost, sewerage clearing, rental of equipment or space, drinking water, incidental mobile water supply, any aerosol or grease cutting material, sanitation tools, sanitation liquids/sprays and material, washing liquids/powders or washing material, tools/meters for maintenance, tax reimbursement, entertainment and personal items/expenses, legal fees, fines, travel expenses including air-travel/road travel/sea-travel,TA/DA, hotel expense, food expense, medical expenses, government document fee, labor required for any maintenance activity, any type of air-conditioning gas, refills and gases pertaining to fire-fighting equipment, adhesive tapes, light bulbs (upto 250 Watts), room-heaters, fuses (upto 0.4kV) and circuit-breakers (upto 0.4kV).

12.5 Method of Application

Unless otherwise specified, Applications for Payment by the L2SP1 shall be submitted to the Employer under the following classification:

- a) Upto 12% of the Contract amount calculated for first five years of Services as advance payment within 7 days from the delivery of bank guarantee against the same amount by the L2SP1 will be payable in PKR by the Employer to the Contractor;
- b) in respect of the progress of the L2MCS, accompanied by such evidence of the value of the L2MCS done as the Employer may require, and
- c) Additional payments under Clause 22.3 and 22.4;
- d) In case of contract amendments, if any, the stipulation for payment shall be agreed and addressed in the particular amendments.

Any Application for Payment, or Special Application for Payment (SAP), shall state the amounts claimed and the detailed particulars in respect of which the application is made. Any Special Application for Payment shall be paid together with the next monthly Operation fee. The

L2SP1 shall submit to the Employer three (3) copies of the Application for Payment (invoices), or SAP, each signed by the L2SP1 and in such form as agreed between both Parties.

After receipt of a complete and correct Application for Payment, the Employer shall examine and perform due verification of such invoices within the times stipulated in Clause 12.1. After such time, each invoice will be deemed to have been accepted. If the invoice amount is not accepted by the Employer, the undisputed and disputed (if any) amounts shall be communicated by issuing the Certificate of Payment (COP) to the L2SP1 within the same time. If the objections of the Employer are not acceptable to the L2SP1, he will justify his claims with necessary documentation or choose to settle the disputed amounts in the next invoice. However, the portions of such invoices accepted by the Employer shall be paid as per Clause 12.5.b.

12.5.1 Certificate of Payment

a. Issue of Certificate of Payment (COP)

The Employer shall not withhold a COP on account of:

- i. defects of minor character which are not such as to affect the delivery of the Train Operation, or
- ii. pending disputes in any part of the payment applied for, in which case a certificate of payment for only the undisputed amount shall be issued.

b. Payment

The amount due to the L2SP1 under any Certificate of Payment issued by the Employer pursuant to this Clause, shall be paid by the Employer to the L2SP1 within four (04) calendar days of issuance of Certificate of Payment that has been accepted by the L2SP1. In the case of the Final Certificate (referred to in Sub-Clause 12.8), the Employer shall pay the L2SP1 within seven (07) calendar days after such Final Payment Certificate has been accepted by the L2SP1.

c. Currency(ies) of Payment

The currency(ies) of payment shall be Pakistan Rupees as stipulated in the Contract Agreement.

12.6 Delay of Payment

In the event of failure of the Employer to issue certificate of payment within the times stated in Sub-Clause 12.1, or the Employer has not paid the undisputed amount to the L2SP1 within four (04) calendar days from the date of issuance of a COP, a delay of payment shall be deemed to have occurred. Upon such occurrence, the L2SP1 shall serve a notice to the Employer for the delay under Clauses 32.3.2 or 32.3.3 respectively, and shall be entitled to a claim of an interest two (02) percentage points above the KIBOR rate (Karachi Inter-bank Offered Rate) of the central bank in the country of the currency of payment from the date by which the same should have been paid, to be paid in such currency.

The provisions of this Sub-Clause are without prejudice to L2SP1's entitlement under Sub-Clause 32.10.

12.7 Remedies on Failure to Certify or Make Payment

In the event the Employer fails to issue COP or make payments against the undisputed amounts due to the Contractor, the L2SP1 shall proceed in accordance with stipulations under Clause 32.3.

Provided that, where the L2SP1 has failed to provide any supporting documents required by the Employer, the L2SP1 shall not have the option to proceed under Clause 32.3.

12.8 Application for Final Payment of L2MCS

The L2SP1 shall make an application to the Employer for the Final Payment within twenty-eight (28) days after compliance to Clause 7.2, provided that anything consumed may not be handed back to the Employer, such as furniture or other materials.

The application for the Final Payment shall be accompanied by a final account prepared by the L2SP1. The final account shall give full details of the quantity of all relevant E&M Works and/or Smart Cards/Tokens supplied, and days of L2MCS done within this Final application under the Contract, together with:

- a) such additions to or deductions from the Contract Price as have been agreed, and
- b) all claims for additional payment to which the L2SP1 may consider himself entitled.

12.9 Issuance of Final Certificate of Payment

The Employer shall issue to the L2SP1, the Final Certificate of Payment within 28 days after receiving an application in accordance with Sub-Clause 12.8.

If the L2SP1 has not applied for a Final Certificate of Payment within the time specified in Sub-Clause 12.8, the Employer shall request the L2SP1 to do so within a further period of 28 days. If the L2SP1 fails to make such an application, the Employer shall issue the Final Certificate of Payment for such amount as he deems correct.

12.10 Final Certificate of Payment Conclusive

A Final Certificate of Payment shall be conclusive evidence of the adequate performance of the L2MCS by the L2SP1, that the delivered L2MCS are in accordance with the Contract and that the L2SP1 has performed all his obligations under the Contract.

Payment of the amount certified in the Final Certificate of Payment shall be conclusive evidence that the Employer has performed all his obligations under the Contract.

A Final Certificate of Payment shall not be conclusive:

- a) to the extent that fraud or dishonesty relates to or affects any matter dealt with in the certificate, or
- b) if any arbitration or court proceedings under the Contract have been commenced by either party before the expiry of 84 days after the issue of the Final Certificate of Payment.

12.11 Withholding of Payment

If the L2MCS or any parts thereof have not been carried out as per the Contract and in order to protect the Employer from loss on account of:

- a) deficient or inadequate delivery of L2MCS;
- b) failure of the L2SP1 to make payments due for labour employed by him;
- c) damage to any other L2SP, if any employed by the Employer, that is attributable to the L2SP1, and
- d) L2SP1's non-compliance with the Contract.

Provided that the above list is not exhaustive.

The Employer may notify withholding of such payments or part thereof due to the aforesaid reasons/grounds. When the reasons/grounds for withholding the payment are removed by the L2SP1, the Employer shall issue Certificate of Payment in respect of withheld amounts.

13. COMMERCIAL BUSINESS

If the Employer plans to assign/lease areas within the Corridor for commercial purposes, such plans shall be limited to within the public areas of the Corridor. Any such plans if deemed to interfere with the delivery of the L2MCS, or require use of electrical supply dedicated for stations, the Employer shall consult with the L2SP1 prior to finalization of such plans.

14. CONTRACT AMENDMENT

The Employer, by written notice served on the L2SP1, may initiate, alter, amend, omit, increase, decrease or otherwise change the nature, quality, quantity and scope, of all / any of the L2MCS, in whole or in part.

The L2SP1 shall, within fifteen (15) working days of receipt of such notice, give a feasibility (or in-feasible) response to the notices from the Employer. In case feasible options/alternatives are available, the response shall include such options/alternatives along with cost estimate of and execution schedule of each option/alternative, as well as details of the proposed change and modifications to the terms and conditions of the Contract (hereinafter referred to as the Change) to the Employer.

The L2SP1 shall not execute the Change until and unless the Employer has allowed the said Change, by written order served on the L2SP1.

The Change, mutually agreed upon, shall constitute part of the obligations under this Contract, and the provisions of the Contract shall apply to the said Change. No variation in or modification in the Contract shall be made, except by written amendment signed by both the Employer and the L2SP1.

The SLA or part thereof, if affected due to such amendment, shall be inapplicable for the duration of the implementation of the amendment work so agreed.

15. LEFT BLANK INTENTIONALLY

16. LABOUR

16.1. Engagement of Labour

The L2SP1 shall make his own arrangements for the engagement of all labour and for their payment in accordance with the regulations, orders and requirements of the local, Provincial and Federal Government and their associated authorities and other entities.

The Employer shall facilitate for obtaining all work visas, permits and licenses, if any, for the labour of the L2SP1 and its sub-contractors to ensure enough Chinese personnel for implementation of the project.

16.2. Reports of Labour

The L2SP1 shall submit detailed reports showing the supervisory staff and the numbers of the several classes of labour, employed by the L2SP1 in his own scope of L2MCS.

16.3. Restriction on Passenger Service Hours for Maintenance

There shall be no restriction on Passenger Service hours with respect to use of the Depot, Stations, Stabling Yard, and High Voltage Sub-station for maintenance services. However, full restriction to conduct of maintenance services shall apply on the entire length of track during the scheduled hours of train operation. Nevertheless, if the L2SP1 deems that the certain maintenance services are unavoidable or necessary on the track for saving of life or property or for the safety of the laborers; and for the said purpose the operation must be immediately stopped; the L2SP1 shall immediately stop the operation and advise the Employer. The L2SP1 shall also furnish a report for such incidents that leads to stoppage of trains to justify its action. In such an eventuality or otherwise, the L2SP1 shall continue to follow and be responsible for safety of its personnel at all times for use of the corridor.

Further, train operations shall not be conducted outside scheduled hours without the Employer consent.

16.4. Restriction on Hiring of Labor

The L2SP1 shall not recruit or attempt to recruit his staff and labour from amongst the persons in the service of the Employer and vice versa, unless mutually agreed between the Employer and the L2SP1.

16.5. Alcoholic Liquor or Drugs

The L2SP1 shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders, for the time being in force, import, sell, give, barter or otherwise dispose

of any alcoholic liquor or drugs, or permit or suffer any such importation, sale gift, barter or disposal by his L2SP1s, agents, employees or labour.

16.6. Arms and Ammunition

The L2SP1 shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

16.7. Festivals and Religious Customs

The L2SP1 shall in all dealings with his staff and labour have due regard to all recognized festivals, days of rest and religious or other customs.

16.8. Disorderly Conduct

The L2SP1 shall at all times monitor the conduct and functioning of all staff employed and ensure efficient services, polite and courteous behavior of all staff, and be liable and responsible for any disorderly conduct or unreasonable offense of its employees while they are on duty. The L2SP1 shall take prompt and appropriate action against such employees when applicable.

16.9. Records of Safety and Health

The L2SP1 shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property.

16.10. Reporting of Accidents

The L2SP1 shall report to the Employer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the L2SP1 shall, in addition to appropriate action required under the law, notify the Employer immediately by the quickest available means.

16.11. Compliance by Sub-contractors

The L2SP1 shall be responsible for compliance by his Sub-contractors of the foregoing provisions as if no such sub-L2SP1 existed.

16.12. Epidemics

In the event of any outbreak of illness of an epidemic nature, the L2SP1 shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same.

16.13. Supply of Water

The L2SP1 shall, so far as is reasonably practicable, having regard to local conditions, provide on the Corridor, to the satisfaction of the Employer or his representative, adequate supply of drinking and other water for the use of his staff and labour.

17. INTENTIONALLY DELETED

18. TERMINATION FOR INSOLVENCY

If the L2SP1 or any member of the joint venture, becomes bankrupt or otherwise insolvent, the Employer may, at any time, without prejudice to any other right or action / remedy it may have, by written notice served on the L2SP1, indicate the nature of the insolvency and terminate the Contract, in whole or in part. In such an eventuality, the Employer may withhold the whole amount of performance security together with any outstanding payments due to the L2SP1 or the joint venture.

19. TERMINATION FOR CONVENIENCE

- 19.1. The Employer may, at any time, by written notice of 90 days served on the L2SP1, terminate the Contract in whole or in part without assigning any reason.
- 19.2. The Services which are complete, or are scheduled to be completed by the L2SP1, within thirty working days after the receipt of such notice, shall be accepted and paid by the Employer. However, the Employer may cancel the services due to be provided in the remaining duration of the Contract by paying to the L2SP1 an amount equal to the value estimate carried out by a valuator hired by the Employer for the purpose.
- 19.3. For purposes of valuation of compensation to the L2SP1, if any, the Employer and the L2SP1 shall appoint a reputed firm of Chartered Accountants based in Pakistan through mutual agreement who will follow the methodology of calculation. The fee of such exercise/engagement shall be jointly borne by the Employer and the L2SP1.

The firm of Chartered Accountants shall determine a settlement value entitled to the L2SP1 with respect to the L2SP1's Equipment/infrastructure, and contractual liabilities associated with subcontractors, including at least the following:

- a) Book value, i.e. the depreciated value of the equipment keeping in view its verifiable cost, associated installation charges, its useful life and years of use, salvage value, etc.
 - b) Net realizable value, i.e. value of the equipment and associated infrastructure based on its sale value minus cost to sell;
 - c) with respect to the cancelled services, an allowance as compensation for overheads and anticipated profits to the L2SP1 equal to the amount 10% of the rest of Contract value;
- 19.4. The L2SP1 and the Employer shall arrive at a mutually beneficial outcome considering the valuations carried out by the firm of Chartered Accountants.
 - 19.5. Upon settlement of such values above, the Employer shall pay the L2SP1 of such value against a claim to be raised according to Clause 22.

20. VALUE ENGINEERING

Subsequent to the award of the Contract, the L2SP1 may, at any time, submit to the Employer a written proposal which in the L2SP1's opinion will reduce the cost of L2MCS, or improve the efficiency or value to the Employer of the L2MCS to be rendered in future or otherwise be of benefit to the Employer. Any such proposal shall be prepared at the cost of the Contractor. However, Employer is not bound to accept such proposal. However, if the Employer chooses to accept such a proposal, the ensuing process shall be undertaken as per Clause 14, i.e. Contract Amendment.

21. OWNERSHIP OF EQUIPMENT

21.1. Consumed Assets

The Parties acknowledge that:

Subject to the nature and the life cycle of materials and rolling stock; the Initial System Assets may fail, or be worn out or be damaged during the L2MCS Period.

the L2SP1 shall not be liable for damage to, loss of, or diminution in value of any Initial System Assets, unless it is established that such damage, loss, or diminution is directly, indirectly or partly caused by wrong doings on the part of the L2SP1;

22. CLAIMS

22.1. Procedure

- a) In any case where under these Conditions of Contract, there are circumstances which the L2SP1 considers entitles him to claim additional payment, except those under Clause 12 i.e. Payment, the L2SP1 shall, if he intends to make any claim for additional payment, give to the Employer notice of his intention to make such claim within twenty eight (28) days after the said circumstances became known to the L2SP1 stating the reasons for his claim,
- b) In case where circumstances arise which entitle the Employer to pay lesser amount to the L2SP1, the L2SP1 shall notify the Employer of such eventuality within twenty one (21) days of its knowledge of such circumstances, and
- c) as soon as reasonably practical after the date of such notice, submit to the Employer full and detailed particulars of his claim but not later than one hundred and eighty two (182) days after such notice unless otherwise agreed by the Employer. In any event, such particulars shall be submitted not later than the application for the last Certificate of Payment. The L2SP1 shall thereafter promptly submit such further particulars as the Employer may reasonably require assessing the validity of the claim.

22.2. Assessment

When the Employer has received full and detailed particulars of the L2SP1's claim in accordance with Sub-Clause 22.1 and such further particulars as he may reasonably have required, he shall determine whether the L2SP1 is entitled to additional payment and notify the L2SP1 accordingly within 42 days after submission of the claim notice from the L2SP1.

The Employer may reject any claim for additional payment which does not comply with the requirements of Sub-Clause 22.1.

22.3 Additional Payments

For additional payments arising out of reimbursement expenses for Customs (Clause 39.1), work orders (issued under Clause 54.4 (12)(c)(d)(e) of Scope of Services stipulated in Annexure A-1) or Claims (Clause 22), the L2SP1 shall submit a separate/special Application for Payment with the next Application for Payment for monthly Operation Fee.

22.4 Work Orders

For issuance of work orders stipulated in this Contract, the L2SP1 shall, notify the Employer along with a cost proposal, and provide any other particulars that may technically apply. The Employer shall on receipt of such proposal, evaluate, review and approve the cost and other particulars through a work order issued to the L2SP1, to purchase such contents stipulated in the proposal with/without any modifications thereof, subject to mutual agreement between both Parties. Any equipment/parts procured through a work order, if not part of Schedule A, shall henceforth be deemed to be part of the Schedule A.

The Employer shall make payment of work orders upon submission of invoice by the L2SP1 in line with Clause 12.2.

23. FOREIGN CURRENCY AND EXCHANGE RATES (ER)

23.1. Payment in Foreign Currencies

No payment shall be made by the Employer in currencies other than those stipulated in the Preambles.

23.2. Currency Restrictions

Any required foreign currency transactions in currencies, other than those stipulated in the Preambles, shall be met by the L2SP1 at his cost from his own resources.

24. PROVISIONAL SUMS

No provisional sums shall be allocated in respect of L2MCS except in cases of monthly payments against services already rendered if it is deemed that the monthly payment will be delayed for reasons attributable to the Employer. In such cases, the Employer may choose to pay a provisional payment of upto 75% of the invoiced amount through a provisional COP against evidence that the invoiced services stand rendered.

25. RISK AND RESPONSIBILITY

25.1. Allocation of Risk and Responsibility

The Risks of loss or damage to physical property and death and personal injury which arise in consequence of the performance of the Contract shall be allocated between the Employer and the L2SP1 as follows:

- a) the Employer's Risks as specified in Sub-Clause 25.2; and
- b) the L2SP1's Risks as specified in Sub-Clause 25.3.

25.2. Employer's Risks

Unless otherwise remedies are available in various Sub-clauses of the Contract, the Employer's Risks other than those stated in Clause 30 (Force Majeure) shall be as under, provided that such Risks may prevent the L2SP1 or affect the ability of the L2SP1 to perform the L2MCS as per this Contract:

- a) (Insofar as they relate to Pakistan) war and hostilities (whether war be declared or not), invasion, act of foreign enemies;
- b) (Insofar as they relate to Pakistan) rebellion, terrorism, revolution, insurrection, military or usurped power or civil war;
- c) ionizing radiation or contamination by radioactivity from any nuclear fuel, radio-active toxic explosives or other hazardous properties of any explosive nuclear assembly or nuclear components thereof; munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, within the country, except as may be attributable to the L2SP1's use of such munitions, explosives, radiation or radio-activity;
- d) pressure waves caused by aircraft travelling at sonic or supersonic speed;
- e) (Insofar as they relate to Pakistan) riot, commotion or disorder, unless solely restricted to the employees of the L2SP1 or of his Subcontractors.
- f) any act, omission, breach, default, breach of statutory duty, wilful misconduct, gross negligence or otherwise of Employer or any of its Affiliates;
- g) the Employer breaches its obligation under any another agreement relating to the System;
- h) the Employer fails to hand over the Initial System Assets to the L2SP1 or parts thereof;
- i) the Employer or third party contractors engaged by the Employer cause damage or loss to the System or unreasonable interference with the Services;
- j) any attempted step-in by the Employer not due to any breach of statutory duty, wilful misconduct, gross negligence or otherwise of the L2SP1;
- k) National or local Emergency;
- l) Changes in Law by the government;
- m) an official prohibition or suspension order from the government;
- n) Industry wide or country wide strikes, protest or industrial action for a continuous period of 3 days and in aggregate such period exceeds 15 days in any calendar year;
- o) suspension of operations as a result of expiry of authorization, permits or approvals from any government agency.
- p) failure or shortage of externally supplied electric power to the OLMRTS;
- q) the agency responsible for security of foreign personnel such as SPU, declares, for any reason it deems fit, that it is unsafe for expatriate personnel to work in the Corridor;
- r) nationalisation, confiscation or expropriation of the properties of the L2SP1 by government of Pakistan for reason other than the conduct of the L2SP1;
- s) defects pertaining to workmanship of Civil Works or E&M Works, including interface works.

- t) stoppage/suspension of Operation Work due to physical obstruction cause of which is not attributable to the L2SP1.

In case one or more of the Employer's Risks in Clause 25.2 occur, the L2SP1 shall take adequate measures to mitigate the effect of such risks; such measures shall only be performed against the written notice/ work order issued by the Employer. However, if in such instances the L2SP1 is directly affected and is unable to deliver L2MCS or parts thereof, the L2SP1 shall be entitled to payment against such notice/work order in accordance with Clause 22 i.e. Claim. However, payment adjustments under such cases to the extent of L2MCS not delivered shall apply. Such claim shall be paid by the Employer up to the extent suffered and borne by the L2SP1 as a result of and during course of the particular risk of the Employer, as per procedure laid down in Clause 12. In such instances, the duration of downtime of the systems established due to Employer's Risks shall not be used in assessment of applicable threshold parameters in SLA.

In case any event under Clause 25.2 occurs, the Employer shall:

- i. bear all risk in the System including but limited to Civil Works, Equipment/Materials/Spare Parts at the corridor, any consequential loss, damage and/or destruction thereto or thereof to the L2SP1 (including responsibility for any deductible under insurances).
- ii. be held liable to maintain the quality, remove defects, control foundation settlement, adhere to time schedule, ensure safety and bear all cost pertaining to consequential Civil Works and E&M Works under the Contract.

25.3. **L2SP1's Risks**

Unless otherwise remedies are available in various Sub-clauses of the Contract, the L2SP1's Risks shall be as under, provided that such Risks may prevent the L2SP1 or affect the ability of the L2SP1 to perform the L2MCS as per this Contract:

- a) Non-adherence to standard operating procedures;
- b) Executing or following improper instructions;
- c) Operation staff mishandling a task or causing improper execution of a task
- d) Incomplete Operation guidance and rules conveyed to or practiced by operation staff;
- e) Unqualified staff due to improper professional training;
- f) Defects in Operation Guidance and Rules;
- g) Unchecked absenteeism of operation staff, or weak management control on staff;
- h) Unchecked practice of corruption and negligence;
- i) lack of implementation of safety related measures and responsibilities;
- j) Periodic inspection, maintenance and care of Track, Rolling Stock, Software and/or any other Equipment handed over to L2SP1 do not meet the technical requirements

prescribed in Concept design document, detailed specifications and/or maintenance manuals.

- k) Verbal or physical ill treatment of passengers;
- l) wrong instructions by any functional management staff;
- m) Not Complying with any or all applicable laws/rules/ regulations of Pakistan;
- n) Improper use or insufficient Personal Protection Equipment;
- o) Inaccurate placement of safety signs and pictograms;
- p) Insufficient inventory of relevant spares for emergent use or normal operation;
- q) Loss of revenues of the OLMRTS.
- r) accidents inside the corridor and consequences thereof;
- s) stoppage/suspension of Operation Work due to physical obstruction cause of which is attributable to the L2SP1.
- t) Disconnection or arrears in utilities and wireless charges.

Payments for spare parts arising from all risks other than those identified as the Employer's Risks, L2SP1's Risks and other than those stated in Clause 30(Force Majeure) shall be addressed in a manner and in accordance with Clause 54.4 (12) of the General Clauses in the Scope of Work at Annex A-1.

If it is established that any accident/failure during the delivery of L2MCS is due to an accident/Employer Risk Events/ L2SP1's Risk Events/other than normal use for which the L2SP1 is partially responsible, within 7 days from the occurrence of such incident, the L2SP1 shall furnish to the Employer a written report of the incident establishing its own extent of responsibility and costs recoverable through Insurance claims. Both Parties shall mutually agree to finalize the report/share of responsibilities. Also, the L2SP1 shall file pertinent claim to insurance company and make its best efforts to arrange processing of the claim with the insurance company. The Employer shall make payments to the L2SP1 against responsibilities established to be borne by the Employer after adjusting the recovery from insurance.

25.4. Liability of the L2SP1 under occurrence of the L2SP1's Risk Events

Upon occurrence of a risk event, the L2SP1 shall prepare a report to provide details of the nature of the risk event, along with probable causes, clearly establishing the share of responsibility of each party. The Employer shall review and approve such report. In case the report confirms and establishes the risk to be the L2SP1's Risk, the L2SP1 shall:

- a) bear all risk in the System including but limited to Civil Works, Equipment/Materials/Spare Parts at the corridor, any consequential loss, damage and/or destruction thereto or thereof to the Employer.

- b) be held liable to execute the complete scope of work and bear all cost to make good the consequential(damaged/defective) Civil Works, E&M works and interface works under the Contract.
- c) not be eligible for payments/claims against services not rendered.

25.5. Notice of Occurrence of Risk Events

If either party considers that any circumstances of Risk Events have occurred which may affect performance of his obligations, he shall promptly notify the other party.

25.6. Relief from Performance of Obligations

25.6.1. Upon occurrence of a risk event, the L2SP1 shall prepare a report to provide details of the nature of the risk event, along with probable causes, clearly establishing the share of responsibility of each party. The Employer shall review and approve such report. In case the report confirms and establishes the risk to be the Employer's Risk, and the L2SP1 is rendered wholly or partially unable to perform its obligations under this Agreement as a result, it shall be:

- a) excused from performance of its obligations to the extent it is unable to perform on account of such Employer Risk Event;
- b) relieved from the relevant penalties under the SLA and payment adjustment. In such cases, the Employer shall be entitled to deduct certain profit and overheads from the payment. However, the L2SP1 shall be entitled for payment of all the accrued cost under Operation fee provided that:-
 - i. the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Employer Risk Event;
 - ii. the L2SP1 shall make all reasonable efforts to mitigate or limit damage to the Employer arising out of or as a result of the existence or occurrence of such Employer Risk Event and to cure the same with due diligence; and
 - iii. when the L2SP1 is able to resume performance of its obligations under this Agreement, it shall give to the Employer notice to that effect and shall promptly resume performance of its obligations.

25.7. Right to Termination for Employer Risk Event

In case by reason of Employer's Risk Event, the execution of all the Services is prevented for at least one continuous period of 60 days, and after including other periods of Risk Events, the total duration of the Risk Events works out to be more than 180 days in a continuous period of 365 days (each a "Prolonged Employer Risk Event"), then the L2SP1 may give the Employer a notice of termination of the Agreement.

26. CARE OF THE CORRIDOR AND PASSING OF RISK

26.1. L2SP1's Responsibility for the Care of the Corridor

The L2SP1 shall be responsible for the care of the Corridor or any Section thereof from the Commencement until the Risk Transfer Date applicable thereto under Sub-Clause 26.2.

26.2. Risk Transfer Date

The Risk Transfer Date in relation to the O&M Services or a Section thereof is the earliest of either:

- a) the date when the Employer has issued or deemed to have issued the Handing Back Certificate to the L2SP1 in accordance with Clause 7, i.e. Contract Period.
- b) the date of expiry of the notice of termination when the Contract is terminated by the Employer or the L2SP1 in accordance with these Conditions.

26.3. Passing of Risk of Loss of or Damage to the OLMRTS

The risk of loss of or damage to the OLMRTS or any Section thereof shall pass from the L2SP1 to the Employer on the Risk Transfer Date applicable thereto.

26.4. Loss or Damage Before Risk Transfer Date

Loss of or damage to the Corridor or any Section thereof occurring before the Risk Transfer Date shall:

- a) to the extent caused by any of the L2SP1's Risks, be made good forthwith by other contractor(s) of the OLMRTS at the cost of the L2SP1, or otherwise to be arranged at the cost of the L2SP1, and
- b) to the extent caused by any of the Employer's Risks, be made good by the Employer at his cost.

26.5. Duty to Minimize Delay

Each Party shall at all times use all reasonable endeavors to minimize any delay in the Performance of the Contract as a result of Risks.

The L2SP1 shall give notice to the Employer and vice versa the Employer shall give notice to the L2SP1 in case of foreseeable delay by the Risks.

27. DAMAGE TO PROPERTY AND INJURY TO PERSONS

27.1. L2SP1's Liability

Except as provided under Sub-Clause 27.3, the L2SP1 shall be liable for and shall indemnify the Employer against all losses, expenses and claims in respect of any loss of or damage to physical property (including but not limited to Initial System Assets), death or personal injury caused by and limited to the L2SP1's Risks under Clause 25.3 occurring during the L2MCS Period to the extent caused by:

- a) negligence of the staff of the L2SP1, or
- b) negligence or breach of statutory duty of the L2SP1, his Subcontractors or their respective employees and agents.

27.2. **Employer's Liability**

The Employer shall be liable for and shall indemnify the L2SP1 against all losses, expenses or claims in respect of loss of or damage to any physical property (including but not limited to Initial System Assets) or of death or personal injury to the extent caused by and limited to the Employer's Risks under Clause 25.2.

27.3. **Accidents**

The L2SP1 shall be liable for and shall indemnify the Employer or any other Service Providers engaged by the Employer, their employees or members of general public against all losses, expenses or claims arising in connection with the death of or injury to any person employed by the L2SP1 or his Subcontractors for the purposes of delivery of the L2MCS, unless caused by any acts or defaults of the Employer, or other Service Providers engaged by the Employer or by their respective employees or agents. In the latter cases, the Employer shall be liable for and shall indemnify the L2SP1 against all losses, expenses and claims arising in connection therewith to the extent these losses, expenses and claims are not covered under the insurance.

28. LIMITATIONS OF LIABILITY

28.1. **Liability for Indirect or Consequential Damage**

Neither party shall be liable to the other for any loss of profit, loss of use, loss of production, loss of contracts or for any other indirect or consequential damage that may be suffered by the other, except where such provision exists in this Contract whereby the L2SP1 is expressly entitled to receive profit;

28.2. **Maximum Liability**

The L2SP1 shall be exempt from all the liabilities of Civil Works and E&M Works maintenance services under the Contract, except those accrued under Clause 25.4. The total liability of the L2SP1 to the Employer under or in connection with the Contract shall not exceed the total Contract price of L2MCS.

However, nothing in this Clause shall limit liability in any case of fraud, deliberate default or reckless misconduct by the L2SP1.

28.3. **Liability after date of Handback**

The L2SP1 shall have no liability to the Employer for any loss of or damage to the Employer's physical property which occurs after the date of the Handback.

28.4. **Exclusive Remedies**

The Employer and the L2SP1 intend that their respective rights, obligations and liabilities as provided for in these Conditions shall alone govern their rights under the Contract and in relation to the L2MCS.

Accordingly, the remedies provided under the contract in respect of or in consequence of:

- a) any breach of contract, or
- b) any negligent act or omission, or

- c) death or personal injury, or
- d) loss or damage to any property

are, save in the case of Gross Misconduct, to be to the exclusion of any other remedy that either may have against the other under the law governing the Contract or otherwise.

28.5. Mitigation of Loss of Damage

In all cases the party claiming a breach of Contract or a right to be indemnified in accordance with the Contract shall be obliged to take all reasonable measures to mitigate loss or damage which has occurred or may occur.

29. INSURANCE

29.1. The Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/AFC Smart Cards/Tokens

The L2SP1 shall arrange for all kinds of insurance of Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/AFC Smart Cards /Tokens according to this Contract. Any amounts related to Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens not insured or not recovered from the insurers shall be borne by the L2SP1.

The L2SP1 shall insure the Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens in the names of both parties against their full replacement value as per his scope of O&M Services as stated in the Contract:

- a) from the Commencement Date until the Risk Transfer Date against any loss or damage caused by any of the L2SP1's Risks, the Employer's Risks and any other risks including but not limited to:
 - i. Fire, smokes, explosion, falling objects, earthquake, perils of the sea, tempest, impact by aircraft or land vehicle, aircraft and other aerial devices or articles dropped there from, lightning, strike, riot, civil commotion, escape of water, inundation, rain, snow, landslides, flood, act of God, vandalism or malicious damage, windstorm or hail storm.
 - ii. Collision, upset, overturn, derailment, stranding or sinking of an automobile or any conveyance of a common carrier by land, water or air in which the Equipment or any part thereof is being carried including overland transportation in Pakistan from port of entry to the Corridor.
 - iii. Theft, burglary or attempted theft or burglary.
 - iv. Any loss or damage during pre-installation storage.
 - v. Faults in delivery of L2MCS due to lack of skill, lack of experience, negligence, malicious act, wrong action;

- vi. any other sudden and unforeseen event such as loss or damage due to collapse, uncontrolled power surge etc. on Corridor, transport of items.
- vii. Actions of the Employer or other service providers of the Employer in the operation of Equipment or part thereof on behalf of the L2SP1.

29.1.1. Marine Insurance of Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens

- a) The L2SP1 shall in its own name, obtain Marine Cargo All Risks Insurance to cover loss or damage to the Spare Parts/E&M Equipment (to be replaced)/Maintenance Equipment or part thereof during transport.
- b) The insurance for each consignment of Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens or part thereof shall be attached from the time the Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens or part thereof leave the warehouse or place of storage and terminate after ninety (90) days on its completion of unloading at the Corridor or until insurance survey whichever occurs first. Upon arrival of each consignment at the Corridor, the L2SP1 shall, immediately arrange insurance survey by the insurance company.
- c) The sum insured for imported Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens or part thereof shall be for its full replacement value at the Corridor i.e. 100 % CIF value at the Corridor for each consignment of the Spare Parts/Equipment or part thereof plus not less than 30 % of CIF value at the Corridor to cover any additional costs resulting from loss or damage thereof.
- d) The Insurance Policy for imported Spare Parts/E&M Equipment/Maintenance Equipment/Monitoring Tools/Smart Cards/Tokens etc. shall be on "All Risks" basis and shall not be limited to any attachment/endorsement of following Clauses:
 - i. Institute Cargo Clauses (A)
 - ii. Institute War Clauses (Cargo)
 - iii. Institute Strikes Clauses (Cargo)
 - iv. Institute Cargo Clauses (Air) excluding sending by Post
 - v. Institute War Clauses (Air Cargo) excluding sending by Post.
 - vi. Institute Strikes Clauses (Air Cargo)

vii. Special Replacement Clauses (Air)

viii. Institute Theft, Pilferage and Non-delivery Clauses

29.1.2. General application of insurance

To the extent of L2MCS, should a loss pertaining to consumables and spare parts be sustained, the L2SP1 shall replace or repair any loss or damage in line with Clause 7.4 of the Scope of Work.

29.2. L2SP1's Insurance

The L2SP1 shall arrange insurance of materials for operation, including marine insurance and all-risk-insurance, for its full replacement value while on the Corridor against all loss or damage caused by any of the L2SP1's Risks and/or Employer's Risks, or otherwise.

29.3. Third Party Liability

The L2SP1 shall insure against liability to third parties for any death or personal injury and loss of or damage to any physical property arising out of the performance of the Contract and occurring before the issue of the Handback Certificate.

Such insurance shall be affected before the L2SP1 begins any Train Operation on the Corridor. The amount of insurance against third party liability shall not be less than that stipulated in the Preamble per occurrence with number of occurrences unlimited

During Passenger Operations, in the event of any accident resulting in death or injury to the passenger, the L2SP1 shall pay compensation to legal representatives or to the passengers, as the case may be, under sections 50 and 67 of the Provincial Motor Vehicle Ordinance 1965 or any other applicable law or regulation or any court order.

29.4. Employees

The L2SP1 shall insure and maintain insurance against his liability for his employees.

29.5. General Requirements of Insurance Policies

The L2SP1 shall:

- a) produce the policies or certificates of any insurance which he is required to effect under the Contract together with receipts for the premiums,
- b) make effective all insurances for which the Employer are responsible with an insurer,
- c) make no material alterations to the terms of any insurance without the agreement between both Parties, and
- d) in all respect comply with any conditions stipulated in the insurance policies which he is required to place under the Contract.

29.6. Intentionally left blank

29.7. **Remedies on the L2SP1's Failure to Insure**

If the L2SP1 fails to produce evidence of insurance cover, the Employer may affect penalty as per SLA at Section 04 i.e. Service Level Agreement.

29.8. **Amounts not Recovered**

Any amounts not recovered from the insurers shall be borne by the Employer or L2SP1 in accordance with their responsibilities under Clause 25.

29.9. **Validity of Insurance**

All the policies of Insurance of the Equipment must provide for payment of indemnity to be made in such amounts which will allow making good of loss of or damage to the whole or any part of the OLMRTS.

29.10. **L2SP1 to Notify**

It shall be the responsibility of the L2SP1 to notify the insurance company of any changes in nature and extent of the OLMRTS and to ensure the adequacy of the insurance coverage at all times in accordance with the provisions of the Contract.

29.11. **Procurement of Insurance Policies**

The L2SP1 shall procure and submit evidence of insurance cover within twenty eight (28) days from the effectiveness of the Contract. The effective date of the coverage shall be the Commencement Date of this Contract. The validity of the insurance policy shall be coterminus with the L2MCS Period.

29.12. **Insurance Company**

The policies of transportation insurance may be effected with expatriate Insurance Corporation, but all other insurances with respect to L2SP1's operations in Pakistan shall be effected with any of the insurance company operating in Pakistan with financial strength rating of AA approved by Pakistan Credit Rating Agency (PACRA) or JCR (Japan Credit Rating Agency) preferably the National Insurance Corporation (NIC) of Pakistan.

30. FORCE MAJEURE

30.1. Definition of Force Majeure

Force Majeure means any circumstances beyond the control of the parties, including but not limited to:

- a) war and other hostilities, (whether war be declared or not), invasion, act of foreign enemies, mobilization, requisition or embargo,
- b) ionising radiation or contamination by radio-activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosives, or other hazardous properties of any explosive nuclear assembly or nuclear components thereof, natural catastrophes such as earthquake, hurricane, typhoon, flood or volcanic activity,

- c) rebellion, terrorism revolution, insurrection, military or usurped power and civil war,
- d) riot, commotion, strike, lockout or disorder, except where solely restricted to employees of the Contractor.
- e) munitions of war, explosive materials, ionising radiation or contamination by radio- activity, except as may be attributable to the L2SP1's use of such munitions, explosives, radiation or radio-activity.

30.2. Effect of Force Majeure

Neither party shall be considered to be in default or in breach of his obligations under the Contract to the extent that performance of such obligations is prevented by any circumstances of Force Majeure which arise after the date of the Letter of Acceptance or the date when the Contract becomes effective, whichever is the earlier.

30.3. Notice of Occurrence

If either party considers that any circumstances of Force Majeure have occurred which may affect performance of his obligations he shall promptly notify the other party and the Employer thereof.

30.4. Performance to Continue

Upon the occurrence of any circumstances of Force Majeure, the L2SP1 shall endeavor to continue to perform his obligations under the Contract so far as reasonably practicable. The L2SP1 shall notify the Employer of the steps he proposes to take including any reasonable alternative means for performance which is not prevented by Force Majeure. The L2SP1 shall not take any such steps unless directed so to do by the Employer.

30.5. Additional Costs caused by Force Majeure

If the L2SP1 incurs additional costs in complying with the Employer's directions under Sub-Clause 30.4, the amount thereof shall be evaluated by the Employer and added to the Contract Price.

30.6. Damage Caused by Force Majeure

If in consequence of Force Majeure the Works shall suffer loss or damage, the L2SP1 shall be entitled to have the value of the work done, without regard to the loss or damage that has occurred, included in the Payment. However the L2SP1 shall put up his claim to the Employer with full details and justification.

30.7. Termination in Consequence of Force Majeure

If circumstances of Force Majeure have occurred and shall continue for a period of one hundred and eighty two (182) days then, either party shall be entitled to serve upon the other twenty eight (28) days' notice to terminate the Contract. If at the expiry of the period of twenty eight (28) days, Force Majeure shall still continue the Contract shall terminate.

30.8. Payment on Termination for Force Majeure

If the Contract is terminated under Sub-Clause 30.7, the L2SP1 shall be paid the value of the work done.

The L2SP1 shall also be entitled to receive:

- a) the cost of materials or goods ordered for the Works or for use in connection with the Works which have been delivered to the L2SP1 or of which the L2SP1 is legally liable to accept delivery. Such materials or goods shall become the property of and be at the risk of the Employer when paid for by the Employer and the L2SP1 shall place the same at the Employer's disposal,
- b) the reasonable cost of removal of L2SP1's Equipment from the Site and the return thereof to the L2SP1's works in his country or to any other destination provided that such cost is not greater than the salvage value of such equipment, and
- c) the reasonable cost of repatriation of the L2SP1's staff and workmen employed wholly in connection with the L2MCS at the date of such termination provided that termination occurs before 48 months of the overall Contract Period.

30.9. Release from Performance

If circumstances of Force Majeure occur and in consequence thereof under the law governing the Contract the parties are released from further performance of the Contract, the sum payable by the Employer to the L2SP1 shall be the same as that which would have been payable under **Sub-Clause 24.8 if the Contract had been terminated under Sub-Clause 24.7.**

31. DISPUTE RESOLUTION

31.1. Disputes concerning Employer's Decisions

If a dispute of any kind whatsoever arises between the Employer and the L2SP1 in connection with, or arising out of, the Contract or the execution of the L2MCS, whether during the execution or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, evaluation made by the Employer, the parties shall attempt to settle such dispute in the first instance within thirty (30) days by mutual discussion/information negotiation. If the dispute cannot be settled by way of mutual consultation, it shall be dealt with in accordance with Sub-Clause 31.2.

Unless the Contract has already been repudiated or terminated, the L2SP1 shall, in every case, continue to proceed with the L2MCS with all due diligence.

31.2. Arbitration

Any dispute which could not be resolved by way of mutual consultations/informal negotiation as provided in Sub-Clause 31.1, either party may require that the dispute be referred for resolution by arbitration under the Pakistan Arbitration Act, 1940, as amended, by one or more arbitrators selected in accordance with said Law. The place for arbitration shall be Lahore, Pakistan. The award shall be final and binding on the parties.

Provided, however, that if either the Employer or the L2SP1 is dissatisfied with the mutual consultation process referred to in Sub-Clause 31.1, then the dissatisfied party shall notify the other party of such dissatisfaction within fourteen (14) days of conclusion of the thirty (30) days'

period for mutual consultation/informal negotiation provided in Sub-Clause 31.1. No arbitration in respect thereof may be commenced unless such notice is given.

The said arbitrator(s) shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or evaluation of the Employer.

30.3. L2MCS to Continue

The performance of the Contract shall continue during arbitration proceedings unless the Employer shall order suspension. If any such suspension is ordered, the reasonable costs incurred by the L2SP1 and occasioned thereby shall be added to the Contract Price.

No payments due or payable by the Employer shall be withheld on account of pending reference to arbitration.

32. DEFAULT

32.1. Notice of Default

If the L2SP1 is not executing the O&M Services in accordance with the Contract or is neglecting to perform his obligations thereunder so as seriously to affect the smooth operations of the train operations, fails/delays in performance of any of the obligations under the Contract, violates any of the provisions of the Contract / commits material breach of any of the terms and conditions of the Contract, or engages in any illegal activities (L2SP1's Default); the Employer may, without prejudice to any other right or action or remedy it may have, by written notice ("L2SP1 Default Notice") served on the L2SP1, indicate the nature of the default(s) and require the L2SP1 to make good/remedy such failure or neglect within the stipulated time/applicable cure period.

32.2. L2SP1's Default

In case the L2SP1 does not/fails to remedy the default within the Cure Period mentioned hereunder or such longer period in the Notice, an Event of Default shall be deemed to have occurred. In this case, the Employer may, by giving a notice to the L2SP1 in line with Sub-Clause 33.1, terminate the Contract. The following events constitute an event of default in relation to the L2SP1 (each an "L2SP1's Default "):

- a) fails to comply and/or does not cure its failure/breach/illegal activity, within twenty one (21) working days (or in such longer time that is stipulated by the Employer in his notice under Sub-Clause 32.1), or
- b) assigns the Contract or subcontracts the whole of the L2MCS without the Employer's prior written consent, or
- c) becomes bankrupt or insolvent, has a receiving order made against him or compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors or goes into liquidation,

If the Employer terminates the Contract for default in whole or in part, it may procure from third parties, under such terms and conditions and in such manner as it deems appropriate, services similar to those terminated/undelivered, or it may carry out such services itself. In such a situation, both parties shall settle the cost related with such termination, and the L2SP1 shall not be responsible for further contract costs of any other third party.

However, the L2SP1 shall continue performance of the Contract to the extent not terminated and shall be entitled to the payment in amount proportional to such performance.

Any such expulsion and termination shall be without prejudice to any other rights or powers of the Employer, under the Contract.

The Employer or such other new L2SP1 may use for such completion any L2SP1's Equipment which is on the Corridor as he or they may think proper, and the Employer shall pay the L2SP1 a reasonable compensation for such use, subject to a Claim under Clause 22.

32.3. **Employer's Default**

The L2SP1 may give Employer a notice ("Employer Default Notice") specifying that an Employer's Default has occurred and that such default must be remedied by the Employer within a reasonable Cure period;

In case the Employer does not/fails to remedy the default within the Cure Period mentioned hereunder or such longer period in the Notice, an Event of Default shall be deemed to have occurred. In this case, the L2SP1 may, by giving a notice to the Employer in line with Sub-Clause 32.2, terminate the Contract.

The following events constitute an event of default in relation to the Employer (each an "Employer Event of Default"):

- 32.3.1. the Employer becomes bankrupt or insolvent, or has a receiving order made against him or compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or goes into liquidation;
- 32.3.2. fails to issue the certificate of payment to the L2SP1 for the undisputed amount due under any payment within twenty one (21) days (or in such longer time that is stipulated by the L2SP1 in his notice under Sub-Clause 32.3) after the amount became payable under Clause 12 of the Contract;
- 32.3.3. the Employer fails to pay the undisputed due amount against which a Certificate of Payment is already issued, and such failure to pay is not remedied within 21 days (or in such longer time that is stipulated by the L2SP1 in his notice under Sub-Clause 32.3) following receipt of notice of non payment from the L2SP1 to the Employer;
- 32.3.4. the Employer commits a material breach of any of its material obligations under the Agreement, or repudiates the Agreement, and does not cure such breach within 30 days (or in such longer time that is stipulated by the L2SP1 in his notice under Sub-Clause 32.3) following receipt of a notice from the Contractor;
- 32.3.5. Pakistan Government changes its laws rendering the performance of the Services under this Contract impossible or such changes require a significant change in the Services to achieve compliance under Clause 25.2. Furthermore, such change in Services cannot be compensated by the Employer under this Contract or otherwise.
- 32.3.6. the Employer fails to comply with any final decision reached as a result of settlement of Disputes pursuant to Clause 31 (Dispute Resolution) hereof;
- 32.3.7. consistently fails to meet his contractual obligations

32.4. **Liability after Default Notice**

Unless otherwise specified in the other provisions of the Agreement, the Party in default or breach shall endeavor to remedy such default or breach within the cure period defined in the notice, or within other such agreed period. Upon occurrence of such default or breach, the Party in default or breach, shall be responsible for any and all liability, cost and expense arising out of or connected with such default or breach during the period of such cure. However, nothing contained in this Clause shall be construed to limit or restrict a Party's rights thereunder (including to refer the matter to dispute resolution under Clause 31 (Dispute Resolution)).

32.5. **Intentionally deleted.**

32.6. **Joint and Several Liability**

All the persons in the joint venture of the L2SP1 shall be jointly and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as leader with authority to bind the joint venture. Any payment by the Employer to the lead partner in the joint venture shall discharge the Employer's liability for payment under this Contract and any partner in the joint venture cannot claim any amount from the L2SP1 in relation to any dispute between the joint venture partners.

32.7. **Integrity Pact**

If the L2SP1 or any of his Subcontractors, agents or servants is found to have violated or involved in violation of the Integrity Pact to be signed by the L2SP1, then the Employer shall be entitled to:

- a) recover from the L2SP1 an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the L2SP1 or any of his Subcontractors, agents or servants;
- b) terminate the Contract; and
- c) recover from the L2SP1 any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the L2SP1 or any of his Subcontractors, agents or servants.

The termination under Sub-Para (b) of this Sub-Clause shall proceed in the manner prescribed under L2SP1's Defaults.

33. TERMINATION

33.1. **Termination by the Employer**

If the L2SP1 is unable to cure a L2SP1's Default during the Cure Period specified in a L2SP1 Default Notice, the Employer may, after having given ninety (90) days notice to the L2SP1, stating the reasons for termination and the effective date, terminate the Contract, in whole or in part.

The termination of the Contract by the Employer may materialize due to reasons as under:-

- a) a default by the L2SP1 under Clause 32.2;

b) a Prolonged L2SP1's Risk Event, if any;

33.2. Termination by the L2SP1

The L2SP1 shall issue not less than 30 days' (or such longer period as mutually agreed) written notice of termination to the Employer, stating the reason for termination of the Agreement and the date on which such termination becomes effective. The termination of the Contract by the L2SP1 may materialize due to reasons as under:

a) a default by the Employer under Clause 32.3;

b) a Prolonged Employer Risk Event under Clause 25.7.

33.3. Payment on Termination

33.3.1. Payment upon Termination by the Employer

The Employer shall, as soon as possible after such termination, certify the value of the O&M Services and all sums then due to the L2SP1 as at the date of termination in accordance with Clause 12. The Services which are complete, or are scheduled to be completed by the L2SP1, within thirty Operation working days after the receipt of termination notice, shall be accepted and paid by the Employer, as well as any amount accrued in favor of the L2SP1 under this Contract. The remaining Services shall be deemed to be cancelled. The Employer shall deduct any amount accrued in its favor under Clause 32.2.

The Employer shall not be liable to make any further payments to the L2SP1 except (in case of partial termination) for those against performance of part of Contract not terminated.

The Employer may deduct/recover the extra cost if any due to the Employer, as he evaluates, from any sums otherwise due and payable to the L2SP1,.

If there is no such extra cost the Employer shall pay any balance due to the L2SP1, provided that in case of termination of L2SP1's default, the Employer may withhold any amounts limited to such default due in relation to the period starting from the earliest date the L2SP1 was in default and provided that in such a situation, the L2SP1 shall not be eligible for any settlement or payments in relation to the costs it may incur due to such termination.

The Employer shall have the right to forfeit such proportion of the performance security as is related to the services which are terminated by default of the L2SP1. The L2SP1 shall also have the option to have equivalent value of such portion of the Performance Security as deemed to be called by the Employer, settled otherwise through means available to the Employer. In which case, the Performance Security shall not be called.

The Employer shall withhold any amount with respect to pending liabilities of the L2SP1 in terms of any lawsuits arisen from a third party and/or failure of equipment due

to L2SP1's responsibility, or any other pending liability accrued under this Contract, if any. The unforfeited portion of the Performance Security, any withheld amounts and/or the final settled amount shall be released by the Employer after the L2SP1 has cleared all its liabilities with respect to L2MCS.

After taking into account the foregoing, the Employer's determination of the value related with such termination shall be final unless the L2SP1 disputes such settlement amount, refuses to accept the payment and opts to raise the issue to dispute resolution under Clause 31.

33.3.2. Payment upon Termination by the L2SP1

In case of termination by the L2SP1 under Clause 33.2, the L2SP1 shall be entitled to its settlement value determined in accordance with Clause 19 (Termination for Convenience).

33.4. General

Termination is without prejudice to any accrued liabilities for breach or any other applicable rights of the Employer or the L2SP1 under this Agreement.

33.5. Intentionally deleted.

33.6. Removal of L2SP1's Equipment

On termination of Contract due to Employer's Default, the L2SP1 shall be entitled to remove immediately all L2SP1s' Equipment which is on the Corridor after handing back of prevailing Initial System Assets as issued/updated/replenished in the inventory. The returned equipment to the Employer shall include those parts or equipment already paid by the Employer.

34. TAXES AND DUTIES

34.1. Payment of Taxes

34.1.1. The income withholding tax for the payment of mobilisation and Operation, which is 7% of mobilisation fee and Operation fee, has been considered. The Employer shall be responsible for the payment of balance due to the increasing of income withholding tax rate according to regulations of Pakistan. The L2SP1 shall be exempted from all obligation or responsibility for the payment of all the other Pakistani tax arising out of the Contract such as sales tax, etc.

34.1.2. In the event that the L2SP1 is obliged to pay any Taxes as required by the Law over and above the 7% withholding tax stipulated in Clause 0, the Employer shall pay the excess part on behalf of the L2SP1.

34.2. Personnel, Taxes and Duties

The L2SP1 or his personnel shall pay all personal income tax or other taxes due in Pakistan, if any, for the personnel working in Pakistan employed by the L2SP1 for implementing the O&M Services or any other activity required by the Contract. The L2SP1 shall obtain, at his own cost, visas/work permits from competent authorities to enable any foreign personnel to work in Pakistan. The L2SP1 shall be responsible for all formalities in connection with passports,

obtaining visas, police permits, and expenses for customs duties, if any, related to personal goods of foreign personnel employed on the Project. However, the Employer will, if requested, assist the L2SP1 in obtaining visas and work permits. The request shall be limited to providing letters required by the relevant authorities.

35. CONTRACT COST

The L2SP1 shall bear all costs / expenses incurred by itself that are associated with the negotiations and preparation of the Contract documents before the signing of the Contract.

36. WAIVER

Failure of either party to insist upon strict performance of the obligations of the other party, under the Contract, shall in no way be deemed or construed to affect in any way the right of that party to require such performance.

37. LIABILITY OF THE L2SP1

The L2SP1 or his Subcontractor or assigns shall follow strictly, all relevant labour laws including the Workmen's Compensation Act and the Employer shall be fully indemnified for all claims, damages etc. arising out of any dispute between the L2SP1, his Sub-L2SP1 or permitted assigns and the labour employed by them.

38. CHANGE IN COST AND LEGISLATION

38.1. Annual Adjustment to Contract Price

The Contract Price shall be adjusted on Quarterly(N) Basis as follows, by taking consideration of changes of inflation rate and exchange rate.

$$V_{PKR I} = V_{PKR} * \left(\frac{CPI_N}{CPI_0} * 0.8 + 0.2 \right) - V_{PKR}$$

$$V_{PKR \$} = V_{PKR} * 0.01 * \left(\frac{USD_N}{USD_0} * (10 - 0.5 * N) + (90 + 0.5 * N) \right) - V_{PKR}$$

$$V_{PKR N} = V_{PKR} + V_{PKR I} + V_{PKR \$}$$

Where:

V_{PKR} : Financial Bid Amount (the part to be paid in Pakistan Rupee, repayment of advancement payment is not included) ;

CPI_N : CPI value published by Pakistan Government Authorities at the end of N^{th} quarter;

CPI_0 : CPI value published by Pakistan Government Authorities applicable at the time when the Bid is submitted.

$V_{PKR I}$: Adjustment in O&M fee due to inflation (the part to be paid in Pakistan Rupee, repayment of advancement payment is not included) in the N^{th} quarter;

$V_{PKR \$}$: Adjustment in O&M fee due to variation in selling exchange rate of USD (the part to be paid in Pakistan Rupee, repayment of advancement payment is not included) in the N^{th} quarter;

USD_N: USD to PKR Selling Exchange Rate value published by State Bank of Pakistan at the end of Nth quarter as read from the website <http://www.sbp.org.pk/ecodata/rates/war/WAR-Current.asp>

USD_o: USD to PKR Selling Exchange Rate value published by State Bank of Pakistan on the date of Bid Submission as read from the website <http://www.sbp.org.pk/ecodata/rates/war/WAR-Current.asp>.

N: Quarters Since Commencement of Train Operation but not more than 20.

V_{PKR N}: Applicable O&M fee (the part to be paid in Pakistan Rupee, repayment of advancement payment is not included) in the Nth quarter;

38.2. CHANGE IN LAWS

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the negotiated settlement of the Contract Price, which affect the L2SP1 in the performance of obligations under the Contract. If the L2SP1 suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Date of negotiated settlement of Contract Price, the L2SP1 shall give notice to the Employer and shall be entitled to submit a claim for payment of any such Cost under Clause 22, which shall be added to the Monthly Contract Price which is to be settled and paid within two months.

After receiving this notice, the Employer shall consult the L2SP1 in an endeavor to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Employer shall give notice to the L2SP1 of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the L2SP1 gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it. Either Party may then refer the dispute to Arbitration in accordance with Sub-Clause 31.

39. IMPORT

39.1. CUSTOMS AND IMPORT DUTIES

- a) Unless otherwise stated in this Contract, the Employer shall pay all customs and other relevant import duties and taxes in consequence of the importation of Equipment/operation materials, which is to be furnished/installed for the purpose of the Operation of the OLMRTS. If the L2SP1 is required to pay such customs, import duties and taxes, the Employer shall reimburse the amount and such amounts are to be billed as part of the monthly Contract price.
- b) Unless otherwise stated in this Contract, the L2SP1 shall pay all customs, import duties and taxes in consequence of the importation of Equipment (tools, machines etc.) to be used by the L2SP1 during the O&M of OLMRTS.

The Employer shall facilitate and help the L2SP1 for obtaining necessary import permits or licenses for such machinery. The Employer shall be responsible to provide the requisite documents if any for getting such permits or licenses.

39.2. CLEARANCE THROUGH CUSTOMS

The Employer shall facilitate and assist the L2SP1 in obtaining clearance through the customs of all Equipment and Materials in procuring any necessary government consent to the re-export of L2SP1's Equipment when it is removed from the Corridor. The Employer shall be responsible to provide the requisite documents if any.

39.3. PORT CHARGES AND PORT CONGESTION

The L2SP1 shall be deemed to have obtained all the information regarding facilities and charges in respect of port clearance, loading and unloading, storage, transportation, congestion and confirmed the requirements thereof at his own responsibility and all such costs and charges are deemed to be included in the monthly Contract Price.

40. NOTICES

40.1. NOTICES TO L2SP1

All certificates, notices or written orders to be given to the L2SP1 by the Employer under these Conditions shall be sent by airmail post/courier or email or facsimile transmission to or left at the L2SP1's principal place of business or such other address as the L2SP1 shall nominate for that purpose, or may be handed over to the L2SP1's representative.

The L2SP1 shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer by registered post, the address of his principal place of business or any change in such address during the period of the Contract.

40.2. NOTICES TO EMPLOYER

Any notice to be given to the Employer under these Conditions shall be sent by airmail post/courier, or facsimile transmission to or left at the respective addresses nominated for that purpose in the Preamble, or handed over to the Employer's representative authorized to receive it against proper acknowledgement.

40.3. MINUTES OF MEETINGS

Instructions or notices to the L2SP1 and notices from the L2SP1 to the Engineer or the Employer recorded in a minute or protocol signed by the authorized representatives of the giver and recipient of such notice or instruction shall be valid notice or instruction for the purposes of the Contract.

41. EMERGENCY

For the purpose of this Contract, Emergency shall mean a situation emerging after an event which is hazardous to human welfare, environmental welfare and security of OLMRTS, and that control of such a situation is beyond the capability of the L2SP1 without explicit coordination/interference/support of the Employer as well as other local government agencies, such as fire fighting agency, rescue agency, police etc.

41.1. ANNOUNCEMENT OF EMERGENCY

The L2SP1 shall at its sole discretion, determine that a certain situation is an Emergency in OLMRTS and inform the designative representative of the Employer through a telephone call about the pertinent details of such Emergency.

41.2. **PREPARATION FOR EMERGENCY**

No later than 60 days before the Commencement Date of the Contract, the L2SP1 shall develop a draft of applicable critical scenarios with high probability of occurrence, under its experience from China, pertaining to Emergency situations. The L2SP1 shall also suggest mitigation measures to be followed in case of such emergency situations, by clearly defining the roles expected from various local government agencies. On request of the L2SP1, the Employer shall arrange multiple discussion sessions ensuring the presence of representative of relevant local government agencies. The agreed minutes of such meetings including the identified roles of each agency, shall constitute a document titled Emergency Response Plans (ERP). The L2SP1 shall finalize such ERP documents three months after the commencement date.

The Employer shall circulate signed copies of the ERP to all relevant government agencies, which shall be implemented in case of emergencies. Operational readiness of agencies to implement such ERP shall be ensured by the Employer through periodic simulations and physical mock exercises/operation rehearsals to mimic real life emergency situations before and during the L2MCS Period.

41.3. In case any cost is incurred by both Parties to rescue human life or with respect to damage/loss to physical properties due to Emergencies, Clause 7 in Scope of Services shall apply.

41.4. Any communications with the news media or local officials, if required during such an emergency, shall only be made by the Employer's Representative. In such an instance, the role of the L2SP1 shall be limited to providing relevant information to satisfy immediate public concern.

42. **LIENS**

Each L2SP1, for himself and for any persons directly or indirectly responsible to him, and for his or their material, equipment and employees, and for all other persons performing any labour or furnishing any labour or material for any/or all of the L2MCS covered by his Contract, will be required to release or waive, to the full extent permitted by law, all mechanical and other liens, for or on account of the L2MCS done or equipment and material furnished hereunder and the improvements or structures herein same may be incorporated, and the land to which they are appurtenant shall at all times be free and clear of all such liens.

43. **LAW AND PROCEDURE**

43.1. **Applicable Law and Procedure**

The law which is to apply to the Contract and under which the Contract is to be construed is stated in the Preamble.

43.2. **Procedural Law**

The law governing the procedure and administration of any arbitration instituted pursuant to Clause 43.

43.3. **Language**

The language and place of the arbitration are stated in the Preamble

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SECTION: TERMS OF REFERENCE

54.SCOPE OF L2MCS FOR OPERATION AND MAINTENANCE (O&M) OF SYSTEMS

Broadly, the Operation and Maintenance (O&M) of Orange Line Metro Rail Transit System (OLMRTS) encompasses the O&M of all Electrical and Mechanical (E&M) Works including allied/interface works procured and commissioned under the Main Commercial/EPC Contract (PMA-CR-NORINCO-OL) i.e. all hardware, all software and allied systems implemented by CR-NORINCO under their own scope of work. The system hardware and associated software are further categorized under the following Key Systems:-

1. Elevators
2. Escalators,
3. Platform Screen Doors (PSD) and Automated Platform Gates (APG)
4. Railway Track
5. Automated Fare Collection (AFC) System
6. Rolling Stock
7. Signaling
8. Power Supply
9. Telecom/Communication
10. HVAC
11. Fire Fighting and Extinguishers

Upon completion, the above mentioned E&M works will be transferred by the EPC contractor to the Employer. The Employer intends to handover the Civil Works and E&M Works (except AFC Equipment) onwards to the Service Provider under the pretext of Initial System Assets (ISA). The ISA shall henceforth become the responsibility of the Service Provider for the O&M Period. The Employer intends to make comprehensive O&M related procurements according to Groups and Service Categories details of which are provided as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO	GROUP DESCRIPTION AND GENERAL SCOPE OF WORK	SERVICE PROVIDER CODE AND SERVICES CATEGORY
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1 (Category 1)	<p>Operation of all E&M Equipment and systems furnished under the EPC Contract that are not part of Groups 2, 3 and 4</p> <p>Maintenance of:-</p> <ul style="list-style-type: none"> • Track • Rolling Stock • Maintenance of all E&M Equipment and systems furnished under the EPC Contract that are not covered in Service Categories 1.2,1.3, 1.4 and 1.5 and also those not part of Groups 2 and 3. • 	L2SP1 (Line 2 Service Provider 1)-Service Category 1
1 (Category 2)	<p>Maintenance of:-</p> <ul style="list-style-type: none"> • Escalators • Elevators • Generators • Fueling of Generators 	L2SP1 (Line 2 Service Provider 1)-Service Category 2
1 (Category 3)	<p>Maintenance of:-</p> <ul style="list-style-type: none"> • Firefighting • Water Sewerage and Drainage (WSD) • Heating, Ventilation and Air-conditioning (HVAC) • 0.4 KV Low Voltage Power Supply after 33KV Transformers • Illumination, Electrical Appliances in the Corridor 	L2SP1 (Line 2 Service Provider 1)-Service Category 3
1 (Category 4)	<p>Maintenance of:-</p> <ul style="list-style-type: none"> • Communication System including Telephone System, Radio Communication System, Public Address System, Clock System, Passenger Information System, CCTV System, Access Control System, • Transmission System including Fiber Optics, Visual Control System, Audio and Video Recorder System • Signaling System • Passenger Screen Doors (PSDs) • Fire Alarm System (FAS) • Building Access System (BAS) • Network Monitoring System (NMS). 	L2SP1 (Line 2 Service Provider 1)-Service Category 4
1 (Category 5)	<p>Maintenance of:-</p> <ul style="list-style-type: none"> • High Voltage Sub-station (HVSS) and related, Low Voltage Power Supply (before and after but except 32kV Generators), • Traction Supply System • Power Supervisory Control and Data Acquisition System (PSCADA). 	L2SP1 (Line 2 Service Provider 1)-Service Category 5

2.0	Operation and Maintenance of:- <ul style="list-style-type: none"> • Automated Fare Collection (AFC) 	L2SP3 (Line 2 Service Provider 2)
3.0	Rendering of:- <ul style="list-style-type: none"> • House Keeping and Janitorial Services 	L2SP2 (Line 2 Service Provider 3)
4.0	Rendering of:- <ul style="list-style-type: none"> • Security and Safety Services 	L2SP4 (Line 2 Service Provider 4)

54.1. General Scope of Services Applicable to L2SP1 for all System(s)

- a. The Service Provider (henceforth referred to as L2SP1) shall operate and maintain all Systems and ensure that all Systems are fully functional /operational in line with their intended use at all times during the Service Hours. The L2SP1 shall ensure Reliability, Availability and Maintainability of all Systems for the duration of the O&M Contract.
 - b. The Employer shall not hold the L2SP1 responsible to provide services outside the capability of the OLMRTS equipment furnished, installed and commissioned under the EPC Contract.
- 54.2. The L2SP1 shall not manage the Contracts and Services rendered by other Service Providers; namely, L2SP2, L2SP3 and L2SP4; entities that are to be procured and so notified by the Employer.
- 54.3. The violations and Service Level Agreement for specific tasks, related to each category of hardware and software are described in the respective section for each of the key systems defined in Section 04.
- 54.4. The violations and penalties with respect to general scope of work, where applicable, are also provided within the respective sections of each of the key system in the Annex B. As part of the general scope of work, the L2SP1 shall perform the following tasks which are applicable to all systems:-
- 1) Except for the AFC System, Operate and Maintain the entire system; including all systems' components and peripherals, reliably and securely at all times during the Service Hours/ Scheduled Operating Hours in the O&M Period on a daily basis for 7 days/week, and 365 days/year at all stations, depot and stabling yard.
 - 2) Carryout Housekeeping and Janitorial Services at all stations except passenger areas, depot and stabling yard during the Service Hours in the O&M Period on a daily basis for 7 days/week, and 365 days/year.
 - 3) Promptly analyze faults / defects to establish if such faults/defects fall under the category of defect liability.
 - 4) Coordinate with relevant L2SP2 to establish if AFC System faults/defects fall under the category of defect liability.

- 5) In case L2SP1, concludes that a certain fault/ defect in any system, including AFC System, falls under the defect liability, L2SP1 shall carry out liaison with EPC Contractor, under intimation to the Employer, for immediate resolution of the said fault/defect in line with Clause 12.2 of the EPC Contract reproduced below:-

12.2 MAKING GOOD DEFECTS

The Contractor (EPC) shall, subject to Sub-Clause 12.9, be responsible for making good any defect in or damage to any part of the Works in his own scope of work which may appear or occur during the Defects Liability Period and which arises from, either:

- a) any defective materials, workmanship or design, or*
- b) any act or omission of the Contractor during the Defects Liability Period.*

The Contractor (EPC) shall make good the Defects or damage as soon as practicable and at his own cost.

- 6) For all systems other than AFC System, the L2SP1 shall diagnose and resolve faults; promptly replace faulty goods, if required; and make good/rectify manufacturing defects that may arise in the installed System during the O&M period in accordance with Clause 12.2 of the EPC Contract..
- 7) For AFC System, the L2SP1 shall upon proper diagnoses of faults/defects issue new parts to L2SP2 for replacement of faulty goods, if required, in a manner such that L2SP2 is not obstructed in making good faults/defects that arise in such installed system during the O&M period. In cases in which defect liability is established, only L2SP1 shall be allowed to liaison with the EPC Contractor for exercising Clause 12.2 of the EPC Contract.
- 8) The Employer's primary means of management of works of all L2SPs shall be an Issue/Complaint/Ticket Tracking and Management Information System (ITMIS) which shall be furnished, deployed and commissioned by L2SP1 for this purpose. ITMIS shall be a latest version (not older than January 2017) of a scalable web-based and app based software. All other L2SPs, as per table above, shall have secondary level access to the ITMIS software while the Employer and L2SP1 shall have primary access to the ITMIS (Refer to Exhibit A). L2SP1 shall not delete tickets without prior written consent of the Employer. The ticket numbers shall be sequential and designed so that there is no repetition. The software shall be deployed to:
- a. record all system-wise equipment fault/break-down/malfunction issues observed by either Party/L2SPs.

- b. lodge and record all maintenance activities carried out by the L2SP1, L2SP2, L2SP3 and L2SP4.
 - c. lodge and record all preventive/scheduled and unscheduled maintenance activities carried out by all L2SPs to resolve such faults/break-downs/malfunctions of any/all E&M equipment maintained by L2SP1, L2SP2, L2SP3 and L2SP4. L2SP1 shall lodge the program (all activities) of scheduled/preventive maintenance activities in advance of each upcoming month collectively for the whole month.
 - d. disseminate reports by ITMIS in various categories and use such reports to assess and report compliance/penalties of other L2SPs with respect to their respective SLAs. It is clarified that Employer (and not L2SP1) shall directly manage services rendered by L2SP2, L2SP3 and L2SP4 through ITMIS or otherwise.
 - e. L2SP1 shall ensure that ITMIS remains functional at all times during the Contract Period. L2SP1 shall also provide login accounts of ITMIS to all Service Providers of OLMRTS.
- 9) L2SP1 shall provide post implementation support and carryout preventive, corrective, operational and periodical maintenance in accordance with O&M Manuals (EPC Clause 3.10), functional specifications mentioned in the technical proposal, hardware care instructions, codes and standards and good industry practices. The Service Provider shall submit on quarterly basis a hard copy of the maintenance schedule/program to be implemented on weekly, monthly, quarterly basis. The schedule/program shall be approved by the Employer prior to lodging in ITMIS and subsequent implementation.
- 10) Ensure maintenance of equipment of respective systems of OLMRTS which are installed in stabling yard, depot, stations, viaduct and High Voltage Substation.
- 11) Provide adequate labour, required supplies, sufficient tools and measurement / test equipment required to keep the system in perfect working order. L2SP1 shall provide all allied equipment and consumables required to carry out the scope of work.
- 12) In fixing a faulty part, the L2SP1 shall, with intimation to the Employer, be authorized to repair and/or replace/issue to L2SP2 a new part, if available in inventory of all spare parts, before determination of whether or not a faulty part is covered under warranty/defect liability period. Follow up action by the L2SP1 shall be in line with and subject to situations as under:-**
- a. In case certain hardware equipment fails due to an accident for which the L2SP1 is fully responsible, the L2SP1 shall repair or replace such part, and remove the fault. Subsequently, L2SP1 shall replenish the inventory at his own cost.
 - b. In case certain hardware equipment fails due to manufacturing/performance

defects and that such a faulty part is covered under warranty/defect liability, and/or if any part is used from the inventory to correct such failure, the L2SP1 shall subsequently liaison with the EPC Contractor to seek replacement and replenish the inventory accordingly.

- c. If it is established that such failure of equipment is due to an accident for which the L2SP1 is partially responsible, the L2SP1 shall immediately strive to repair/replace such part to restore the system. However, within 7 days from the occurrence of such accident, the L2SP1 shall furnish to the Employer a written report of the accident establishing its own extent of responsibility and price. Both Parties shall mutually agree to finalize the report/share of responsibilities; the share to be paid by the Employer, if not covered under the insurance clauses, i.e. Clause 29, shall be subsequently billed with the monthly invoice for payment by the Employer for replenishing the part in the inventory. The L2SP1, after receiving a work-order from the Employer, shall replenish such part.
 - d. In case certain hardware equipment fails due to an accident for which L2SP2 is fully responsible, the L2SP1 shall arrange repair or issue replacement of such part (from the inventory) to remove the fault. Subsequently, L2SP1 shall intimate the Employer of equivalent cost adjustment from the invoice of the L2SP2 against replenishing the inventory. The L2SP1, after receiving a work-order from the Employer, shall replenish such part.
 - e. If it is established that such failure of equipment is due to an accident for which L2SP2 is partially responsible, the L2SP1 shall immediately strive to arrange repair or issue a replacement of such part from the inventory to L2SP2 to restore the system. However, within 7 days from the occurrence of such accident, the L2SP1 shall furnish to the Employer a written report of the accident establishing the extent of responsibility of the L2SP2. L2SP1 shall establish the share of responsibility after discussion with L2SP2 and the employer before finalizing the report; the share to be paid by the Employer, if not covered under the insurance clauses, i.e. Clause 29 shall be subsequently billed with the monthly invoice for payment by the Employer as its share for replenishing the part in the inventory. L2SP1 shall also indicate to the Employer a deduction against share of accident from the invoice of the L2SP2. The L2SP1, after receiving a work-order from the Employer, shall replenish such part.
- 13)** Provide safety equipments, personal protection equipment and other necessary materials as required for the execution of services under the contract.
- 14)** Deploy a dedicated team of suitably skilled/technical personnel for operation and prompt maintenance/repair/replacement, reconfiguration and re-customization to the normal operational status, reinstallation, etc. of all defective/malfunctioning system

components.

- 15) The L2SP1 shall also update, reconfigure and re-customize the system software for all systems if any new software patches are available and maintain normal operational status. L2SP1 shall make update checks at least once every six months. L2SP1 shall install and maintain all possible system software, in a timely and efficient manner, so as to ensure adherence to stated service-level parameters.
- 16) Deploy an Inventory Management Information System (IMIS) to store, safeguard, maintain and update an inventory of equipment for all systems, tools/measurement equipments, spare parts and rescue operation equipment lying in Stations, Depot, Stabling yard, Viaduct and High Voltage Substation.. The IMIS shall be a latest version (not older than January 2017) of a state of the art computer based inventory management software capable of generating inventory use reports. L2SP1 shall provide read only rights of IMIS to the Employer for login in and generating reports. This report should include all equipments/spare parts lying in Stations, Depot, Stabling yard, Viaduct and High Voltage Substation furnished and/or installed by the EPC Contractor. The details shall include equipment/spare part name, serial numbers, equipment hardware and software versions, manufacture date, delivery date and code numbers, issuing and depositing person details, etc. If any equipment in the previous inventory is missing or lost without reasonable explanation, it shall be replaced by the L2SP1.
- 17) Provide required copies of O&M Manual of each system in English to PMA.
- 18) Store, safeguard and maintain an adequate inventory of spare parts.
- 19) Ensure quality, robustness, and functionality of all hardware and software components associated with E&M systems, including all newly replaced/repared /replenished parts.
- 20) Be responsible for the mishandling, theft and safety of all indoor equipment of the OLMRTS.
- 21) Ensure proper and frequent cleaning of internal and external areas of the trains, and technical / mechanical areas of workshops at depot and stabling yard and non-public areas in the stations. The Employer shall be responsible for rest of the janitorial services, including cleaning of PSDs and APGs at stations.
- 22) Ensure proper and frequent cleaning of all OLMRTS equipments except PSDs and

APGs. Ensure proper and frequent cleaning of equipment rooms at stations, cleaning of stabling yard & buildings, area handed over to the L2SP1 for operations and maintenance in depot, training facilities, and High Voltage Substation.

- 23) Ensure use of licensed software and products. All software licenses to be procured under this contract shall be procured in the name of the Employer.
- 24) Ensure that UPS systems, where provided, shall withstand the requirement of power supply due to any type of shut-down from power distribution cabinet/main source.
- 25) Manage all temporary power connections at depot / stabling yard (if any) and pay the electric cost against such connections on monthly basis from its own resources.
- 26) Deploy standard disaster management procedures, contingency plans, and back-up plans to cope with any system failure.
- 27) Coordinate all hardware and software maintenance activities affecting train/passenger service well in advance with authorized/designated personnel of the Employer.
- 28) Immediately replace all recalled equipment/parts/spares which have been declared unsafe as per Chinese standards.
- 29) All the spare parts supplied under this contract to be paid by the Employer shall be compatible, genuine, brand new, non- refurbished, un-altered in any way, of the most recent or current model (of latest technology), imported through proper channel, and must incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 30) In case certain faulty parts required for operation of train become obsolete/unavailable and thereby depleted in the inventory; L2SP1 shall replace these parts with other parts that have equivalent or better quality, have similar specifications and are of the latest market versions of local, Chinese or foreign brands.
- 31) Check, upgrade, update and maintain, in a timely and efficient manner, all possible system hardware, software, and relevant infrastructure so as to ensure adherence to stated service-level parameters.
- 32) Cooperate with all other L2SPs engaged in the Metro Train system and facilitate their operations to the extent possible.

- 33) Be responsible for the conduct and functioning of all staff employed on the project. The L2SP1 shall ensure efficient services and extend polite and courteous behavior towards passengers and representatives of the Employer and towards staff of other related departments/entities of the GoPb. The L2SP1 shall be liable and responsible for misconduct or unreasonable offense of its employees and shall take prompt and appropriate action. The staff of L2SP1 shall wear a unique uniform and must have work ID Cards which are to be arranged before the date of commissioning of the trains..
- 34) Participate in all meetings, committees, etc., as directed by the Employer from time to time.
- 35) Conduct joint inspection of Systems/subsystem with the Employer
- 36) Promptly alert the Line 2 Operation Control Center (L2OCC) in the depot in case critical malfunctioning issues pertaining to system arise and provide progress of troubleshooting.
- 37) The L2SP1 shall promptly resolve the passengers' reasonable complaints received on PMA Help Line within three working days, where possible.
- 38) Carryout checks and effective management of all systems to ensure that intended operational outcome of each system and safe passenger operation are delivered.
- 39) Intentionally left Blank
- 40) Ensure that all parts installed in the system and the states of the system are such that they do not offer any safety threat to end-users of the System. In case of any casualty/injury due to any defects in System, or due to malfunctioning of System, or due to failure of infrastructure/equipment that is provided by EPC Contractor and is under the defect liability) or due to any reason attributed on the part of the L2SP1 pertaining to the use of the system; L2SP1 shall be held liable and be dealt with in accordance with Laws of Pakistan.
- 41) Be liable to compensate/ replace/repair as per original specification or as per work order issued by PMA for any damage caused to the property of Orange line, or for any damage caused to any other L2SP that is directly attributable to O&M of the System; or for damage caused by any employee of the L2SP1 rendering O&M services or otherwise.

- 42) Protect the work areas to ensure passengers/general public safety prior to start of any maintenance work.
- 43) Proactively reconfigure, develop, monitor and control the state of all alarms applied against various systems and take corrective actions.
- 44) L2SP1 shall record all the Faults Generated and System Availability Reports generated from data acquisition systems as provisioned in the technical specifications of the EPC Contract. These reports shall be maintained and made available to the Employer (as per requirements) to verify the records on daily, weekly and monthly basis.
- 45) The L2SP1 shall collect and assemble a set of data pertaining to operations of each system in the report format (including parameters) specified by the Employer, but within the capability of the Systems provided under EPC Contract, on daily basis and transmit the same to the Employer once a month. Testing of such exercise shall be carried out during the trial running by both Parties.
- 46) Maintain a secure and protected access control environment in order to control access to all software application systems and databases, limiting access to authorized personnel only. Also maintain appropriate physical and network security measures for the information and data generated from operations of all software.
- 47) All the spare parts supplied under this contract should be genuine, brand new, non-refurbished, un-altered in any way, of the most recent or current model, imported through proper channel, and must incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 48) Spare parts/oil/lubricants to be supplied or replaced, pursuant to this Contract, shall become the property of the Employer when the Goods are taken over by the Employer upon expiry of the Contract.
- 49) Provide, affix and maintain all signs/stickers on the trains, in the non-public areas and on the emergency exit doors, for information to end-users/passengers regarding, warning signs, prohibition signs, operation, safety and use of equipments.
- 50) Facilitate and assist the Employer in carrying out maintenance of interface civil works in whole system to avoid damage to E&M equipments and execute Civil Works.

- 51) Collect, process/treat and properly dispose all waste generated from depot (excluding administration building), Stabling yard workshop/office for onward pickup nearby the gates of such areas by the waste management company.. The L2SP1 shall strictly follow the procedure defined by the Employer as attached at Annex-C to dispose all waste.
- 52) Allow authorized PMA staff (and other authorized Government personnel) for inspection of installation, offices, depot, yard etc.. Wherever precautions, safety wares, proper training etc. is required prior to access, the L2SP1 shall indicate/provide such prerequisites to ensure general safety. For access to driver cabin of a train, a special intimation from the Employer shall be required.
- 53) Comply with the provisions of the applicable laws of the Lahore District, Punjab and Pakistan.
- 54) Comply, complete, and follow all reasonable commands, directions, and requirements of the Employer in respect of the operation, including directions and requirements that ensure public safety and security.
- 55) Ensure that all Software and Hardware interfaces, errors and documentation are in English language.
- 56) Upon completion/conclusion of the O&M Contract period, the L2SP1 shall transfer possession of all ISA including hardware, software, and goods forming part of the System, as well as the license to the Employer. The clearance will be dependent upon seeking Taking-over Certificate (TOC) from the Employer. The Service Provider shall be bound to render services until issuance of TOC which does not affect liability of contractor/Service Provider to keep System in fully operational condition even after expiry of contract.
- 57) Establish and operate Lost and Found centre in the first and last stations and in depot for OLMRTS.
- 58) Plan, design and conduct adequate and effective training programs for drivers, dispatchers, station masters /allied operation staff and all other staff engaged by the L2SP1 for train operation. Maintain training equipments and facilities procured for Orange Line. Also provide training to those staff (up to 30) nominated by the Employer and staff of other L2SPs.

- 59) Follow energy plans provided by the Employer and eliminate unnecessary use of utilities provided to the L2SP1 for office use on OLMRTS.
- 60) In case the Employer purchases, installs and tests any additional/replacement system/equipment which is/are provided by a third party, the Employer shall ensure that such system/equipment is fully compatible with the existing systems in OLMRTS. Subject to the full compatibility, the Employer may direct the L2SP1 to carry out the operation and maintenance of such system/equipment. In such undertaking, any changes to cost and terms and conditions associated with additional services (if any) shall be settled through an amendment to the Contract.
- 61) Keeping in view the maximum number of trains available for passenger service, verifiable operational speed (maximum safe commercial speed) and layover time at terminal stations, the Employer shall issue operation schedule(s) for implementation by the L2SP1. The L2SP1 shall follow Operation schedule issued by the Employer for operation of trains. Such schedule will include at least daily assignment of Revenue Trips, Headways, Speed Limits, and Dwell Time Limits. The Employer intends to run the system at a headway of 5 minutes during Service Hours in the first few months after commencement and then adjust the headway as per peak passenger hours established through AFC reports.
- 62) Ensure that the Network Monitoring System (NMS) of each relevant system is operated and maintained at/near maximum possible uptime of at least 99% on monthly basis.
- 63) With respect to use of administration building in the depot and the Operation Control Center (OCC), it is clarified that a team comprising of senior and junior staff members of the Employer shall be resident in the administration building/OCC to manage/monitor all mass transit operations of Lahore, including the operations of the Orange Line. The L2SP1 shall plan for his use of the administration building and OCC in coordination with the Employer in a manner that reasonably accommodates the nominated staff of the Employer.
- 64) Follow Operation schedule issued by the Employer for operation of trains.
- 65) Prepare and submit following documentation of Orange Line to Employer for approval in English language within one year from start of operation. The document shall be prepared based on best international practices and good industry practices.
 - a) Maintenance Manual for each equipment/system/subsystem

- b) Operations Manual of equipment/system/subsystem
 - c) Duty of each staff deployed in Orange line for operation or maintenance
 - d) Rules for train operation
 - e) Training manual of all staff deployed in Orange line
 - f) As-Built drawings of E&M System
 - g) Functional specification of each system/equipment
- 66) With respect to maintenance requirements of Civil Works, whether under defect liability or otherwise, the L2SP1, upon observing such issues, shall give notice to the Employer with request to arrange rectification of the issues through Employer's own sources. Nevertheless, the L2SP1 shall not be held liable for such observations. The Employer upon receipt of such notice, shall evaluate the requirements to be rectified, nominate its Civil Works Contractor and conduct a coordination meeting to be attended by the representatives of the nominated Civil Works Contractor and the L2SP1. Irrespective of observation of the L2SP1, the Civil Contractor shall carry out the rectification works after a thorough briefing/special guidelines (if any) given by the L2SP1, and in line with standard operation procedures defined by the L2SP1.
- 67) Stoppage of the Operation of the train service due to rectification of Civil Works shall not be penalized by the Employer under SLA. The Employer however shall adjust the associated payment to the L2SP1 on account of non-service except in situations dealt under Clause 30, i.e. Force Majeure. The L2SP1, in such cases shall be entitled to a nominal sustaining cost on account of salaries of Human Resource deployed by L2SP1 under L2MCS.
- 68) It is also clarified that in exercising the Annex B, the Employer shall not apply more than one type of penalty due to faults emerging from a single basic cause, to the Service Provider.
- 69) The Employer shall not apply any penalty outside the Service Level Agreement, such as in instances where faults are rectified within stipulated time. However, the Employer shall apply adjustment to payments on account of non-availability of services above a certain threshold as specified in SLA.

SCOPE OF SERVICES

55. Systems Under Procurement Group No. 1-Service Category 1

Rolling Stock and Track system means all trains and track procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system. Details of Systems under Procurement Group No. 1-Category 1 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO	GROUP DESCRIPTION AND GENERAL SCOPE OF WORK	SERVICE PROVIDER CODE AND SERVICES CATEGORY
1 (Category 1)	<p>Operation of all E&M Equipment and systems furnished under the EPC Contract that are not part of Groups 2, 3 and 4</p> <p>Maintenance of:-</p> <ul style="list-style-type: none"> • Track • Rolling Stock • Maintenance of all E&M Equipment and systems furnished under the EPC Contract that are not covered in Service Categories 3, 4, 5 and 6 and also those not part of Groups 2, 3 and 4. 	L2SP1 (Line 2 Service Provider 1)-Service Category 1

55.1. L2SP1 shall operate, monitor, maintain and control the entire System under Service Category 1.

55.2. Scope of Services for Track System

Track System means all Equipment procured under the main Commercial/EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system. These includes rails (Depot, Stabling Yard, Viaduct), cross-over, points and crossing/turnouts, Computer Based Interlocking, fitting and fastenings, expansion joints, insulating pads, base-plates pads, fish plates, sleepers (wooden, concrete), third rail, track in workshops building etc.

The L2SP1 shall:

- 1) inspect, monitor, operate and carryout complete maintenance of track in frequency and manner that ensures readiness of the track at all times during the Service Hours.
- 2) Ensure sufficient strength, stability, durability and elasticity of track system to make sure the safe, stable, comfortable and efficient OLMRTS operation as per performance requirements.
- 3) Ensure good insulation of the track structure to reduce stray current.
- 4) Ensure fully functional and well-maintained track system.
- 5) Maintain geometrical characteristics and material properties of the individual track (levels, cross level, sleeper dimensions and spacing, track gauge, allowable wear, tolerances, curvature, welding) and other parameters within permissible tolerance.
- 6) Replace track system components/equipments (rails, sleeper, fitting and fastenings etc) which are unserviceable or not in accordance with codes and standards.
- 7) Arrange special tools for checking of track levels, and other parameter.
- 8) Ensure 100 % fastening of track in the corridor, depot and in stabling yard.
- 9) Keep track areas in Depot, Stabling yard and station areas in clean condition.
- 10) Periodically check and clean worn ballast (if necessary) in Depot, Stabling yard and other ballasted portion.
- 11) Maintain and ensure drainage of surface drains provided in Depot and Stabling yard, with exception of any defects emerging from Civil Works sublet to the Employer.
- 12) Keep all tracks/lines located in depot, stabling yard and in the remaining system in working condition at all times, with exception of any defects emerging from Civil Works sublet to the Employer.
- 13) Maintain benchmarks that have been setup by CR-NORINCO under the EPC Contract to indicate reference data for the alignment: curve radii, super elevation, transition curves etc.

55.3. Scope of Services for Rolling Stock System

56. Rolling Stock System

Rolling Stock System means all Equipment procured under the main Commercial Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system. This includes motor cars, trailer cars, illumination, fire safety and equipment(fire alarm system), on-board video camera, coupler, interfacing system (with track, traction/power supply, signaling, telecom, PSD/APG etc.), train control and monitoring system, public address and passenger information system, air conditioning system, and other allied/subsystems of the rolling stock.

56.1. Scope of Work

The L2SP1 shall:-

- 1) Ensure complete and fully functional integrated train system, during Passenger Service Hours, including car body, bogie/bogie control module, coupler buffer device, automatic coupler function, trailer car with cab and motor car without cab, CCTV system, traction control system, braking system, auxiliary power supply system, air conditioning and ventilation system, train control system, fault diagnosis system, train information system, safety & emergent equipment, automatic train control (ATC) system and other subsystem or parts thereof.
- 2) Inspect, monitor, operate and carryout complete maintenance of the rolling stock in frequency and manner that ensures readiness of the rolling stock at all times during the Service Hours to meet the schedule prescribed by the Employer.
- 3) Ensure that the Train Broadcasting/Information System (TBS) must be functional in all respects and at all times during the operation hours. The TBS shall include but not limited to Train Broadcasting System, radio broadcasting, station broadcasting, crew broadcasting, both-end cab talkback, emergency warnings for passengers and driver, LCD displaying, onboard video monitoring system, working of speakers. Ensure that the Seats of all trains must remain in proper usable condition.
- 4) Move the Metro Trains to terminals in case of 1/3 of total traction power loss.
- 5) Move the Metro Trains to the nearest station in case of 1/2 of total traction power loss even if maximum gradient on the main line must be negotiated.
- 6) Ensure fireproof performance of the trains.

- 7) Carryout train servicing and management work.
- 8) Inspect, clean, wash and carry out regular sterilization of the train, in addition to carrying out other daily repair and maintenance work at the stabling yard on daily basis.
- 9) Inspect and remove obvious scrap/litter/dust marks/filth/bad odor, if any, from the trains prior to their departure from the end stations. Ensure washing (outside only) and cleaning of complete train and its allied system within the trains according to the washing schedules. Also inspect and regularly sterilize the train.
- 10) Plan and implement crew work schedules with respect to allocated trains as per defined schedule.
- 11) Carry out train's periodic repair, intermediate repair, simple overhaul and other periodical repair as well as the train test after inspection and repair; as assessed and deemed necessary by the L2SP1 in accordance with the approved Concept Design. It is clarified that certain number or all of train sets may qualify for intermediate repair within the duration of the O&M Contract. In such case, the L2SP1 shall inform the Employer of candidate trains and the intermediate repair schedule in line with the Concept Design, carry out intermediate repair works upon receipt of the work order(s) from the Employer, and invoice the Employer the corresponding costs, as per unit rate agreed, with the monthly invoice for payment by the Employer. In case such work order(s) is/are not issued within the stipulated schedule, the L2SP1 shall have the right to declare such trains unsafe and therefore inoperative.

It is also clarified that certain number or all train sets may qualify for intermediate repairs on the expiry date of the O&M Contract. In the eventuality that the Contract Period has expired, and that the two parties are unable to mutually agree to extend the Contract, the Employer shall in such case issue work orders to the L2SP1 to carry out the Intermediate repair. Such work orders shall be accompanied with 50% advance payment. The L2SP1 shall carry out the intermediate repairs upon receipt of the work orders and the 50% advance payment. Upon completion of works, on per train basis, the L2SP1 shall invoice the Employer the remaining 50% amount, and the Employer shall make payments accordingly within 30 days in each case.

- 12) Any premature defects in violation of the approved Concept Design and corresponding repairs shall be dealt under the Defect Liability.
- 13) Carry out repair of equipment and tools in the depot as well as the servicing and maintenance of shunting locomotives, vehicles etc.

- 14) Perform O&M of the driving simulation system, administrative technical management and training, material supply of driver trainings and logistics management of allied training supplies (if any).
- 15) In order to satisfy/meet the requirements stated in the Concept Design pertaining to avoiding use of flammable/combustible/hazardous materials being part of the replaced equipment in the train, the L2SP1 shall ensure they are not made of flammable characteristics which can generate poisonous gas after combustion and that such materials/equipment are not permitted to be used on the OLMRTS i.e. only non-secondary combustible and fire-proof material/equipment are permitted to be used on trains except those already approved as under BOQ of the EPC Contract/Specifications or equivalent/better.
- 16) Ensure human safety measures through properly designed and affixed warning signs to mark the dangerous electrical equipment inside the train (if any).
- 17) Maintain portable fire extinguishers bearing properly designed and with affixed standard instruction eye-catching signs, which shall be fully functional and available in the train for safety purpose.
- 18) Ensure that onboard video monitoring system shall be functional in complete train system and it can efficiently provide recorded video feed of no more than past 7days to the Employer on demand.
- 19) Ensure functioning in all respects of rear camera through which a conductor/driver can monitor the passengers who are getting on the train and efficiently provide recorded video feed of no more than past 7days to the Employer on demand.
- 20) Ensure that safety interlock function for the passenger compartment door system is operational so that doors cannot be opened when train speed is more than 5km/h and that the train cannot start while doors are open.
- 21) Ensure that fire alarm system and smoke detectors shall be fully functional in each passenger compartment and that they can send the detected fire alarm signal to cab for displaying and announcing the respective warning.
- 22) Ensure that proper announcement of station names and train movement are made in Urdu and English inside the Metro Trains in a manner that is audible and intelligible for the passengers.

- 23) Ensure that Automatic train surveillance system (ATS), automatic train protection system (ATP) and automatic train operating system (ATO) are fully functional in all respects.
- 24) Carry out preventive maintenance of all installations covered under the Rolling Stock System at approximately three (03) month intervals, or at other specified intervals which are certified by the manufactures or any other accredited railway body in China for Chinese standard Type B1 rolling stocks for metro.
- 25) Ensure washing and cleaning of complete train and its allied system within the trains once a day. Ensure cleaning of train at completion of each trip.
- 26) Guarantee smooth functioning of complete rolling stock System including rolling stock machines/software/network and their equipment/components including lights, illumination level, announcement system, etc., during the entire Service Hours.
- 27) Maintain technical parameter/structural dimensions of rolling stock and meet requirements of train operation.
- 28) Ensure to ply the train and follow the specified schedules and instructions by the Client. The specified schedule from the Client will include at least daily assignment of Revenue Trips, Headways, Speed Limits, and Dwell Time Limits.
- 29) Dedicate and maintain no more than 3 trains as reserve fleet for maintenance at any time of operation.
- 30) Apply for license/permit with payment of applicable fee (say approximately 20USD/CAR/YEAR) & passenger insurance policy/certificate of value not less than PKR 250 Million per occurrence with number of occurrences unlimited etc.
- 31) Replenish/maintain missing/stolen/damaged equipment of the train sets especially pertaining to emergency usage on regular basis.
- 32) Impart meaningful and timely training to all Driver/staff associated with the Operation. The L2SP1 will train the drivers for all kinds of operational requirements including but not limited to emergency handling following breakdowns / accidents, safe and comfortable driving, reading and understanding English instructions/tabs of train, driver actions that violate rules, regulations. Service Level Agreement requirements etc. L2SP1 will ensure that these trainings are conducted prior to issuance of licenses to drivers as well as on time to time basis.

- 33) Ensure that air-conditioning facility continues uninterrupted during operation in case of a break-down of the train, excluding instances, if any, in which power supply to air conditioners is discontinued.
- 34) Promptly remove stalled/breakdown/crashed trains from the track to avoid blockage of track or part thereof within reasonable timeframe which is to be determined by the L2SP1 on case by case basis and subsequently conveyed to the Employer within 4 hours. The L2SP1 shall be held accountable to any such timeframe conveyed to the Employer to restore operation.
- 35) Ensure that the types, forms, and locations of all advertisement being displayed inside the trains should not be placed without written approval of the Employer; and should strictly conform to the rules, regulation and procedures determined in coordination with the L2SP1 and so notified by the Employer. Revenue proceeds of such advertisements, if allowed, will be collected by the employer and credited into escrow account.
- 36) Ensure to place and maintain the Employer logo and metro train logo on outside of each car (2 stickers of each logo per car) as per the patterns, designs and locations provided by the Employer.
- 37) Take full responsibility of any mechanical, electrical, or system failures in trains.
- 38) Be liable to compensate the affected passenger in case of any injury or death. In addition the L2SP1 will bear any and all claims, made by the affected party, if approved by the court of Pakistan in case such an event leads to injury or death of a person, solely due to negligence on part of the L2SP1, leading to court appeals, by the affected party.
- 39) Maintain and manage all utility connections in Depot, stabling yard etc.
- 40) Provide online reports regarding verification of trips, operation time and subsystem function reports.

57. Systems Under Procurement Group No. 1-Service Category 2

Elevator system means all elevators procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system. Details of Systems under Procurement Group No. 1-Category 2 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
1. (Category 2)	Maintenance of:- <ul style="list-style-type: none"> • Escalators • Elevators • Generators • Fueling of Generators 	L2SP1 (Line 2 Service Provider 1)-Service Category 2

57.1. L2SP1 shall operate, monitor, maintain and control the entire System under Service Category 2.

57.2. Scope of Services for Elevator Systems

The L2SP1 shall:-

- 1) Provide live display of Building Automation System (BAS) to the Employer for monitoring of the system and generating reports in the Control Centre. L2SP1 shall generate real time reports/raw data from BAS, except those outside the capability of BAS, including but not limited to the following :-
 - i. Operational Status (ON/OFF)
 - ii. Alarms
 - iii. Duration of running/day or hour
 - iv. Error Numbers

The Employer may require additional reports based on his requirements. In case of partial or complete failure of BAS, the Employer shall decide alternate procedure or evidence available from the L2SP1 for estimating running time of Elevators in hours for the purpose of processing the payments of monthly invoices of the L2SP2.

- 2) Ensure that automatic restart system is always available after power is restored in case of power shutdown. L2SP1 shall also ensure that remote restart function of Elevators is available from the Control Center in case of power shutdown or other similar situations.
- 3) Provide precautions to the Employer for cleaning the public areas of Elevators.
- 4) Handle the emergency calls from Elevators.
- 5) L2SP1 shall ensure that it:-
 - a. carries out proper maintenance to maintain functionality of the Elevators during Service Hours.
 - b. positions adequate number of personnel in stations for elevators during operation hours to deal with emergency situations (if any).
 - c. Assists the janitorial staff in cleaning the public areas of elevators as per schedule prescribed by the Employer.
 - d. Depute at least one person per elevator in stations elevators during operation hours to guide
 - e. performs up-keeping of emergency phone, indicates “out of service” sign (if required) and performs trouble shooting and fault rectifications of elevators, guides passengers and ensures that elevators are used by authorized persons only or as per instruction of the Employer. The Service Provider shall also handle the emergency calls from Elevators
 - f. displays appropriate warning signs for passengers during maintenance activities carried out during Service Hours.
 - g. makes all arrangements for removal of accumulated water in Elevator pits so as to avoid spread of dengue.
 - h. maintains technical parameters of the elevators.

57.3. Scope of Services for Escalator System

Escalator system means all escalators procured under main Commercial/ EPC Contract(PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system.

The L2SP1 shall:-

- 1) Provide live display of Building Automation System (BAS) to the Employer for monitoring of the system and generating reports in the Control Centre. L2SP1 shall generate real time reports/raw data from BAS, except those outside the capability of

BAS, including but not limited to the following :-

- i. Operational Status (ON/OFF)
- ii. Alarms
- iii. Duration of running/day or hour
- iv. Error Numbers

The Employer may require additional reports based on his requirements. In case of partial or complete failure of BAS, the Employer shall decide alternate procedure or evidence available from the L2SP1 for estimating running time of escalators in hours for the purpose of processing the payments of monthly invoices of the L2SP1.

- 2) In case of power shutdown, L2SP1 shall ensure that system can be restarted manually by the L2SP1 after power is restored and that manual restart system is always functional/available. L2SP1 shall ensure that remote restart function of escalators is available/maintained/functional from the Control Center in case of power shutdown or other similar situations.
- 3) Provide precautions to the Employer for cleaning the public areas of Escalators.
- 4) The L2SP1 shall also handle the emergency calls from stations that pertain to Escalators.
- 5) L2SP1 shall ensure that it:-
 - a. carries out proper maintenance to maintain functionality of the escalators during Service Hours.
 - b. positions adequate number of personnel in stations for escalators during operation hours to deal with power shut downs and emergency situations (if any),
 - c. Assists the janitorial staff in cleaning the canopy of escalators as per schedule prescribed by the Employer.
 - d. indicates “out of service” sign (if required) and performs trouble shooting and fault rectifications of escalators and guides passengers.
 - e. displays appropriate warning signs for passengers during maintenance activities carried out during Service Hours.
 - f. makes all arrangements for removal of accumulated water in escalator pits so as to avoid spread of dengue.
 - g. maintains technical parameters of the escalators.

57.4. Scope of Services for Generator Systems

Generator Systems means all Gensets procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system.

57.5. Scope of Services for Generator System

- 1) L2SP1 shall ensure:-
 - a. that technical parameters of the Generators are maintained.
 - b. that the 32kV power supply equipment is operated, maintained and properly serviced (in the workshop) in all respects to meet the project requirements related to equipment operation management, maintenance, servicing, repair, material supply, equipment management etc.
 - c. that the optimal state of equipment is maintained during routine operation.
 - d. that safe and early resume of normal operation of trains is achieved through timely repair of Power Supply System when an accident occurs.
 - e. that Power Supply is effectively maintained to interface with other Systems.
 - f. that Oil of the transformers is changed on schedule and that used oil is properly disposed off as per Annex C.
 - g. that all safety tools are kept in working condition and are checked periodically.
 - h. that emergency cut-off is in working conditions at all times.
 - i. that Operation and maintenance of diesel generator is carried out on periodical basis and fuelling is carried out when required.
 - j. that, when a fault is detected on a feeder cable, the relevant circuit breaker trips out and the location of the fault is transmitted to the Control room.
 - k. that Generator Based Power Supply system can be remotely controlled and monitored with the PSCADA system centrally located in OCC. It shall help in monitoring and controlling the status, alarms, and measures of the different equipment during normal and abnormal conditions. Supervision shall cover the monitoring, control, data logging including time stamping, energy management and fault analysis. Remote alarms shall be provided in OCC and the extent of the alarm provision shall allow OCC to determine the cause of the fault.
 - l. that protective devices and earthing systems are operated and maintained to reduce the risk of passengers and operations/maintenance personnel from hazardous voltages or currents.

57.6. Scope of Services for Fueling

L2SP1 shall provide fuel for generators and locomotives on as and when basis to keep them functional for use during/under emergency situations. The Employer shall not reimburse the cost of fuel used to meet operational requirements during emergency situation.

58.SYSTEMS UNDER PROCUREMENT GROUP NO. 1 -SERVICE CATEGORY 3

58.1 Details of Systems under Procurement Group No. 1-Category 3 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
1. (Category 3)	Maintenance of:- <ul style="list-style-type: none"> • Firefighting • Water Sewerage and Drainage (WSD) • Heating, Ventilation and Air-conditioning (HVAC) • 0.4 KV Low Voltage Power Supply after 33KV Transformers and after Generator Based Power Supply System • Illumination, Electrical Appliances in the Corridor • BAS • FAS 	L2SP1 (Line 2 Service Provider 1)-Service Category 3.

58.2 L2SP1 shall operate, monitor, maintain and control the entire System under Service Category 3 including Building Access System and Fire Alarm System.

58.3 Firefighting and Fire Extinguishing System means all such Equipment procured under EPC Contract(PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system.

58.4 Scope of Services for Fire Fighting and Fire Extinguishing System

L2SP1 shall ensure that all the Firefighting System remains in fully functional state with respect to the intended use and performance at all times at each of the stations, HVS buildings, Control and Security Centre, Depot and Stabling Yard. The L2SP1 shall:-

- 1) Ensure (w.r.t Automatic Sprinkler System):-
 - a) That during an interruption of normal sprinkler protection, precautions should be implemented by means of continuous patrolling by L2SP1 staff to make inspection rounds of affected areas of the building every half hour, 24 hours per day, until the interruption is removed.
 - b) That supply of spare sprinklers (never fewer than six) be maintained on the

premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.

- c) That sprinklers must correspond to the types and temperature ratings of the sprinklers in the premises.
- d) That sprinklers shall be kept in a cabinet located where the temperature in which they are subjected will at no time exceed 100°F (38°C).

2) Ensure (w.r.t Stand Pipe and Hose System):-

- a) That hydrant caps and outlets are rust free, out of any damage or obstruction.
- b) That valves should open and close properly and shouldn't leak at either the stem or the nozzle. Valves that are difficult to operate, have bent stems, or don't open and close fully, should be replaced.

3) Ensure that Fire pumps /Assembly remains in fully functional state with respect to the intended use and performance at all times.

4) That maintenance of all automatic tank fill valves is conducted and Strainers shall be cleaned in line with the Maintenance manual.

5) That internal component of Valves are cleaned, repaired, or replaced.

6) Ensure and perform (w.r.t Fire Extinguishing System--FES):-

- a) Maintaining the agent pressure and volume of refillable containers, pipes and associated accessories as per the Maintenance Manual.
- b) Immediate sealing of any penetrations in the FES, or replace the affected section.
- c) That the original fire resistance rating is restored after any maintenance.

7) Ensure (w.r.t Portable Fire Extinguishers):-

- a) That inspection records are kept on a tag or label attached to the fire extinguisher or in an electronic system (e.g., bar coding) that provides a permanent record. Inspections are to be recorded on the tag attached to the portable fire extinguisher. The date the inspection was performed and the initials of the person performing the inspection shall be recorded. L2SP1 shall keep a written inventory of all extinguishers, including the following information: location, type, expiry date (also displayed on the extinguishers) and last service date.
- b) That extinguishers requiring maintenance are to be replaced immediately with a spare extinguisher of the same type and at least equal rating. The replaced fire extinguishers may be used in trainings after evaluation.
- c) That defective/expired/used extinguisher (if any) shall be promptly replaced in accordance with the manufacturer's instructions.

8) Conduct a fire/rescue drill in coordination with other relevant government agencies such

as Rescue 1122, police etc, at least once a year and develop procedures for conducting such a drill. The Employer shall lead, liaise and coordinate with the relevant local public agencies participating in such a drill.

58.4 Scope of Services for HVAC System

HVAC System means all Equipment procured under EPC Contract(PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system.

L2SP1 shall operate, monitor, maintain and control the entire HVAC System including Building Access System. The L2SP1 shall:-

- 1) Ensure and perform (w.r.t Chillers):-
 - a) De-scaling of condenser and evaporator tubes.
 - b) Dry testing of all controls and safeties in line with the Maintenance Manual (if any).
 - c) Checking of oil level & filling.
 - d) Leak testing and charging of refrigerant gas.
 - e) Checking of chiller controls and ensure integration with BAS.

- 2) Ensure and perform(w.r.t Cooling Towers) :-
 - a) Cleaning and servicing of complete cooling towers.
 - b) Greasing of Cooling Tower Motor bearings.
 - c) Maintaining of Shafts alignment.
 - d) Checking Chiller Controls and ensure integration with BAS.

- 3) Ensure and perform(w.r.t Water Pumps):-
 - a) Servicing of all Water Pumps.
 - b) Greasing of Pumps & Motor Bearings.
 - c) Checking of Pump/Motor alignment.
 - d) Replacement and maintenance of pump seal.
 - e) Monitoring & Control of pumps at normal operation.
 - f) Checking of pump`s control and ensure integration with BAS.

- 4) Ensure and perform(w.r.t Fan Coil Units):-
 - a) Flushing, cleaning and washing of water coils by using pressure pumps.
 - b) Checking and adjustment of dampers.
 - c) Checking and adjustment of fan bearings and belts.
 - d) Greasing of fan/motor bearings.
 - e) External cleaning/washing of FCUs.
 - f) Strainer cleaning.
 - g) Monitoring & Control of FCUs at normal operation.
 - h) Checking of FCUs control and ensure integration with local control.

- 5) Ensure and perform(w.r.t Fans):-
 - a) Cleaning of fans.
 - b) Checking and adjustment of bearings & belts.
 - c) Checking of Fans control and ensure that Tunnel Ventilation Fans, Track Exhaust Fan, and Return Air Fan/Smoke Exhaust Fans of GPO stations are integrated with central control system.
- 6) Ensure cleaning and replacement of air filters.
- 7) Ensure and perform (w.r.t Electrical Works):
 - a) Cleaning and checking of all components.
 - b) Tightening of wire connections.
 - c) Cleaning and adjustment of contacts.
 - d) Checking and repair of earthing.
 - e) Checking of motor winding insulation with a meter.
 - f) Checking and servicing of all moulded case circuit breakers, disconnect switches, fuses, contacts, relays, overload cutouts and other safety devices.
 - g) Checking of wiring insulation.
- 8) Ensure and perform general inspection, cleaning & flushing of Complete Water Pressure Devices.
- 9) Ensure and perform cleaning of air devices, repair/cleaning of exposed ducts, duct insulation, jacketing and covering of Air Distribution System.
- 10) Ensure and perform cleaning and flushing of all piping systems including chemical cleaning, servicing of all valves, strainers & specialties, etc. Repair of insulation, jacketing and covering of all insulated piping in line with the Maintenance Manual.
- 11) Ensure and maintain painting of all equipment, ducting and piping including supports, if the original paint has been scratched or has deteriorated.
- 12) Ensure and perform (w.r.t Condensing Units and Indoor Units):-
 - a) Cleaning and checking of all components.
 - b) Tightening of wiring connections.
 - c) Cleaning and adjustment of contacts.
 - d) Checking of earthing.
 - e) Checking of Gas Pressure and Leakages.
 - f) Checking of Noise Level/Vibration.
 - g) Checking and adjustment of fan bearings and belts.
 - h) Greasing of fan/motor bearings.

57.5 Scope of Services for Low Voltage (0.4 kV) Power Supply after 33kV Transformers and after Generator Based Power Supply System including

Illumination

The L2SP1 shall ensure:-

- 1) That the lights installed at all stations, depot, stabling yard tunnel section, transitions and high voltage sub-stations are 100% operational at all times with respect to intended use and performance.
- 2) That all safety tools are kept in working condition and are checked periodically.
- 3) That 0.4kV emergency cut-off is in working conditions all times.
- 4) That protective devices and earthing systems are operated and maintained to reduce the risk of passengers and operations/maintenance personnel from hazardous voltages or currents.

59.SERVICES UNDER PROCUREMENT GROUP NO. 1-SERVICE CATEGORY 4

59.1. Details of Systems under Procurement Group No. 1-Category 4 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
1 (Category 4).	Maintenance of:- <ul style="list-style-type: none"> • Communication System including Telephone System, Radio Communication System, Public Address System, Clock System, Passenger Information System, CCTV System, Access Control System, • Transmission System including Fiber Optics, Visual Control System, Audio and Video Recorder System • Signaling System • Passenger Screen Doors (PSDs) • Fire Alarm System (FAS) • Building Access System (BAS) • Network Monitoring System (NMS). 	L2SP1 (Line 2 Service Provider 1)-Service Category 4

59.2. L2SP1 shall operate, monitor, maintain and control the entire System under Service Category 4.

59.3. Signaling System means all Equipment procured under the main Commercial Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system. This includes automatic train control system with functionalities of Automated Train Project System (ATP), Automated Train Operation (ATO), Automated Train Supervision (ATS), Data Communication System (DCS) and Computer Based Interlocking (CBI) subsystem in depot, stations, stabling yard, control center and remaining section.

59.4. Scope of Services for Signaling System

The L2SP1 shall:

- 1) Operate and Maintain Signaling System to meet the functional requirements of train operations of Orange Line and keep Signaling System in accordance with specifications.

- 2) Ensure that Signaling system controls train operations in a safe and reliable manner on headways and travel times schedule prescribed by the Employer.
- 3) Ensure that Signaling System shall effectively interface/work with other Subsystems/Systems i.e. PSD/APD, Track, Power Supply, Rolling Stock, Wayside equipments etc. to fulfill functional requirements of the OLMRTS operations.
- 4) Ensure that all features of Automatic train supervision system (ATS), automatic train protection system (ATP) and automatic train operating system (ATO) operate and Computer Based Interlocking system (CBI) in line with the Concept Design and Technical Specification and remain fully functional when required. Ensure that fail-safe principle in ATP and CBI is effectively followed.
- 5) Ensure that CBI system controls route, signal and points to ensure safe interlocking of the route.
- 6) Ensure that Signaling System shall facilitate the drivers/relevant staff to safely operate and control train operations under partial subsystem failure/degraded mode.
- 7) Under normal mode of operation, train shall operate in one direction, i.e. leftside, however, in special situations or under restriction mode, the L2SP1 shall allow, authorize and operate bi-directional operation on any line, with an immediate intimation to the Employer during Passenger Service Hours. Nevertheless, the L2SP1 shall strive to maintain a normal mode of operation at all times during Passenger Service Hours.
- 8) Ensure that Signaling System in ATO mode deploys automatically generated optimized energy utilization strategy to reduce electricity consumption.
- 9) Ensure that reports generated by Signaling System regarding travel, speed, trips as well as interface reports regarding data transmission with other Systems/Subsystems are furnished to the Employer.
- 10) Ensure that ATS system transmits all information that is required for making informed decisions regarding OLMRTS operation, for display of the Signaling System on the workstations and the Visual Control Panel in the OCC building.
- 11) Ensure that System/Subsystem sends/communicates alarms and diagnoses to the OCC building.

- 12) Ensure that System guarantees the function of precise stopping at the station in ATO mode.
- 13) Ensure that train operates in all driving modes.
- 14) Ensure that in case of track emergency, activation of Platform Emergency Stop Button shall stop the train in ATO and ATP mode.

59.5. Scope of Services for Communication System

Communication/ Telecom System means Telephone system, Radio Communication system, Public Address System, Clock system, Passenger Information System, CCTV System, Access Control System, Transmission System, Visual Control system, Audio and Video Recorder system procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system.

The L2SP1 shall:-

- 1) Provide web based access to the Employer for monitoring of the system/reports from Control Centre. The data acquisition system shall generate real time report/raw data including but not limited to the following: -
 - i. Operational Status (ON/OFF)
 - ii. Alarms
 - iii. Duration of running/day or hour
 - iv. Error Numbers

The Employer may require additional reports based on its requirements.

- 2) Ensure that malfunction of any communication element procured under the EPC Contract does not cause residual electromagnetic interference to other OLMRTS operational telecommunication equipment and systems.
- 3) Ensure communication system of the OLMRTS shall not be interfered by outside electromagnetics in line with and to the extent of the specifications of the equipment provided under EPC Contract. Ensure that the parameters for anti-interference of communication system of the OLMRTS meet the specifications under EPC Contract.
- 4) That the storage period of video in station, depot and stabling yard shall be kept for at

least fifteen (15) days; and that the audio storage period for dispatching telephone, emergency telephone, radio fixed station and public address console shall be kept for not less than ninety (90) days.

- 5) Ensure that Telephone system is fully functional and it:-
 - a. Guarantees fully interconnected speech facilities between the OCC and all areas of the lines, such as within the Depot, and stabling yard, stations, HVS through the existing private network.
 - b. Maintain public network to the extent of the interface point and network inside the OCC. However, the network outside the interface point and line capability remains the responsibility of the local company i.e. NTS. The L2SP1, if required, shall arrange maintenance work of outside network or line capability through NTS using the already available telephone complaint system.
 - b) Enables operation staff of the Employer, as well as those of the L2SP1 have the capability to contact the OCC in case of emergency.
 - c) Ensures the quality of speech at all times in the private network.
 - d) Ensures proper functioning of critical components such as core soft switch exchange, Ethernet switches, gateways, servers etc.
 - e) In case of power supply failure, ensures that telephone backup power supply operate the telephone system for 4hrs.

- 6) Ensure (w.r.t Radio Communication System):-
 - a) That all types of voice/radio communications; i.e. single call, and group calls as well as emergency calls between the OCC, stations, the depot, trains, operations and maintenance staff are managed in a reliable and smooth manner.
 - b) That all types of voice/ radio communication between security staffs from the Employer side resident at stations, stabling yard, depot and OCC, are managed in a reliable and smooth manner.
 - c) That all communication between radio sites (e.g. base station, core network) over the multi service network are managed in a reliable and smooth manner.
 - d) That the recording of each call to and from the radio fixed station in OCC (point-to-point or group), and monitoring of each call by a controller 24 hours a day are carried out and managed in a reliable and smooth manner.
 - e) L2SP1

- f) That Hand-portable radios are available along with the necessary accessories in the areas of trackside, depot, maintenance workshops and stations. In addition, they should also be available with on-board staff including driver and security staff of the Employer.
- g) That the audio quality is greater than Level III standard CCIR358-No.5 report (noise-signal ratio within the audio band $\geq 20\text{dB}$).

7. Ensure (w.r.t Public Address System):-

- a) That the Public Address System is available at the Operation Control Center (OCC), stations, stabling yard and depot.
 - b) That Public Address System components located in any zone (except offices and equipment rooms) in a station are accessible from the Station Control Room and OCC.
 - c) That the Public Address System components located at siding and maintenance workshop, comprehensive offices of the stabling yard are accessible from OCC.
 - d) That the Public Address System components located at security center, general overhaul workshop, siding and maintenance workshop, Diesel Engine workshop and engineering workshop of the depot are accessible from OCC.
 - e) That the signals from the fire alarm system shall activate the emergency evacuation procedures and activate sequential announcements through Public Address system at stations.
- 8) That Clock system shows correct time according to Pakistan Standard Time at all stations, depot and stabling yard.
 - 9) That Passenger Information System (PIS) and attached LCD screens located on all stations of OLMRTS are in working order during Passenger Service Hours.
 - 10) That CCTV system is maintained and kept in fully functional state with respect to the intended use.
 - 11) That the CCTV system shall perform to adequately support the functions with respect to monitoring and operation of: Emergency and maintenance services; administrative services; and coordination between the OCC and all areas of stations, depot stabling yard and security center. The technical specification, locations and quantity of equipment of CCTV system shall be in line with the EPC Contract.
 - 12) That video clip of specific time/duration, if available, are furnished to the Employer on demand.
 - 13) Ensure to (w.r.t Access Control System ACS):-

- a) Arrange and Issue user cards and create, maintain and modify the user authorization levels for authorized personnel.
- b) Allow limited and controlled access to certain (typically equipment and management) areas of Stations, Depot, Stabling Yard, Operations and Control Centre, Security Centre and HV Substations.
- c) Implement all the means required to operate, control and maintain Access Control System.
- d) Operate, record and maintain logs of operations of Access Control System. Such logs shall be maintained for a period of no more than 12 months.

14) Ensure (w.r.t Multi Service Network/ Transmission System):-

- a) That reliable, redundant, re-constructible and flexible Transmission communication channel for other related systems is deployed.
- b) That System can withstand various kinds of information to be transmitted between the control center, the station, the depot and the stabling yard.
- c) That System provides interfaces and information distribution and insertion at each station along the OLMRTS.
- d) That System provides main channel and the spare channel for each connected system in line with the EPC Contract.
- e) That System provides high bandwidth and high processing capacity to accommodate any surge during emergency situation.
- f) That System provides Key elements hot-backup and automatic switch function during failure.
- g) That System provides Self-diagnosis function and network management functions, such as failure management, performance monitoring, system management, configuration management, centralized warning and maintenance and centralized management.
- i. That System provides fully interconnected data transmission facilities between the OCC and stations, depot, stabling yard and security center.
- h) That System allows smooth data transfer between different nodes of stations, control center, security center, depot and stabling yard without delay and jitter.
- i) That System provides proper functioning of critical components such as Ethernet network.

15) Ensure (w.r.t Security Center):-

- a) That limited and controlled access is allowed to the security staff of the Employer to certain (typically equipment and management) areas of Stations, Depot, Stabling Yard, Operations and Control Centre, Security Centre and HVS Substations.
- b) That all the protocols required to operate, control and maintain the Security of OLMRTS are implemented/exercised.

- 16) That fully interconnected audio and video recording facilities are provisioned and made functional between the OCC and all areas of stations, depot stabling yard and security center.
- 17) That all the components of the VCP system are in fully functional state with respect to the intended use and performance at all times. In addition, the L2SP1 shall ensure that all other components/ peripherals / units that are deemed necessary such as Large Screen, Multi-Screen Splicer, Video Array, RGB Array, Ethernet Switch, Network Management Terminal, Printer etc must also remain in fully functional state with respect to the intended use and performance.
- 18) That the Power Supply system for all communication equipments such as Dual Power Switch Box (in LPS), UPS, Set of Battery Pack, Distribution Cabinet etc. is in fully functional state with respect to the intended use and performance at all times.

59.6. SCOPE OF SERVICES FOR PSD AND APG SYSTEM

Platform Screen Door (PSD) and Automatic Platform Gates (APG) system means all PSD's and APG's procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software's and allied system.

The L2SP1 shall:-

- 1) Provide live display of SCADA to the Employer for monitoring of the system and generating reports in the Control Centre. L2SP1 shall generate real time reports/raw data, except those outside the capability of SCADA, including but not limited to the following:-
 - i. Operational Status (ON/OFF)
 - ii. Alarms
 - iii. Duration of running/day or hour
 - iv. Error Numbers

The Employer may require additional reports based on his requirements. In case of partial or complete failure of SCADA, the Employer shall decide alternate procedure or evidence available from the L2SP1 for estimating running time of PSDs/APGs in hours for the purpose of processing the payments of monthly invoices of the L2SP1.
- 2) Provide precautions to the Employer for cleaning PSD and APG glasses.
- 3) Ensure that System effectively interfaces with other Systems for synchronized and smooth running of operation.
- 4) L2SP1 shall ensure that it:-

- a. carries out proper maintenance to maintain functionality of the PSDs/APGs during Service Hours.
- b. positions adequate number of personnel in stations for PSDs/APGs during operation hours to deal with power shut downs and emergency situations (if any).
- c. Assists the janitorial staff in cleaning the PSDs and APGs as per schedule prescribed by the Employer.
- d. indicates “out of service” sign (if required) and performs trouble shooting and fault rectifications of PSDs/APGs and guides passengers.
- e. displays appropriate warning signs for passengers during maintenance activities carried out during Service Hours.
- f. maintains technical parameters of the PSDs and APGs.
- g. Provides, affixes and maintains stickers on glass doors of PSDs and APGs for passenger’s safety.
- h. Carries out maintenance of control units, motorized sliding doors, emergency escape door, fixed screen, local control panel, UPS, batteries etc.

60. Services under Procurement Group No. 1 Service Category 5

60.1. Power Supply System means all Equipment procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied system for the power supply of OLMRTS. Details of Systems under Procurement Group No. 1- Service category 5 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
1 (Category 5)	Maintenance of:- <ul style="list-style-type: none"> • High Voltage Sub-station (HVSS) and related, Low Voltage Power Supply (after Transformers and after Generators but not after Relay Panel), • Traction Supply System • Power Supervisory Control and Data Acquisition System (PSCADA) 	L2SP1 (Line 2 Service Provider 1) -Service Category 5.

60.2. L2SP1 shall operate, monitor, maintain and control the entire System under Service Category 5.

60.3. Scope of Work and Services for Power Supply

The L2SP1 shall ensure:-

- 1) That main wiring, equipment, auxiliary rooms, relay protection, automatic device, secondary circuit, measuring/metering equipment, AC & DC auxiliary power supply system, overvoltage protection, earthing and interfaces with other Systems/Subsystem in both High Voltage Substations (UET & Shahnoor) are fully functional and their performance is as per intended use.
- 2) That reliable supply of 33KV related to traction and power & lighting is available to meet all requirements of train operation and those of other allied Systems/services.
- 3) That uninterrupted power supply is provided to all relevant systems according to the strategy furnished in Concept Design and Technical Specifications, i.e. signaling system, communication system, PSD/APG, AFC system, PSCADA, BAS, FAS.
- 4) That reliable power supply is available to operate and maintain the following equipment as per their intended use in accordance with the O&M manuals, such that maximum service is derived from the complete Metro rail transit system viz-a-viz OLMRTS

Project:

- i. Oil immersed Main Transformers (132kV/33kV)
 - ii. only report to the Employer in case of any defects related to Fire partition between the main transformers
 - iii. Complete GIS (Gas Insulated Switchgear)
 - iv. Busbar, Power Cables, Bus Coupler Switches, Arrester, Potential Transformer (PT), Current Transformers (CT)
 - v. Integrated Automation System
 - vi. Earthing system, Auxiliary Transformers & Automatic Device
 - vii. Dynamic Reactive Compensator (SVG) & Isolation Transformer
 - viii. 33kV System except Generator Based Power Supply
 - ix. Traction System
 - x. Lighting Power Supply System
- 5) That operating modes of the power supply system are as mentioned in design/specification of the system.
- 6) That the traction power supply system operates in a reliable manner such that it adequately supports the overall functionality required for metro rail transit system at all times with respect to intended use and performance of traction equipment, which includes but not limited to traction transformers, rectifiers, , third rail, 33kV switchgear (including bus coupler circuit breaker), DC switchgear, OVPD & negative cabinets, signal control panel, AC & DC power panel, current drainage cabinet, relay protection devices, automatic device, bus coupler insulator, AC & DC auxiliary power supply system, lightning protection unit, overvoltage protection unit, earthing etc.
- 7) That lighting and power substation (33kV/0.4kV - LPS) operate in a reliable manner such that it adequately supports the complete and full functionality of all metro stations, depot & stabling yard of the OLMRTS line as well as functionality with respect to intended use and performance of equipment including but not limited to distribution transformers, power cables, 33kV switchgears, AC/DC panel, signal control panel, 0.4kV switchgear, relay protection devices, AC/DC auxiliary power supply system etc.
- 8) That the Employer is informed if cable trays, brackets, piping are not protected from rust and water at all times and are dislodged or misaligned or bent, in case the L2SP1 notices any such case.
- 9) That the third rail, protection for stray current and power as well as the PSCADA systems operate in a reliable manner at all times to adequately support the required functionality of the OLMRTS.
- 10) That the power supply equipment is operated, maintained and properly serviced (in the

workshop) in all respects to meet the project requirements related to equipment operation management, maintenance, servicing, repair, material supply, equipment management etc.

- 11) That normal operation of OLMRTS power supply system and the optimal state of equipment is maintained during routine operation.
- 12) That safe and early resume of normal operation of trains is achieved through timely repair of Power Supply System when an accident occurs.
- 13) That Power Supply is effectively maintained to interface with other Systems.
- 14) That Oil of the transformers is changed when required and that used oil is properly disposed off as per Annex C.
- 15) That all safety tools are kept in working condition and are checked periodically.
- 16) That control and monitoring is performed through a PSCADA, which links the OCC with all Traction Substation (TSS)& Lighting Power Substation (LPS).
- 17) That emergency cut-off is in working conditions all times.
- 18) That, when a fault is detected on a feeder cable, the relevant circuit breaker trips out and the location of the fault is transmitted to the Control room.
- 19) That Power Supply system can be remotely controlled and monitored with the PSCADA system centrally located in OCC. It shall help in monitoring and controlling the status, alarms, and measures of the different equipment during normal and abnormal conditions. Supervision shall cover the monitoring, control, data logging including time stamping, and fault analysis. Remote alarms shall be provided in OCC and the extent of the alarm provision shall allow OCC to determine the cause of the fault. The L2SP1 shall also maintain relevant devices that may save energy in the LPS.
- 20) That protective devices and earthing systems are operated and maintained to reduce the risk of passengers and operations/maintenance personnel from hazardous voltages or currents.

60. Systems under Procurement Group No. 2

60.1. Automated Fare Collection (AFC) System means all Equipment procured under EPC Contract (PMA-CR-NORINCO-OL) by CR-NORINCO including all hardware, software`s and allied systems. Details of Systems under Procurement Group No. 2 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
2.	Operation and Maintenance of:- <ul style="list-style-type: none"> • Automated Fare Collection (AFC) 	L2SP2 (Line 2 Service Provider 2)

60.2. Scope of Work for Support Services for Automated Fare Collection System

1. The L2SP1 shall promptly inform the Employer to stop ticketing operation in case of closure of platforms due to emergency, etc. Also, upon restoration of operation L2SP1 shall inform and advise the Employer to resume ticketing.
2. L2SP1 shall also act under Clause 11 (d)(f) for the replacement of parts under defect liability brought forth by L2SP2; however, L2SP1 shall not be responsible for managing services rendered by L2SP2.
3. L2SP1 shall grant limited login/access to L2SP2 for use of ITMIS during Contract Period.
4. L2SP1 shall watch and maintain inventory dedicated for AFC System.

61. Systems under Procurement Group No. 3

61.1. Details of Systems under Procurement Group No. 3 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
3	Rendering of:- • Security and Safety Services	L2SP3 (Line 2 Service Provider 3)

61.2. Scope of Work for Support Services for Security and Safety Services

1. The L2SP1 shall carryout and be fully responsible for security of non-public areas in the corridor.
2. The L2SP1 shall promptly inform the Employer to stop entry of passengers at specific station and effect of closure of stations due to emergency, etc. Also, upon restoration of operation L2SP1 shall inform and advise the Employer to open access to station.
3. L2SP1 shall grant limited login/access to L2SP3 for use of ITMIS during Contract Period.
4. L2SP1 shall provide training to all Security Staff before commissioning of the train system.
5. L2SP1 shall watch and report to Employer in writing incidents of security lapses with respect to passenger boarding and alighting that are attributable to L2SP3. However, L2SP1 shall not manage services of L2SP3.

62. Systems under Procurement Group No. 4

62.1. Details of Systems under Procurement Group No. 4 are as under:-

OLMRTS PROCUR- EMENT GROUP SR. NO.	GROUP DESCRIPTION	SERVICE PROVIDER CODE
4	Rendering of:- House Keeping and Janitorial Services (at Stations)	L2SP4 (Line 2 Service Provider 4)

62.2. Scope of Work for Support Services for Security and Safety Services

1. The L2SP1 shall promptly inform the Employer to halt House Keeping and Janitorial Services at specific station and effect of closure of stations due to emergency, etc. Also, upon restoration of operation L2SP1 shall inform and advise the Employer that such Services may be resumed.
2. L2SP1 shall grant limited login/access to L2SP4 for use of ITMIS during Contract Period.
3. L2SP1 shall provide training, if any, to all House Keeping and Janitorial Staff before commissioning of the train system.
4. L2SP1 shall watch and report to Employer in writing incidents of lapses in rendering of Services by L2SP4. However, L2SP1 shall not manage services of L2SP4.

SECTION 04 - SERVICE LEVEL AGREEMENT

SECTION 4 - SERVICE LEVEL AGREEMENT

- The SLA describes target performance levels which the Service Provider shall aim to deliver for the Services outlined in this contract. It lists negligence / inefficiency on part of the Service Provider, and associated penalties which will be applied if Service Provider fails to deliver any service performance targets in accordance with this Agreement.
- In case of breach of Service Level Agreement (SLA) parameters, penalties will apply supported by concrete evidence. In such events, the Service Provider shall clarify the reasons that caused failure of equipment, delay of trains, accidents, claims from passengers, and define whether they are caused by defect liability of equipment or the liability of Service Provider.
- Duplicated penalties shall not be levied. In case of multiple penalties due to the same cause, only one penalty of the highest value shall be invoked.
- In case of minor / major injury to passenger / person solely due to non-performance, Service Provider shall be obligated to face any legal action if any from passenger / person
- In case of damage to PMA property on Service Provider's part, the damage recovery shall be from the Service Provider
- The penalty mechanism is divided into General Penalties which are applicable to overall system and specific penalties which are applicable to individual subsystem as identified in scope of work
- The total monthly penalty amount shall not exceed more than 10% of same monthly payment to the Service Provider.
- The first month, shall be treated as a period to resolve the teething operational issues and hence such period shall be exempted from SLA.
- The overall methodology is explained as under:
Total deduction Amount (TDA)= AMP / MOCK × ΣCK, wherein:
AMP = Applicable monthly O&M Price
MOCK = kilometers of operation of planned service cars in each month
ΣCK= Total Fine in Car Kilometers

1. GENERAL PENALTIES

Sr. NO	DESCRIPTION OF VIOLATIONS	FINE IN CK	FREQUENCY
1	Parts/equipment installed are of inferior quality/ non-compliant to technical specifications of those under EPC Contract	320 for each non compliance x No of days of non-compliance	Per instance
2(a)	To cause an accident due to irresponsible behavior that leads to minor injury to a passenger / person or damage to PMA Property (not more than PKR 500,000) or Failure to carryout preventive measures that leads to minor injury to a passenger / person.	950	Per instance
2(b)	To cause an accident due to irresponsible behavior that leads to major injury / death to a passenger / person or significant damage to PMA Property (more than PKR 500,000) or Failure to carryout preventive measures that leads to major injury/death to a passenger / person.	1900	Per instance
3	Log book for fueling of gen-set not maintained as per requirements defined in the scope of work.	20	Per Month
4	Misbehavior (including verbal or Physical ill-treatment) with PMA officers/other service providers /Passengers in the corridor or Service Provider's staff. (The Employer can suggest the Service Provider to take punitive actions or terminate the employment of such responsible employees in addition to penalty)	150	Per instance
6	Falsification of Facts and Information or breach of confidentiality of information/documents	760	Per instance
7	Failure to disclose or inform the Employer about operational issues and/or safety incidents that have subsequent impact on operation and such information is not available through information systems, such as BAS, PSCADA etc.	20	Per instance
9	Carrying-out repair and maintenance works in public areas without seeking any permission letter from PMA	40	Per instance

	during operational hours		
10	Failure to arrange repairs of the accidental damages to PMA Property, other than E&M work, caused by the Service Provider within the prescribed time frame, but only subjective to work orders given by PMA	480	Per Work Order
11	Failure to carry personal and/or vehicle identification.	10	Per instance
12	Refusal or failing to provide information prescribed in the Contract	100	Per instance
13	To travel or take Passengers illegally	190	Per instance
15	To refuse to accept the visits of the PMA's inspectors to station and warehouse, to hide information or to provide partial or erroneous information.	100	Per instance
18	Fail to maintain System, Subsystem or component in accordance with the standards as mentioned in the Technical Provisions of the Contract or in accordance with Operation and Maintenance Manual or mutually agreed Operating Procedures.	50	Per instance
19	Operation of System or subsystem in Non-Scheduled hours without cause	130	Per instance
20	Accumulation of water in Elevator / Escalator pits or any other location where there is a likelihood of damage to any equipment, or likelihood of mosquito infestation, except otherwise if such accumulation of water is caused by a leakage attributable to Civil Works.	60	Per instance
23	Misuse of Utility Connections or their wastage. Use of Utility Connections for purposes other than O&M services. Non-commercial use of water, electricity and gas for canteens in depot and stabling yard dedicated for employees on duty or awaiting duty is permitted. Non-commercial use of water and electricity in depot, stabling yard, stations and HV sub-stations, dedicated for employees on duty or awaiting duty is permitted. (In addition to penalty cost recovery shall also be	480	Per instance

	made from Service Provider)		
24	Number of Unresolved verified Passengers Complaints received on Help line (pertaining to performance of equipment and lack of public support. Similar complaints against the same issue received more than once shall be taken as one)	10	Per Instance if more than 20
25	Any act / instance which is not covered in SLA but is in con-compliance to Contract /Instructions given by PMA/ Agreed SOPs & Manuals. CK May be increased up to 20 times, depending on the sensitivity of the incident as per Client's Discretion	10	Per instance

2. PENALTIES RELATED TO ROLLING STOCK AND TRAIN OPERATIONS

KEY PERFORMANCE INDICATORS (KPI)				
S.No	KPI	Formula	Standard Per Month	Fined Car Kilometers (CK)
1	Punctuality of the first train from both directions	$P = \frac{NTp - NTd}{NTp} \times 100$ <p>P= train punctuality NTp= No. of planned trips NTd= No. of first revenue trains delayed for more than 3 minutes from terminal stations</p>	Not less than 99%	<p>If 91% -99%, 6 x Number of NTd</p> <p>If 80% -90.99%, 8 x Number of NTd</p>
2	Journey Time Regularity	$J = \frac{(NTj - NTd)}{NTj} \times 100$ <p>J= journey time regularity NTj= No. of planned trips NTd= No. of trips completed within a period more than 3 minutes of the Scheduled completion period</p>	More than 98.5%	<p>If 91% -99%, 20 x Number of NTd</p> <p>If 80% -90.99%, 30 x Number of NTd</p> <p>Below 80%, Not Permitted, may result in Heavy Penalties / Termination of Contract as per Employer's Decision</p>
3	Trip Efficiency	Actual Operated trips/ Schedule trips x 100	Not less than 99%	<p>If 91% -99%, 20 x Number of NTd</p> <p>If 80% -90.99%, 30 x Number of NTd</p> <p>Below 80%, Not Permitted, may result in Heavy Penalties / Termination of Contract as per Employer's Decision</p>

4	Reliability of Trains/ No. of Minor Breakdowns	No of Incidents / (Hours of Operation x Fleet Size) Incidents considered shall be the ones in which the vehicle had to be evacuated, or vehicle remained motionless for more than 5 minutes before recovery.	Not more than 1.7 x 10 ⁻⁴	1500 x Number of Breakdowns
4	Reliability of Trains/ No. of Major Breakdowns	No of Incidents / (Hours of Operation x Fleet Size) Incidents considered shall be the ones in which the vehicle had to be towed, disturbing all the line traffic	Not more than 1.3 x 10 ⁻⁴	2500 x Number of Breakdowns
5	Cleanness of Cars / i.e. Number of Instances found in Cars		Maximum 60	61-100, 70 x Number of vehicles observed dirty Above 100, 100 x Number of vehicles observed dirty

OPERATIONAL PENALTIES		
FINES FOR DEFICIENCIES RELATED TO THE CONDITIONS OF THE ROLLING STOCK		
Sr. No	DESCRIPTION	Fine CK Per Instance
1	To place any type of decoration or non-functional items inside or outside the vehicle, which have not been installed by the original manufacturer. The inside of the driver cab shall be exception.	310
2	To polarize, totally or partially, side, front or back windows, except as already agreed by the Employer.	310
3	To use or to modify colors and designs of the external paintwork of the vehicle outside the standards parameters established by Client.	310
4	To place advertising material not authorized by the PMA.	310
5	To make announcements, whether pre-recorded or live, other than those related with Operation and Safety issues	95
6	To operate with repeated damaged/scratched/dented/significant paint-faded (inside and outside) within 45 days, as stipulated in the SOP for relevant maintenance, of front side and/or back, if they are solely attributable to the Service Provider.	115
7	Broken, damaged or loose seat(s) not fixed within 7 days	15
8	Section of handrail Missing / loose or with cutting edges not fixed within 7 days	15
9	Missing / Broken of grab handles not fixed within 7 days	20
10	Broken / Cracked Window, Front screens not fixed within 7 days	460
11	Lack of illumination or incorrect arrangement in terms of visibility of interior route displays OR Non functional interior route displays not fixed within 7 days	115
12	Inadequate operation of passenger access doors, either due to damage or incorrect operation not fixed within 7 days	385
13	Malfunction of manual opening of train doors for emergency use	765
14	Improper / No Announcements	115
15	Missing (As per quantity installed by the manufacturer) / non-functional fire extinguishers	155
16	Missing (As per quantity installed by the manufacturer) Emergency Glass Breaking Hammers	155

FINES RELATED TO USER OPERATIONS		
17	Stopping train at station for a time lesser than 10 seconds under normal operational situation	25

18	Air Conditioning system not performing in line with directions of the Employer within the capability of rolling stock provided under EPC Contract	125
19	Response time to remove the stalled vehicle more than the time conveyed to the Employer by the Service Provider	55
20	Failure to deliver train camera video to the PMA subject to the availability of footage as per Scope of Services	245

FINES RELATED TO DRIVERS

FINES RELATED TO DRIVERS		
21	To reverse in stations or track without authorization	400
22	To carry weapons of any kind	1985
23	Drunkenness on duty or smoking while driving	400
24	Under manual operation of a train, the driver stops the train without aligning with APG or PSD at a station	795
25	Abandoning and/or alighting from vehicle without authorization from the OCC	400
26	To use unauthorized electronic equipment by the driver (personal cell phones, walkman, etc.) during driving	100

FINES OF INSTITUTIONAL OR ADMINISTRATIVE NATURE

FINES OF INSTITUTIONAL OR ADMINISTRATIVE NATURE		
27	To omit compliance with obligations regarding driver training according to the Scope of Services	615

FINES FOR ENVIRONMENTAL ISSUES

FINES FOR ENVIRONMENTAL ISSUES		
28	Noise emissions in non-compliance with technical specification of trains under EPC Contract	615
29	To operate trains for passengers with leaking lubricants	615

3. PENALTIES RELATED TO TRACK

KEY PERFORMANCE INDICATORS (KPIs)		
KPI-1: Track System Fault Rectification (FR)		
<p>Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction</p> <ol style="list-style-type: none"> 1. <u>Critical Category Fault</u>: Shutdown / failure / Malfunction to the extent of System Level during operational hours leading to service loss partially or completely. Service loss at System level refers to no or inadequate control of System to carry out train operations in safe, efficient and comfortable manner in entire or portion of the corridor. Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to. 2. <u>High Category Fault</u>: Shutdown / failure / Malfunction to the extent of Sub-System Level during operational hours. There is no service loss at system level. Resolution time is 12 hours. 3. <u>Low Category Fault</u>: Shutdown / failure / Malfunction to the extent of Component Level during operational hours. There is no service loss at sub-system or system level. Resolution time is 24 hours. 4. <u>Repeated Fault</u>: Repeated fault including Critical, high and low Category of same nature in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider. <p><u>TF = Total Number of Faults Considered for KPI-1: = A + B x (C/ D)</u></p> <p>Where: -</p> <p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p> <p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p> <p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p> <p>D = Assigned Resolution Time of the Category under Consideration</p>		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time +TF _{Critical}) x 100	More than 98 %	20275 x TF _{Critical}
FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned	95 %	2370 x TF _{High}

resolution time +TF _{High}) x 100		
FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time +TF _{Low}) x 100	90 %	1055 x TF _{Low}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	585 x No. of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1		
Sr. No	INCIDENT	FAULT CATEGORY
1	It is deemed that the steel rail breaks off under any of the following circumstances: <ul style="list-style-type: none"> • The complete cross section of the steel rail breaks into two parts at least • The crack goes through the whole section of the railhead • The crack goes through the whole section of the rail bottom • A part more than 50mm long and 10mm deep drops from the top of the steel rail. 	Critical
2	The train (or vehicle) unsafely passes the switch which is permanently deformed or damaged	Critical
3	The damage of the switch rail, top iron, sleeper beyond acceptable limits.	Critical
6	The switch rail is not against the stock rail	Critical
7	The top face of the switch rail is lower than the stock rail.	Critical
8	The heel block's length is below the technical standard in EPC contract.	Critical
9	The gap between the switch rail and the end connector exceeds technical standard in EPC contact.	Critical
10	Track failure: it mainly refers to that the rail is broken or seriously damaged, the frog is seriously damaged, and the expansion track and joint splints are all broken etc.,	Critical
11	Track equipment failure: it mainly refers to the bad line geometry, track surface corrugation, track bed breakage, etc., which may cause the train shake and abnormal sounds when passing through turnouts.	Critical

12	The marked damage is aggravated according to damage standards.	Critical
13	The deformation, flaw, breaking and rail gap of the clamp plate (including emergency restore device) and bolt exceed the standards; looseness and defect of track bolt, bolt and gasket.	Critical
14	Sinking, falling and collapse of subgrade ballast bed; damage of sleepers; flooding of subgrade and bed ponding; the drainage ditch is silted up and there is crack and damage in the ballast bed.	Critical
16	Serious cracking and deformation in ballast bead and concrete short sleepers	Critical
17	The track sign is lost, damaged or indistinct.	Low
18	Obstacles within the scope of various bumpers and the bolt is loose beyond the acceptable limits	Critical
19	Peeling or chip falling at the rail end or top beyond the acceptable limits	Critical
20	Head abrasion, Rail surface scratch, Low rail joint, Wave abrasions, Rail surface and internal crack, Rail deformations, Raildeformations, Rail corrosion beyond acceptable limits	Critical
21	Track system is Operational but with Damaged / Missing Parts	Critical / High
22	Track geometry is not maintained in accordance with codes and standards	Critical
23	Missing fastening, fish bolts, base plats, insulation pads	Critical
24	Mud caking in ballasted section of track or ballast remains uncleaned after it is required	High
25	Others	Category to be decided by the Employer under fault categories defined

4. PENALTIES RELATED TO POWER SUPPLY SYSTEM INCLUDING HIGH & LOW VOLTAGE POWER SUPPLY, TRACTION POWER SUPPLY AND ILLUMINATIONS

KEY PERFORMANCE INDICATORS (KPIs)

KPI-1: Power System Fault Rectification (FR)

Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction

1. Critical Category Fault:

Shutdown / failure / Malfunction to the extent of System Level during operational hours leading to service loss. Service loss at System level refers to

- a. Power shutdown of third rail causing suspension in train operations in entire or portion of the corridor or power shut down of associated system(s) causing no or inadequate control of associated system(s) to carry out train operations in safe, efficient and comfortable manner in entire or portion of the corridor.
- b. Power shutdown of entire station(s) or entire section(s) of corridor between two stations.

Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to.

2. High Category Fault:

- a. Shutdown / failure / Malfunction to the extent of Sub-System Level during operational hours. There is no service loss at system level. Resolution time is 12 hours.

3. Low Category Fault: Shutdown / failure / Malfunction to the extent of Component Level during operational hours. There is no service loss at sub-system or system level or to the Client. Resolution time is 24 hours.

4. Repeated Fault: Repeated fault including Critical, high and low Category due to same reason in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider.

TF = Total Number of Faults Considered for KPI-1: = A + B x (C/ D)

Where: -

- A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;
- B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category
- C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration

D = Assigned Resolution Time of the Category under Consideration		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time + TF _{Critical}) x 100	More than 98 %	14155 x TF _{Critical}
FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned resolution time + TF _{High}) x 100	95 %	1490 x TF _{High}
FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time + TF _{Low}) x 100	90 %	665 x TF _{Low}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	315 x No. of Repeated Faults
<p>KPI-2: SCADA System Fault Rectification (FR2)</p> <p><u>Critical Category Fault:</u> Complete or partial shutdown (inadequate information availability on real-time basis) during operations hours. Resolution time is 90 Minutes</p> <p><u>Non-Critical Category Fault:</u> SCADA working but information/control provided is not as per Client requirements. Resolution time is 12 Hours</p> <p><u>TF = Total Number of Faults Considered for KPI-2: = A + B x (C/ D)</u></p> <p>Where: -</p> <p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p> <p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p> <p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p> <p>D = Assigned Resolution Time of the Category under Consideration</p>		
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time + TF _{Critical}) x 100	99 %	5945(594.5)x TF _{Critical}
FR1 = (Non-Critical Fault solved within assigned resolution time) / (Non-Critical Fault solved within assigned resolution time + TF _{NonCritical}) x 100	95 %	665(66.5x TF _{NonCritical})

FAULT CATEGORY IDENTIFICATION FOR KPI -1		
Sr. No	INCIDENT	FAULT CATEGORY
1	Potential Transformer (PT) and/or Current Transformer (CT) is out of order.	Critical
2	Main transformer catches fire	Critical
3	Winding over-temperature alarm, winding super-high temperature trip, core over-temperature alarm, and fan running fault, etc.	Critical
4	Electric disconnecting switch failures, Main line section insulator failures, Voltage protection of DC frame failures, Rectifier failures, Power cable failures, AC and DC power system failures, Repeated bilateral tripping protection of DC750V feeder cabinet failures, Breaker energy storage signal failure	Critical
5	Abnormal switch-on loop signal, Abnormal switch-off loop signal;	Critical
6	Trip of control loop's MCB;	Critical
7	Splicing with foreign matters or short circuit of the third rail	Critical
8	The arcing, discharge, flashover, insulator breakdown and other failure phenomena of third rail contact systems:	Critical
9	Bus coupler switch did not respond.	Critical
10	Circuit breaker did not respond	Critical
11	Protection for stray current will not work.	Critical
12	AC/DC auxiliary power supply system out of order.	Critical
13	Any panel is not working.	Critical
14	Power system is Operational but with Damaged / Missing Parts or Equipment are in dilapidated conditions	Category to be decided by the Employer under fault categories defined
15	Others	

5. PENALTIES RELATED TO SIGNALING SYSTEM

KEY PERFORMANCE INDICATORS (KPIs)		
<p>KPI-1: Signaling System Fault Rectification (FR) Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction</p>		
<p>1. <u>Critical Category Fault:</u></p> <p>a. Shutdown / failure / Malfunction to the extent of System Level during operational hours leading to service loss partially or completely. Service loss at System level refers to no or inadequate control of System to carry out train operations in safe, efficient and comfortable manner in entire or portion of the corridor.</p> <p>b. service loss in terms of unavailable data, inconsistent data; unavailable data backups, non-submitted deliverables to the Client.</p> <p>Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to.</p>		
<p>2. <u>High Category Fault:</u></p> <p>a. Shutdown / failure / Malfunction to the extent of Sub-System Level during operational hours. There is no service loss at system level.</p> <p>b. Report or deliverables not as per Client's requirements. Resolution Time is 24 hours Resolution time is 12 hours.</p>		
<p>3. <u>Low Category Fault:</u> Shutdown / failure / Malfunction to the extent of Component Level during operational hours. There is no service loss at sub-system or system level or to the Client. Resolution time is 24 hours.</p>		
<p>4. <u>Repeated Fault:</u> Repeated fault including Critical, high and low Category of same nature in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider.</p>		
<p><u>TF = Total Number of Faults Considered for KPI-1: = A + B x (C/ D)</u></p>		
<p>Where: -</p>		
<p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p>		
<p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p>		
<p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p>		
<p>D = Assigned Resolution Time of the Category under Consideration</p>		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time +TF _{Critical}) x 100	More than 98 %	20275x TF _{Critical}

FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned resolution time +TF _{High}) x 100	95 %	2370 x TF _{High}
FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time +TF _{Low}) x 100	90 %	1055 x TF _{Low}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	585 x No. of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1

Sr. No	INCIDENT	FAULT CATEGORY
1	Inadequate functioning of turnout	Critical
2	Signaling Failed to stop the train at proper location on the station	Critical
3	Equipments are unclean and dilapidated condition	High
4	Signaling system is Operational but with Damaged / Missing Parts	Category to be decided by the Employer under fault categories defined
5	Others	

6. PENALTIES RELATED TO COMMUNICATION SYSTEM

KEY PERFORMANCE INDICATORS (KPIs)

KPI-1: Communication System Fault Rectification (FR)

Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction

1. Critical Category Fault:

Shutdown / failure / Malfunction to the extent of System Level during operational hours leading to service loss. Service loss at System level refers to

- a. communication downlink with other associated system(s) causing no or inadequate control of associated system(s) to carry out train operations in safe, efficient and comfortable manner in entire or portion of the corridor.
- b. Public Address System (PAS) communication downlink between Operation Control Center (OCC) and station(s), depot, stabling yard; from Station Manager room at station(s); malfunction in automatic station(s) announcements in any one direction.
- c. Radio and Telephone communication downlink between Operation Control Center (OCC) and station(s), depot, stabling yard
- d. Passenger Information System (PIS) failure in entire station(s)
- e. CCTV cameras down in entire station(s), depot, stabling yard, corridor section between two stations.
- f. Master / Secondary Clock malfunction.
- g. Visual Control Panel (VSP) in OCC malfunction
- h. Audio Video recorder malfunction.

Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to.

2. High Category Fault:

- a. Shutdown / failure / Malfunction to the extent of Sub-System Level during operational hours. There is no service loss at system level.

Resolution time is 12 hours.

3. Low Category Fault: Shutdown / failure / Malfunction to the extent of Component Level during operational hours. There is no service loss at sub-system or system level or to the Client. Resolution time is 24 hours.

4. Repeated Fault: Repeated fault including Critical, high and low Category due to same reason in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider.

TF = Total Number of Faults Considered for KPI-1: = A + B x (C / D)

A	=	No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;
B	=	No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category
C	=	Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration
D	=	Assigned Resolution Time of the Category under Consideration
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
$FR1 = \frac{\text{Critical Fault solved within assigned resolution time}}{\text{Critical Fault solved within assigned resolution time} + TF_{\text{Critical}}} \times 100$	More than 98 %	$4375 \times TF_{\text{Critical}}$
$FR2 = \frac{\text{High Fault solved within assigned resolution time}}{\text{High Fault solved within assigned resolution time} + TF_{\text{High}}} \times 100$	95 %	$155 \times TF_{\text{High}}$
$FR3 = \frac{\text{Low Faults solved within assigned resolution time}}{\text{Low faults solved within assigned resolution time} + TF_{\text{Low}}} \times 100$	90 %	$70 \times TF_{\text{Low}}$
$FR4 = \frac{\text{No of Non-Repeated Faults}}{\text{Total No of Faults}} \times 100$	90%	35 x No. of Repeated Faults
<p>KPI-2: Fire Alarm System and Building Automation System Fault Rectification (FR)</p> <p><u>Critical Category Fault:</u> Complete or partial shutdown (inadequate information availability on real-time basis) during operations hours. Resolution time is 90 Minutes</p> <p><u>Non-Critical Category Fault:</u> System working but information provided is not as per Client requirements. Resolution time is 12 Hours</p> <p><u>TF = Total Number of Faults Considered for KPI-1:</u> = $A + B \times (C/D)$</p> <p>Where:-</p> <p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p> <p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p> <p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p> <p>D = Assigned Resolution Time of the Category under Consideration</p>		

FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time +TF _{Critical}) x 100	99 %	1940 (194) x TF _C
FR1 = (Non-Critical Fault solved within assigned resolution time) / (Non-Critical Fault solved within assigned resolution time +TF _{NonCritical}) x 100	95 %	205 (20.5) x TF _{NC}

FAULT CATEGORY IDENTIFICATION FOR KPI -2

Sr. No	INCIDENT	FAULT CATEGORY
1	Communication system is Operational but with Damaged / Missing Parts or Equipments are in dilapidated conditions	Category to be decided by the Employer under fault categories
2	Others	

OPERATIONAL PENALTIES

(In addition to procedures mentioned above, these penalties shall be invoked immediately upon occurrence of the listed incidents)

Sr. NO	DESCRIPTION	CK
1	Simultaneous breakdown of IP and wireless communication between the OCC and one or more station/depot/stabling yard/HVS. [In addition, penalty shall be multiplied by each hour (expressed in whole numbers) of delay]	57
2	No or improper communication from Station Manager Room [In addition, penalty shall be multiplied by each hour (expressed in whole numbers) of delay]	57
3	Malfunction in Visual Control impeding train operations monitoring / control from OCC [In addition, penalty shall be multiplied by	86

	each hour (expressed in whole numbers) of delay]	
4	Master / Secondary Clock Malfunction [In addition, penalty shall be multiplied by each hour (expressed in whole numbers) of delay]	86
5	Permanent unavailability of Audio / Video recordings or FAS & BAS data	625
6	No or improper automatic train announcement at station	23
7	Malfunction in Passenger Information Screen	23
8	CCTV Camera feed not available	13
9	Malfunction in Speaker causing inaudible or no sound in the planned zone	7
10	Fire Alarm and emergency exit mechanism failed to activate properly during fire incident	625

7. PENALTIES RELATED TO FIRE FIGHTING, WATER SUPPLY AND DRAINAGE AN SYSTEM

In case of non-service availability up to the extent designed, at System, Subsystem or component level during fire incidents resulting in damage to PMA property, complete recovery up to the extent of damage as decided by the Client shall be made.

KEY PERFORMANCE INDICATORS (KPIs)

KPI-1: FFE System Fault Rectification (FR)

Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction

1. Critical Category Fault: Shutdown / failure / Malfunction to the extent of System, Sub-System or component level making it incapable of extinguishing fire at desired locations partially or completely and there is no system provision to offset it. OR Shutdown / failure / Malfunction to the extent of System, Sub-System or component level making it incapable of implementing the Emergency Evacuation Procedures partially or completely. OR shut down/failure/malfunction of water supply and drainage system, making it incapable of supplying water to usage ends or allowing drainage to disposal ends, and no alternative exists.
Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to.
In case the blockage or leakage in water supply and drainage system occur at a point that is buried under certain structure or submerged under water, a reasonable resolution time shall be conveyed to the Employer by the Service Provider in writing in 90 minutes, penalties, if any, shall apply only after such conveyed time has elapsed.
2. Non-Critical Category Fault: Shutdown / failure / Malfunction to the extent of System, Sub-System or component level without failing its capability to extinguish fire at desired locations and to implement Emergency Evacuation Procedures partially or completely. OR without complete failure in its capability to supply water to usage points or to allow drainage to disposal points. Resolution time is 12 hours.
3. Repeated Fault: Repeated fault including Critical, high and low Category of same nature in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider.

TF = Total Faults Considered for KPI-2: = A + B x (C/ D)

- A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;
- B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category
- C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration

D = Assigned Resolution Time of the Category under Consideration		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time + TF _{Critical}) x 100	More than 98 %	700 x TF _{Critical}
FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned resolution time + TF _{non-critical}) x 100	95 %	165 x TF _{non-Critical}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	60 No. x of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1

Sr. No	INCIDENT	FAULT CATEGORY
1	System, subsystem or component failure during Testing twice in a month.	Critical
2	Fault causes the fire system to be switched-off/dead due to any part/equipment not in working condition or damaged.	Critical
3	Malfunctioning of fire panel switching fire system on Manual mode.	Critical
4	Fault causes the gas release incident due to fake alarm or malfunctioning of fire panel.	Critical
5	Immediate intervention on site due to fire incident.	Critical
6	Expired Portable fire extinguishers / foam trolleys filling	Critical
7	Unavailability of Fire Fighting Staff	Critical
8	Others	Category to be decided by the Employer in light of the Fault Category Definitions

8. PENALTIES RELATED TO HVAC SYSTEM

KEY PERFORMANCE INDICATORS (KPIs)		
KPI-1: HVAC System Fault Rectification (FR)		
<p>Fault considered shall be at a level of system, subsystem or component based on the extent of damage / failure / malfunction</p> <ol style="list-style-type: none"> 1. <u>Critical Category Fault</u>: Shutdown / failure / Malfunction to the extent of System Level during operational hours leading to service loss partially or completely at desired locations. System level fault refers to no or inadequate control of room environment relevant to HVAC System. Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to. 2. <u>High Category Fault</u>: Shutdown / failure / Malfunction to the extent of Sub-System Level during operational hours. There is no service loss at system level. Resolution time is 12 hours. 3. <u>Low Category Fault</u>: Shutdown / failure / Malfunction to the extent of Component Level during operational hours. There is no service loss at sub-system or system level. Resolution time is 24 hours. 4. <u>Repeated Fault</u>: Repeated fault including Critical, high and low Category of same nature in a particular month solely due to inadequate maintenance / negligence / fault on part of Service Provider. <p><u>TF = Total Faults Considered for KPI-2:</u> = $A + B \times (C / D)$</p> <p>Where:-</p> <p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p> <p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p> <p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p> <p>D = Assigned Resolution Time of the Category under Consideration</p>		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time +TF _{Critical}) x 100	More than 98 %	$675 \times TF_{\text{Critical}}$

FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned resolution time +TF _{High}) x 100	95 %	235 x TF _{High}
FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time +TF _{Low}) x 100	90 %	105 x TF _{Low}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	45 x No. of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1		
Sr. No	INCIDENT	FAULT CATEGORY
	CHILLERS	
1	Chiller not operational during working hours	Critical
2	Chiller sensors offline / Data not being displayed on Chiller Display	High
4	Chiller Water Flow Switch faulty	High
5	Chiller producing abnormal vibration/noise	High
	PUMPS	
6	Pump not operational	Critical
7	Pump gauges faulty	High
8	Pump producing abnormal vibration/noise	High
	COOLING TOWERS	
9	Cooling Tower not operational	Critical
10	Cooling Tower fan not operational	Critical
	PLANT ROOM	
11	Leakage in Plant Room Valves	High
12	HVAC System water quality not up to mark	High
13	Plant Room not clean/ Accumulation of water in Plant Room	Low
	FAN COIL UNITS (FCUs)	
14	Fan Coil Unit not operational	Critical
15	Leakage in FCU Valves	High
16	FCU Drain Pan leaking	High

17	FCU Modulating Valve faulty	High
18	FCU Filters not replaced as per maintenance Schedule	Low
19	FCU producing abnormal vibration/noise	Low
	VRF UNITS	
20	VRF Indoor Unit not operational	Critical
21	VRF Outdoor Unit not operational	Critical
22	VRF Unit filters not clean	High
	FANS	
23	Supply Fan not operational	Critical
24	Exhaust Fan not operational	Critical
	TUNNEL/UNDERGROUND STATION FANS	
25	Supply Fan not operational	Critical
26	Exhaust Fan not operational	Critical
	SMOKE FANS	
27	Supply Fan not operational	Critical
28	Exhaust Fan not operational	Critical
29	Others	Category to be decided by the Employer under fault categories defined

9. PENALTIES RELATED TO PLATFORM SLIDING DOORS AND AUTOMATIC PASSENGER GATES

KEY PERFORMANCE INDICATORS (KPIs)		
KPI-1: PSD-APG System Fault Rectification (FR)		
Fault shall be considered based on number of units effected		
<ol style="list-style-type: none"> 1. <u>Critical Category Fault</u>: Complete / Partial shutdown of PSD/APG during operations hours at station leading to service loss. OR There is a situation in which operations of PSD/APG may lead to safety issues for passengers. Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to. 2. <u>High Category Fault</u>: The PSD/APG can operate but not as per designed and intended functional use or within acceptable limits specified and there is likelihood of service loss. Resolution time is 12 hours. 3. <u>Low Category Fault</u>: The PSD/APG can operate but not as per designed and intended functional use or within acceptable limits specified. There is no likelihood of service loss or safety issue and a possible workaround exists. Resolution time is 24 hours. 4. <u>Repeated Fault</u>: Repeated faults means one fault of similar nature occurring more than once under any category, dealt with in a particular month, which occurs with respect to the same equipment due to inadequate maintenance / negligence / fault on part of Service Provider. 		
<u>TF = Total Faults Considered for KPI-2: = A + B x (C/ D)</u>		
A	=	No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;
B	=	No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category
C	=	Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration
D	=	Assigned Resolution Time of the Category under Consideration
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
FR1 = (Critical Fault solved within assigned resolution time) / (Critical Fault solved within assigned resolution time +TF _{Critical}) x 100	More than 98 %	70 x TF _{Critical}

FR2 = (High Fault solved within assigned resolution time) / (High Fault solved within assigned resolution time +TF _{High}) x 100	95 %	25 x TF _{High}
FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time +TF _{Low}) x 100	90 %	15 x TF _{Low}
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	5 x No. of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1		
Sr. No	INCIDENT	FAULT CATEGORY
1	PSD/APG sensor not responded to obstruction.	Critical
2	Beep Alarm malfunctioning during opening and closing of PSD/APG.	High
3	PSD/APG generating Mechanical rubbing sound.	High
4	UPS failed to provide power for the duration specified in the contract in case of power outage.	Critical
5	The PSD system failed to sense arrival of Train and failed to Open doors automatically.	Critical
6	Door did not response to Emergency Push Buttons.	Critical
7	PSD/APG is Operational but with Damaged / Missing Parts.	Category to be decided by the Employer under fault categories defined
8	Others.	

10. PENALTIES RELATED TO ESCALATORS AND ELEVATORS

KEY PERFORMANCE INDICATORS (KPIs)		
KPI-1: System Fault Rectification (FR)		
Fault shall be considered based on number of units effected		
<ol style="list-style-type: none"> 1. <u>Critical Category Fault</u>: Complete shutdown of elevator/escalator during operations hours at station leading to service loss. OR There is a situation in which operations of elevator/escalator may lead to safety issues for passengers. Resolution time is 2 hours in case no parts are required; 4 hours in case parts are required and available, and damage/fault are arisen under normal use. In case of damage/fault out of normal use, timelines to rectify are to be justified, conveyed in writing in 90 minutes and shall be adhered to. 2. <u>High Category Fault</u>: The elevator/escalator can operate but not as per designed and intended functional use or within acceptable limits specified and there is likelihood of service loss. Resolution time is 12 hours. 3. <u>Low Category Fault</u>: The elevator/escalator can operate but not as per designed and intended functional use or within acceptable limits specified. There is no likelihood of service loss or safety issue and a possible workaround exists. Resolution time is 24 hours. 4. <u>Repeated Fault</u>: means one fault of similar nature occurring more than once under any category, dealt with in a particular month, which occurs with respect to the same equipment due to inadequate maintenance / negligence / fault on part of Service Provider. 		
$\text{TF} = \text{Total Faults Considered for KPI-2:} = A + B \times (C / D)$		
<p>A = No of Faults Responded above the assigned resolution time but within 2 times the Assigned Resolution Time for a Particular Category;</p> <p>B = No of Faults Responded in more than 2 times the Assigned Resolution Time for a Particular Category</p> <p>C = Average Actual Resolution Time of 'B' expressed in units of Assigned Resolution Time of the Category under Consideration</p> <p>D = Assigned Resolution Time of the Category under Consideration</p>		
FR	Threshold of FR	Penalty in Car Km (CK) Applicable if FR is less than threshold value
$\text{FR1} = (\text{Critical Fault solved within assigned resolution time}) / (\text{Critical Fault solved within assigned resolution time} + \text{TF}_{\text{Critical}}) \times 100$	More than 98 %	$230 \times \text{TF}_{\text{Critical}}$
$\text{FR2} = (\text{High Fault solved within assigned resolution time}) / (\text{High Fault solved within assigned resolution time} + \text{TF}_{\text{High}}) \times 100$	95 %	$80 \times \text{TF}_{\text{High}}$

FR3 = (Low Faults solved within assigned resolution time) / (Low faults solved within assigned resolution time +TF _{Low}) x 100	90 %	40 (4) x TF _L
FR4 = (No of Non-Repeated Faults) / (Total No of Faults) x 100	90%	15 (1.5) x No. of Repeated Faults

FAULT CATEGORY IDENTIFICATION FOR KPI -1		
Sr. No	INCIDENT	FAULT CATEGORY
1	Improper door operations of elevator or door sensors not working or dead door closing buttons..	Critical
2	Jerks in Elevator/escalators, service is interrupted.	Critical
3	Elevator/escalators generating Mechanical rubbing sound	High
5	Camera inside the Elevators/escalators are malfunctioned	High
	Incorrect / delayed response of sensors disengaging power saving feature. Escalator/elevator did not respond to emergency handling features such as brakes etc.	Critical
	Elevator/escalator is Operational but with Damaged / Missing Parts.	Category to be decided by the Employer under fault categories defined
6	Others	

SECTION 05 - TECHNICAL EVALUATION CRITERIA

SECTION 05 - TECHNICAL EVALUATION CRITERIA

If eligible, each bid shall be technically evaluated according to the criteria provided in this section. The details of categories and scores are provided in the table below:-

Sr. No	CATEGORIES	SCORE
1	ORGANIZATION EXPERIENCE RELATED TO OPERATIONS OF TRAINS	15
2	ORGANIZATION EXPERIENCE RELATED TO MAINTENANCE OF ROLLING STOCK	15
3	ORGANIZATION EXPERIENCE RELATED TO MAINTENANCE OF TRACK	10
4	ORGANIZATION EXPERIENCE RELATED TO OPERATIONS AND MAINTENANCE OF POWER SUPPLY SYSTEM	10
5	ORGANIZATION EXPERIENCE RELATED TO OPERATIONS AND MAINTENANCE OF SIGNALING AND COMMUNICATION SYSTEM	10
6	ORGANIZATION EXPERIENCE RELATED TO OPERATIONS AND MAINTENANCE OF VARIOUS SYSTEMS INCLUDING FIRE FIGHTING, HAVAC, WATER SUPPLY AND SEWERAGE, ESCLATORS, ELEVATORS, PLATFORM SCREEN DOORS AND AUTOMATIC PLATFORM GATES	10
7	FINANCIAL STRENGTH	15
8	HUMAN RESOURCE CAPABILITIES	15
Total Score		100

In order to be pass the Technical Evaluation Criteria:-

- The Bidder has to score minimum specified marks in category 1 to 7 as mentioned in the relevant coming sections.
- The bidder has to provide Human Resource meeting the minimum criteria in category 8
- The bidder has to score 75 marks in total.
- The total score of the Bidder if in decimals, will be rounded off to the nearest integer.

The method for scoring for each category is explained in the sections below

1. ORGANIZATION's EXPERIENCE RELATED TO OPERATIONS

The total score of this category is 15 out of which Bidder has to score at least 7.5 marks. The score shall be calculated according to following Formula:-

$$(Ax0.2 + Bx0.7 + Cx0.1) \times 15$$

where

A = Value assigned against Number of Metro Lines operated by the Bidder

B = Value assigned against combined performance evaluation of operations of three (03) Metro Lines operated by the Bidder

C = Value assigned against Bidder's international experience in operations

The Bidder has to provide details of three (03) Metro Lines or more (Any Type from 1 to 4) operated by him. Bidder must have an operational experience of 03 years each or more in at least 03 Metro Lines. The scope of Bidder in all Metro Lines must include the following:-

- a. Operations of trains with centralized dispatching and supervision through Command and Control Centre.
- b. Operations of trains with Main Line Signaling System consisting of Automatic Train Control System (ATC) .

Bidder shall provide the details through Form TECH-3A to TECH 3C

The score can be computed through following steps:-

STEP 1 - FINDING VALUE OF 'A'

'A' shall be taken from the following Table:-

Number of Metro Lines Operated	A
5 or more	1
4	0.9
3	0.8

STEP 2 - COMPUTING VALUE OF 'B'

For computation of 'B' combined evaluation of first three (03) Metro Lines enlisted in Form TECH-3A by the Bidder will be done according to the following steps:-

STEP 2-1 - Finding values of various multipliers for each Metro Line.

- a) Find the value of Similarity Multiplier (SM) against each Metro Line

Type of Metro Line	SM
Type 1 & 2	1
Type 3	0.9
Type 4	0.6

- b) Find the value of Experience Multiplier (EM) against each Metro Line

Number of Years of Successful Operation of the Line	EM
More than 5 years	1
More than 4 to 5 years	0.9
3 to 4 years	0.8

From (c) to (f) the duration taken shall be the last two years of operation under the Bidder. In case the Bidder is still performing the operation services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018.

- c) Find the value of Maximum Number of Pairs Scheduled in a Day Multiplier(PM) against each Metro Line

Maximum number of pairs scheduled in a day	PM
More than 200 Pairs	1
151 to 200 Pairs	0.9
101 to 150 Pairs	0.8
50 to 100 Pairs	0.4
Less than 50 Pairs	0

- d) Find the value of Maximum Passengers per Hour per Direction Served in a Day Multiplier (PsM) against each Metro Line

Maximum Passengers per Hour per Direction (pphpd) in a day	PsM
More than 10,000	1
More than 8,000 to 10,000	0.9
More than 6000 to 8000	0.8
More than 4000 to 6000	0.7
More than 2000 to 4000	0.4
Less than 2000	0

- e) Find the value of Minimum Peak Headway Scheduled in a Day Multiplier(HM) against each Metro Line

Minimum Peak Headway Scheduled in a Day (Minutes)	HM
5 or less	1
More than 5 to 6	0.9
More than 6 to 7	0.8
More than 7 to 8	0.6
More than 8 to 10	0.4
More than 10 minutes	0

- f) Find the value of Average Daily Ridership Multiplier (RM) against each Metro Line

Average Daily Ridership	RM
More than 245,000	1
More than 200,000 to 245,000	0.9
More than 150,000 to 200,000	0.8
More than 100,000 to 150,000	0.6
More than 50,000 to 100,000	0.4
50,000 or less	0

- g) Find the value of Stations Multiplier(StM) against each Metro Line

Number of Stations on the Line	StM
26 or more	1
16 to 25	0.8
9 to 15	0.5
Less than 9	0

h) Find the value of Commercial Speed Multiplier (CM) against each Metro Line

Commercial Speed (Km/hr)	CM
More than 34	1
More than 30 to 34	0.8
More than 25 to 30	0.4
25 or less	0

STEP 2-2 - Organizing various multipliers for each Metro Line.

Organize the multipliers against each Metro Line as below:-

Metro Line	SM	EM	PM	PsM	HM	StM	RM	CM
1								
2								
3								

In case if any of a Multiplier of a particular Metro Line is zero (0), all multipliers of that particular Metro Line shall be taken as zero (0)

STEP 2-3 - Computing values of Indices and their Averages

Perform computation according to the following table.

Metro Line	Experience Index (EI) = SM x EM	Pairs Index (PI) = SM x PM	Passenger Index (PsI) = SM x PsM	Peak Headway Index (HI) = SM x HM	Station Index (StI) = SM x StM	Ridership Index (RI) = SM x RM	Commercial Speed Index (CI) = SM x CM
1							
2							
3							
SUM Σ	SUM_EI	SUM_PI	SUM_PsI	SUM_HI	SUM_StI	SUM_RI	SUM_CI
SUM $\Sigma / 3$	AVG_EI	AVG_PI	AVG_PsI	AVG_HI	AVG_StI	AVG_RI	AVG_CI

STEP 2-4 - Computing value of 'B'

Compute value of 'B', according to the following table.

Factor	Average of Indices	Factor x Average of Indices
0.20	AVG_EI	0.20 x AVG_EI
0.15	AVG_PI	0.15 x AVG_PI

0.15	AVG_PsI	0.15 x AVG_PsI
0.15	AVG_HI	0.15 x AVG_HI
0.15	AVG_CI	0.15 x AVG_CI
0.10	AVG_StI	0.10 x AVG_StI
0.10	AVG_RI	0.10 x AVG_RI
		B = TOTAL Σ (Factors x Average of Indices)

STEP 3 - FINDING VALUE OF 'C'

'C' will be taken as 1 if Bidder has international experience of being train operator of one or more Metro Lines or providing Technical support (consultancy / advisory / trainings) for train operations. Otherwise 'C' will be taken as 0. International experience means experience in a country other than the home country of the Bidder.

STEP 4 - COMPUTATION OF CATEGORY SCORE

Insert values of A, B and C, as computed from the above steps into the formula i.e. $(Ax0.2 + Bx0.7 + Cx0.1) \times 15$, to compute the score in this category

2. ORGANIZATION'S EXPERIENCE RELATED TO MAINTENANCE OF ROLLING STOCK

The total score of this category is 15 out of which Bidder has to score at least 7.5 marks. The score shall be calculated according to following Formula:-

$$(Ax0.2 + Bx0.7 + Cx0.1) \times 15$$

where

A = Value assigned against Number of Metro Lines for which the Bidder has provided complete services for maintenance of Rolling Stock for the entire Metro Line.

B = Value assigned against combined performance evaluation of three (03) Metro Lines for which the Bidder has provided complete services for maintenance of Rolling Stock for the entire Metro Line.

C = Value assigned against Bidder's international experience in providing services for maintenance of rolling stock in Metro Lines.

The Bidder has to provide details of three (03) Metro Lines or more (Any Type from 1 to 4). Bidder must have experience of 03 years or more in at least 03 Metro Lines

Bidder shall provide the details through Form TECH-4A to TECH-4C

The score can be computed through following steps:-

STEP 1 - FINDING VALUE OF 'A'

'A' shall be taken from the following Table:-

Number of Metro Lines for which the Bidder has provided complete services for maintenance of Rolling Stock for the entire Metro Line.	A
5 or more	1
4	0.9
3	0.8

STEP 2 - COMPUTING VALUE OF 'B'

For computation of 'B' combined evaluation of first three (03) Metro Lines enlisted in Form TECH-4A by the Bidder will be done according to the following steps:-

STEP 2-1 - Finding values of various multipliers for each Metro Line.

- a) Find the value of Similarity Multiplier (SM) against each Metro Line

Type of Metro Line	SM
Type 1 & 2	1
Type 3	0.9
Type 4	0.6

- b) Find the value of Experience Multiplier (EM) against each Metro Line

Number of Years of maintenance of rolling stock	EM
More than 5 years	1
More than 4 to 5 years	0.9
3 to 4 years	0.8

- c) Find the value of Equivalent Fleet Size (EFZ) expressed as number of cars Multiplier (CM) maintained for the Metro Line. The EFZ shall be calculated according to following Formula:-

$$EFZ = \text{Fleet size as number of train sets} \times \text{Length of each train set} / 20$$

Fleet Size expressed as number of Cars	CM
135 or More	1
More than 90 to 134	0.8
More than 45 to 90	0.4
45 or less	0

- d) Find the incidents of Service Failures Per Hour Per Vehicle Multiplier (F1M) during the last two years attributable to maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018. Incidents considered shall be the ones in which the vehicle had to be evacuated, or vehicle remained motionless for more than 5 minutes before recovery.

$$\text{Incidents of Service Failures Per Hour Per Vehicle} = \lambda = \text{No of Incidents Considered} / (\text{Hours of Operation in 02 years} \times \text{Fleet Size maintained in terms of number of train sets in 02 years})$$

Λ	F1M
Less than or equal to 3×10^{-6}	1

More than 3×10^{-6} and Less than or equal to 1.7×10^{-4}	0.8
More than 1.7×10^{-4} and Less than or equal to 2.5×10^{-4}	0.4
More than 2.5×10^{-4}	0

- e) Find the incidents of Service Failures Per Hour Per Vehicle Multiplier (F2M) during the last two years attributable to maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018. Incidents considered shall be the ones in which the vehicle had to be towed, disturbing all the line traffic

Incidents of Service Failures Per Hour Per Vehicle = λ = No of Incidents Considered / (Hours of Operation in 02 years x Fleet Size maintained in terms of number of train sets in 02 years)

Λ	F2M
Less than or equal to 5×10^{-7}	1
More than 5×10^{-7} and Less than or equal to 1.3×10^{-4}	0.8
More than 1.3×10^{-4} and Less than or equal to 1.95×10^{-4}	0.4
More than 1.95×10^{-4}	0

- f) Find ATC availability Multiplier (AM) based on condition that all trains maintained in the Fleet are equipped with Automatic Train Protection Function

All Trains Maintained in the Fleet are equipped with Automatic Train Protection Function	AM
Yes	1
No	0

- g) Find Rolling Stock Specification Multiplier (RM) based on the condition that rolling stock maintained includes as a part of Fleet, Chinese Standard Type B1 Rolling Stock (Code-GB50157) OR rolling stock of Equal or Higher Specifications

Rolling Stock maintained includes as a part of Fleet, Chinese Standard Type B1 Rolling Stock (Code-GB50157) OR Rolling Stock of Equal or Higher Specifications	RM
Yes	1
No	0

STEP 2-2 - Organizing various multipliers for each Metro Line.

Organize the multipliers against each Metro Line as below:-

Metro Line	SM	EM	CM	F1M	F2M	AM	RM
1							
2							
3							

In case if a Multiplier at (c),(d) or (e) of a particular Metro Line is zero (0), all multipliers of that particular Metro Line shall be taken as zero (0)

STEP 2-3 - Computing values of Indices and their Averages

Perform computation according to the following table.

Metro Line	Experience Index (EI) = SM x EM	Cars Index (CI) = SM x CM	Service Failure-1 Index (F1I) = SM x F1M	Service Failure-2 Index (F2I) = SM x F2M	ATC Index (AI) = SM x AM	Rolling Stock Index (RI) = SM x RM
1						
2						
3						
SUM Σ	SUM_EI	SUM_CI	SUM_F1I	SUM_F2I	SUM_AI	SUM_RI
SUM $\Sigma / 3$	AVG_EI	AVG_CI	AVG_F1I	AVG_F2I	AVG_AI	AVG_RI

STEP 2-4 - Computing value of 'B'

Compute value of 'B', according to the following table.

Factor	Average of Indices	Factor x Average of Indices
0.2	AVG_EI	0.2 x AVG_EI
0.2	AVG_CI	0.2 x AVG_CI
0.25	AVG_F1I	0.2 x AVG_F1I
0.25	AVG_F2I	0.2 x AVG_F2I
0.05	AVG_AI	0.1 x AVG_AI
0.05	AVG_RI	0.1 x AVG_RI
		B = TOTAL Σ (Factors x Average of Indices)

STEP 3 - FINDING VALUE OF 'C'

'C' will be taken as 1 if Bidder has international experience of maintaining the rolling stock of one or more Metro Lines or providing Technical support (consultancy / advisory / trainings) in this regard. Otherwise 'C' will be taken as 0.

International experience means experience in a country other than the home country of the Bidder.

STEP 4 - COMPUTATION OF CATEGORY SCORE

Insert values of A, B and C, as computed from the above steps into the formula i.e. $(Ax0.2 + Bx0.7 + Cx0.1) \times 15$, to compute the score in this category

3. ORGANIZATION'S EXPERIENCE RELATED TO MAINTENANCE OF TRACK.

The total score of this category is 10 out of which Bidder has to score at least 5 marks. The score shall be calculated according to following Formula:-

$$(A \times 0.2 + B \times 0.7 + C \times 0.1) \times 10$$

where

A = Value assigned against Number of Metro Lines for which the Bidder has provided complete maintenance services of the track for the entire Metro Line

B = Value assigned against combined performance evaluation of three (03) Metro Lines for which the Bidder has provided complete maintenance services of the track for the entire Metro Line

C = Value assigned against Bidder's international experience in maintenance of rolling stock of Metro Lines.

The Bidder has to provide details of three (03) Metro Lines or more (Any Type from 1 to 4) for which the Bidder has maintained the track. Bidder must have maintenance experience of 03 years or more in at least 03 Metro Lines.

Bidder shall provide the details through Form TECH-5A to Form TECH-5C

The score can be computed through following steps:-

STEP 1 - FINDING VALUE OF 'A'

'A' shall be taken from the following Table:-

Number of Metro Lines for which the Bidder has maintained the track	A
5 or more	1
4	0.9
3	0.8

STEP 2 - COMPUTING VALUE OF 'B'

For computation of 'B' combined evaluation of first three (03) Metro Lines enlisted in Form TECH 3-1 by the Bidder will be done according to the following steps:-

STEP 2-1 - Finding values of various multipliers for each Metro Line.

a) Find the value of Similarity Multiplier (SM) against each Metro Line

Type of Metro Line	SM
Type 1 & 2	1
Type 3	0.9
Type 4	0.6

b) Find the value of Experience Multiplier (EM) against each Metro Line

Number of Years of maintenance of track	EM
More than 5 years	1
More than 4 to 5 years	0.9

3 to 4 years	0.8
--------------	-----

c) Find the value of Track Length Multiplier (CM)

Length of the track maintained	LM
More than 25 Km	1
More than 20 to 25 Km	0.9
More than 15 to 20 Km	0.8
More than 10 to 15 Km	0.6
More than 5 to 10 Km	0.4
Less than 5 Km	0

d) Find the Service Failures-1 Multiplier (F1M). It includes Percentage of trips delayed for more than 5 minutes from their scheduled journey time due to issues attributable to track maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018.

$$\% \text{age of Trips Delayed} = (\text{No of Trips Delayed} / \text{No of Trips Completed}) \times 100$$

Percentage of trips delayed for more than 5 minutes from their scheduled journey time due to issues attributable to track maintenance only	F1M
2% & Less than 2%	1
More than 2% to 4%	0.9
More than 4% to 6%	0.8
More than 6% to 8%	0.6
More than 8% to 10%	0.4
More than 10%	0

e) Find the Service Failures-2 Multiplier (F2M). It includes Percentage of incomplete or missed trips due to issues attributable to Track Maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018.

$$\% \text{age of Incomplete or Missed Trips} = (\text{No of Incomplete or Missed Trips} / \text{No of Scheduled Trips}) \times 100$$

Percentage of trips delayed for more than 5 minutes from their scheduled journey time due to issues attributable to track maintenance only	F1M
1% & Less than 1%	1
More than 1% to 2%	0.9
More than 2% to 3%	0.8
More than 3% to 4%	0.6
More than 4% to 5%	0.4
More than 5%	0

f) Find Track Specification Multiplier (TsM) based on condition that Main Line Track consists of Standard Gauge, 40-60 kg/m U75V Continuously welded hot rolled rails with concrete tie integrated ballast bed OR Main Line having track with equivalent or higher specs

Main Line Track consists of Standard Gauge, 40-60 kg/m U75V Continuously welded hot rolled rails with concrete tie integrated ballast bed OR Main Line having track with equivalent or higher specs	TsM
Yes	1
No	0

STEP 2-2 - Organizing various multipliers for each Metro Line.

Organize the multipliers against each Metro Line as below:-

Metro Line	SM	EM	LM	F1M	F2M	TsM
1						
2						
3						

In case if any of a Multiplier excluding (f) of a particular Metro Line is zero (0), all multipliers of that particular Metro Line shall be taken as zero (0)

STEP 2-3 - Computing values of Indices and their Averages

Perform computation according to the following table.

Metro Line	Experience Index (EI) = SM x EM	Track Length Index (LI) = SM x LM	Service Failure-1 Index (F1I) = SM x F1M	Service Failure-2 Index (F2I) = SM x F2M	Track Spec Index (TsI) = SM x TsM
1					
2					
3					
SUM Σ	SUM_EI	SUM_LI	SUM_F1I	SUM_F2I	SUM_TsI
SUM Σ / 3	AVG_EI	AVG_LI	AVG_F1I	AVG_F2I	AVG_TsI

STEP 2-4 - Computing value of 'B'

Compute value of 'B', according to the following table.

Factor	Average of Indices	Factor x Average of Indices
0.2	AVG_EI	0.2 x AVG_EI
0.2	AVG_LI	0.2 x AVG_LI
0.25	AVG_F1I	0.25 x AVG_F1I

0.25	AVG_F2I	0.25 x AVG_F2I
0.1	AVG_Tsl	0.1 x AVG_Tsl
		B = TOTAL Σ (Factors x Average of Indices)

STEP 3 - FINDING VALUE OF 'C'

'C' will be taken as 1 if Bidder has international experience of maintaining the track of one or more Metro Lines or providing Technical support (consultancy / advisory / trainings) in this regard. Otherwise 'C' will be taken as 0.

International experience means experience in a country other than the home country of the Bidder.

STEP 4 - COMPUTATION OF CATEGORY SCORE

Insert values of A, B and C, as computed from the above steps into the formula i.e. $(Ax0.2 + Bx0.7 + Cx0.1) \times 10$, to compute the score in this category

4. ORGANIZATION'S EXPERIENCE RELATED TO OPERATION AND MAINTENANCE OF POWER SUPPLY SYSTEM

The total score of this category is 10 out of which Bidder has to score at least 05 marks. The score shall be calculated according to Formula = $A \times 0.10$, where A = Total points scored in the Criteria Table given below. The Bidder has to score non-zero points in criteria at Serial No 1 to 4.

Sr No.	Criteria	Scoring Criteria
1	Number of years of experience in operation and maintenance of High Voltage Substations	More than 9 years = 20 Points
		More than 8 to 9 years = 18 Points
		More than 7 to 8 years = 14 Points
		More than 6 to 7 years = 10 Points
		5 to 6 years = 06 Points
		Less than 5 years = 00 Points
2	Total coverage area in acres supported by the High Voltage Substations operated and maintained by the Bidder so far.	More than 80 = 20 Points
		More than 70 to 80 = 16 Points
		More than 60 to 70 = 12 Points
		More than 50 to 60 = 08 Points
		40 to 50 = 04 Points
		Less than 40 = 00 Points
3	Number of years of experience in operation and maintenance of Traction Supply System for Trains	More than 9 years = 15 Points
		More than 8 to 9 years = 14 Points
		More than 7 to 8 years = 11 Points
		More than 6 to 7 years = 08 Points
		5 to 6 years = 05 Points
		Less than 5 years = 00 Points
4	Total length of the track in Kms for which traction supply is operated and maintained by the bidder so far.	More than 40 = 15 Points
		More than 30 to 40 = 12 Points
		More than 20 to 30 = 08 Points
		10 to 20 = 05 Points
		Less than 10 = 00 Points

5	Number of years of experience in operation and Maintenance of Power SCADA	More than 10 years	=	15 Points
		More than 8 to 10 years	=	14 Points
		More than 6 to 8 years	=	11 Points
		More than 4 to 6 years	=	08 Points
		2 to 4 years	=	05 Points
		Less than 2 years	=	00 Points
6	Number of years of experience in operation and maintenance of low voltage power supply and illuminations	More than 10 years	=	10 Points
		More than 8 to 10 years	=	09 Points
		More than 6 to 8 years	=	07 Points
		More than 4 to 6 years	=	05 Points
		2 to 4 years	=	03 Points
		Less than 2 years	=	00 Points
7	Total floor area in sq-m for which low voltage power supply and illumination is operated and maintained by the Bidder so far	More than 125,000	=	05 Points
		More than 100,000 to 125,000	=	04 Points
		More than 75,000 to 100,000	=	03 Points
		More than 50,000 to 75,000	=	02 Points
		25,000 to 50,000	=	01 Points
		Less than 25,000	=	00 Points
TOTAL		100 points		

5. ORGANIZATION'S EXPERIENCE RELATED TO OPERATION AND MAINTENANCE OF SIGNALING AND COMMUNICATION SYSTEM

The total score of this category is 10 out of which Bidder has to score at least 05 marks. The score shall be calculated according to Formula = $A \times 0.10$, where A = Total points scored in the Criteria Table given below. The Bidder has to score non-zero points in criteria at Sr. No 1 to 14.

Sr No.	Criteria	Scoring Criteria		
1	Number of years of experience in operation and maintenance of ATC based Train Signaling System	More than 9 years	=	15 Points
		More than 8 to 9 years	=	12 Points
		More than 7 to 8 years	=	10 Points
		More than 6 to 7 years	=	08 Points
		5 to 6 years	=	06 Points
		Less than 5 years	=	00 Points
2	Total length of track in Km, for which ATC based Train Signaling System is operated and maintained by the Bidder so far.	More than 40	=	10 Points
		More than 30 to 40	=	08 Points
		More than 20 to 30	=	06 Points
		10 to 20	=	04 Points
		Less than 10	=	00 Points
3	Total number of stations in the Train Systems for which ATC based Train Signaling System is operated and maintained by the Bidder so far.	More than 25	=	07 Points
		More than 15 to 25	=	05 Points
		10 to 15	=	03 Points
		Less than 10	=	00 Points
4	Number of years of experience in operation and maintenance of Radio Communication System and Public Wireless System	More than 5 years	=	04 Points
		More than 3.5 to 5 years	=	03 Points
		2 to 3.5 years	=	02 Points
		Less than 2 years	=	00 Points

5	Total coverage area in acres supported by the Radio Communication System and Public Wireless System operated and maintained by the Bidder so far.	More than 50 = 04 Points More than 35 to 50 = 03 Points 20 to 35 = 02 Points Less than 20 = 00 Points
6	Number of years of experience in operation and maintenance of Fiber Optic System	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
7	Total length of Fiber Optic Cable system in Km operated and maintained by the Bidder so far.	More than 40 = 04 Points More than 25 to 40 = 03 Points 10 to 25 = 02 Points Less than 10 = 00 Points
8	Number of years of experience in operation and maintenance of Fire Alarm System, Building Automation System and Clock System.	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
9	Number of years of experience in operation and maintenance of Passenger Information System(PIS) and Public Address System (PAS)	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
10	(Number of Displays + Number of Speakers) supported by PIS and PAS operated and maintained by the Bidder so far.	More than 1500 = 04 Points More than 900 to 1500 = 03 Points 300 to 900 = 02 Points Less than 300 = 00 Points
11	Number of years of experience in operation and maintenance of CCTV System	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
12	Total cameras supported by the CCTV System operated and maintained by the Bidder so far	More than 1200 = 04 Points More than 800 to 1200 = 03 Points 400 to 800 = 02 Points Less than 400 = 00 Points
13	Number of years of experience in operation and maintenance of Visual Control Panel System for Train Operations	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
14	Number of Visual Control Panels operated and maintained by the Bidder so far.	More than 2 = 04 Points 2 = 03 Points 1 = 02 Points 0 = 00 Points
15	Number of years of experience in operation and maintenance of Access Control System	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
16	Total building floor area in sq-m supported by the Access Control System operated and maintained by the Bidder so far	More than 20,000 = 04 Points More than 12,500 to 20,000 = 03 Points 5000 to 12,500 = 02 Points Less than 5000 = 00 Points

17	Number of years of experience in operation and maintenance of Telephone System	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
18	Total access gateways supported by the Telephone System operated and maintained by the Bidder so far.	More than 800 = 04 Points More than 500 to 800 = 03 Points 200 to 500 = 02 Points Less than 200 = 00 Points
19	Number of years of experience in operation and maintenance of Audio Video Recording System	More than 5 years = 04 Points More than 3.5 to 5 years = 03 Points 2 to 3.5 years = 02 Points Less than 2 years = 00 Points
20	Combined Storage Capacity in Tera Bytes of Audio Video Recording Systems maintained by the Bidder so far	More than 300 = 04 Points More than 200 to 300 = 03 Points 100 to 200 = 02 Points Less than 100 = 00 Points

6. ORGANIZATION EXPERIENCE RELATED TO OPERATIONS AND MAINTENANCE OF VARIOUS SYSTEMS INCLUDING FIRE FIGHTING, HAVAC, WATER SUPPLY AND SEWERAGE, ESCLATORS, ELEVATORS, PLATFORM SCREEN DOORS AND AUTOMATIC PLATFORM GATES

The total score of this category is 10 out of which Bidder has to score at least 05 marks. The score shall be calculated according to Formula = $A \times 0.10$, where A = Total points scored in the Criteria Table given below. The Bidder has to score non-zero points in criteria at Sr. No 1 to 10.

Sr No.	Criteria	Scoring Criteria
1	Number of years of experience in operation and maintenance of Fire fighting systems including Fire hydrant system, Automatic Sprinkler System, Portable Fire extinguishers, HFC-227ea, CO2 and other gas fire extinguishing systems	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
2	Total floor area in Sq-m of public / commercial buildings for which Fire Fighting System is operated and maintained by the bidder so far.	More than 55,000 = 09 Points More than 40,000 to 55,000 = 08 Points More than 25,000 to 40,000 = 06 Points 10,000 to 25,000 = 04 Points Less than 10,000 = 00 Points
3	Number of years of experience in operation and maintenance of HVAC System consisting of Chillers, cooling towers, pumps, water separators and collectors, water pressure devices, pipes etc.	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
4	Total floor area in Sq-m of public / commercial buildings for which HVAC System is operated and maintained by the bidder so far.	More than 55,000 = 09 Points More than 40,000 to 55,000 = 08 Points More than 25,000 to 40,000 = 06 Points 10,000 to 25,000 = 04 Points Less than 10,000 = 00 Points

5	Number of years of experience in operation and maintenance of Outdoor and Indoor Escalators.	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
6	Total number of escalators operated and maintained by the bidder in various projects so far	More than 150 = 09 Points More than 120 to 150 = 08 Points More than 90 to 120 = 06 Points 60 to 90 = 04 Points Less than 60 = 00 Points
7	Number of years of experience in operation and maintenance of Elevators	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
8	Total number of elevators operated and maintained by the bidder in various projects so far	More than 50 = 09 Points More than 40 to 50 = 08 Points More than 30 to 40 = 06 Points 20 to 30 = 04 Points Less than 20 = 00 Points
9	Number of years of experience in operation and maintenance of Platform Screen Doors / Automatic Platform Gates	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
10	Total number of Platform Screen Doors and Automatic Platform Gates operated and maintained by the bidder in various projects so far	More than 900 = 09 Points More than 700 to 900 = 08 Points More than 500 to 700 = 06 Points 300 to 500 = 04 Points Less than 300 = 00 Points
11	Number of years of experience in operation and maintenance of Water Supply, Sanitations and Sewerage System consisting of pipe network, underground and above ground water tanks, septic tanks, pumping stations including waste water pumping station, sewerage pumping station, rain water pumping station etc.	More than 5 years = 09 Points More than 4 to 5 years = 08 Points More than 3 to 4 years = 06 Points 2 to 3 years = 04 Points Less than 2 years = 00 Points
12	Total floor area in Sq-m of public / commercial buildings for which Water Supply, Sanitations and Sewerage System is operated and maintained by the bidder so far	More than 55,000 = 09 Points More than 40,000 to 55,000 = 08 Points More than 25,000 to 40,000 = 06 Points 10,000 to 25,000 = 04 Points Less than 10,000 = 00 Points

7. HUMAN RESOURCE STRENGTH.

The total score of this category is 15. The Bidder shall provide personnel on key posts complying with the minimum qualification criteria as given in the table below:-

Sr.No.	Position	Education	Years of Professional Experience	Details of Professional Experience	Other Requirements
1	Operation Director	Bachelors Degree with major courses in relevant engineering	15	Overall Experience of Metro Line operations for 15 years with specific experience as holder of Senior Management position for 8 years	
2	Maintenance Director	Bachelors Degree with major courses in relevant engineering	15	Overall Experience of Metro Line maintenance for 15 years with specific experience as holder of Senior Management position for 8 years	
3	Quality and Safety Specialist	Bachelors Degree with major courses in relevant engineering	10	Overall Experience of working in Metro Line operations for 10 years with specific experience in quality and safety management for 4 years.	
4	Equipment Maintenance Specialist	Bachelors Degree with major courses in relevant engineering	10	Overall Experience of Metro Line maintenance for 10 years with specific experience in management of Rolling Stock & Track maintenance.	
5	Operation Organization Specialist	Bachelors Degree with major courses in relevant engineering	10	Overall Experience of working in Metro Line operations for 10 years with specific experience in dispatching or Station Management.	
6	Dispatching Manager	Bachelors Degree with major courses in relevant engineering	5	Experience of dispatching management of Metro Lines for 5 years.	

7	Station Manager	Bachelors Degree with major courses in relevant engineering	5	Experience of Station management of Metro Lines for 5 years.	
8	Train Operation Manager	Bachelors Degree with major courses in relevant engineering	5	Experience of driving management of Metro Lines for 5 years	
9	Rolling Stock Maintenance Manager	Bachelors Degree with major courses in relevant engineering	5	Experience of management of Rolling Stock maintenance in Metro Lines for 5 years .	
10	Track Maintenance Manager	Bachelors Degree with major courses in relevant engineering	5	Experience of management of track maintenance in Metro Lines for 5 years .	
11	Driving Safety Engineer	Bachelors Degree with major courses in relevant engineering	3	Overall relevant experience of working in Metro Lines for 3 years with specific experience in Metro Line Vehicles for 1 year.	Must be familiar with functions of CBTC system, basic functions of metro trains, methodology of making Train Schemes, operation rules & regulations and emergency response plans against faults of metro trains.
12	Rolling Stock Maintenance Engineer	Bachelors Degree with major courses in relevant engineering	3	Experience of maintaining rolling stocks for Metro Lines for 3 years.	Must be familiar with the equipment features of rolling stocks, relevant maintenance technologies, and provision of corresponding repair proposals for the specific faults.
13	Process Equipment Maintenance Engineer for Depot and Stabling Yard	Bachelors Degree with major courses in relevant engineering	3	Experience of maintaining process equipment for Metro Lines for 3 years.	Must be familiar with the process equipments, relevant maintenance technologies, and provision of corresponding repair proposals for the specific faults.
14	Track Maintenance Engineer	Bachelors Degree with major courses in relevant engineering	3	Experience of maintaining track for Metro Lines for 3 years.	Must be familiar with the track equipments, relevant maintenance technologies, and provision of corresponding repair proposals for the specific faults.

15	Telecommunications and signaling Engineer	Bachelors Degree with major courses in relevant engineering	3	Relevant experience of communication signal system for 3 years.	Must be familiar with relevant equipment of communication system, signal system and PSD/APG system, basic principles and operation methods. Should be capable of inspection and maintenance of records.
16	Electrical & Mechanical Engineer	Bachelors Degree with major courses in relevant engineering	3	Relevant experience of electromechanical system for 3 years.	Must be familiar with various power units, basic principles and operation methods. Should be capable of inspection and maintenance of records.
17	Power Supply Engineer	Bachelors Degree with major courses in relevant engineering	3	Relevant experience of power supply system including High Voltage and Low Voltage for 3 years.	Must be familiar with various power units, basic principles, operation methods and PSCADA. Should be capable of inspection and maintenance of records.
18	Master / Technician of Rolling Stock Maintenance	13-15 Years of Education	5	Experience of maintaining Rolling Stock in Metro Lines for 5 years .	Good command of professional knowledge of rolling stock maintenance
19	Master / Technician of Process Equipment Maintenance for Depot and Stabling Yard	13-15 Years of Education	5	Experience of maintaining process equipment in Metro Lines for 5 years .	Good command of professional maintenance knowledge of lifting jack, car washer, wheel lathe and other process equipment for rolling stocks
20	Master / Technician of Track Maintenance	13-15 Years of Education	3	Experience of maintaining track in Metro Lines for 3 years .	Familiar with the equipment features and maintenance technology of track, turnout and seamless lines, and provision of corresponding repair proposals for the specific faults
21	Master / Technician of Flaw Detection of	13-15 Years of Education	3	Experience of flaw detection of tracks in Metro Lines for 3 years .	Good command of professional knowledge of flaw detection of tracks and identification and

	Tracks				judgment of light or serious injuries.
22	Master / Technician of Signaling System	13-15 Years of Education	3	Experience of maintaining the Train Signaling System for 3 years	Must be familiar with relevant professional knowledge of the subject machines.
23	Master / Technician of Power Supply	13-15 Years of Education	3	Experience of maintaining the Power Systems including High Voltage and Low Voltage for 3 years	Must be familiar with professional knowledge in maintaining power supply system machines. Must be suitably skilled in operating High Voltage equipment.
24	Dispatch Team Leader	Bachelors Degree with major courses in relevant engineering	3	Experience of dispatching in Metro Lines for 3 years.	
25	Train Dispatcher	13-15 Years of Education	2	Experience of dispatching in Metro Lines for 2 years.	Must be familiar with rules of organizing rolling stocks, emergency response plans against faults, metro train operation mode of CBTC system and faults correction workflow.
26	Electric & Environmental Control Dispatcher	13-15 Years of Education	2	Experience of dispatching in Metro Lines for 2 years.	Must be familiar with all power supply, FAS, BAS, FES, water supply and drainage, ventilation and air conditioning, low voltage distribution, escalator, and PSD/APG equipment.
27	Station Comprehensive Controller	13-15 Years of Education	0.5	Experience of at least 6 months as skilled controller or under the guidance and supervision of experienced comprehensive controller.	
28	Driver	13-15 Years of Education	-	Experience of driving rolling stock in Metro Lines for 800-1000 Km	Technical knowledge of the rolling stock equipment, capability of independent judgment and general fault handling

Each post shall be evaluated against Education, Professional Experience, Professional Certifications and Employment under the Bidder. Score against each post shall be calculated according to following formula:-

$$P_f = W \times (A+B+C+D)$$

Where P_f = Post Factor, W = Weight of the Post, A = Education Factor, B = Professional Experience Factor, C = Professional Certification Factor, D = Employment under the Bidder Factor

Values of A, B, C & D can be calculated by the following formulae:-

$$A = 0.1496 + (P_a \times 0.0204)$$

$$B = 0.66 + (P_b \times 0.09)$$

$$C = P_c \times 0.04$$

$$D = (P_{d1} \times 0.032) + (P_{d2} \times 0.008)$$

Where

P_a = Percentage of employees proposed against a particular post that exceeds the minimum specified criteria for Education / 100

P_b = Percentage of employees proposed against a particular post that exceeds the minimum specified criteria for Professional Experience / 100

P_c = Percentage of employees proposed against a particular post that possesses professional certification relevant to their field / 100

P_{d1} = Percentage of employees proposed against a particular post that are under employment of the Bidder since 01 to 02 years at the time of Bid Submission / 100

P_{d2} = Percentage of employees proposed against a particular post that are under employment of the Bidder for more than 02 years at the time of Bid Submission / 100

The total score of Human Resource Strength can be calculated by the following formula:-

$$\text{Total Score of Human Resource Strength} = TP_f \times 15$$

Where TP_f is Total Post Factor and can be calculated through following table:-

Sr. NO	Key Posts Name	Weight	Education (A)	Professional Experience (B)	Professional Certification (C)	Employment Period under Bidder's Firm (D)	Post Score
		W	$A = 0.1496 + (P_a \times 0.0204)$	$B = 0.66 + (P_b \times 0.09)$	$C = P_c \times 0.04$	$D = (P_{d1} \times 0.032) + (P_{d2} \times 0.008)$	$P_f = W \times (A+B+C+D)$
		<p> P_a = Percentage of employees proposed against a particular post that exceeds the minimum specified criteria for Education / 100 P_b = Percentage of employees proposed against a particular post that exceeds the minimum specified criteria for Professional Experience / 100 P_c = Percentage of employees proposed against a particular post that possesses professional certification relevant to their field / 100 P_{d1} = Percentage of employees proposed against a particular post that are under employment of the Bidder since 01 to 02 years at the time of Bid Submission / 100 P_{d2} = Percentage of employees proposed against a particular post that are under employment of the Bidder for more than 02 years at the time of Bid Submission / 100 </p>					
1	OPERATION DIRECTOR	0.055					
2	MAINTENANCE DIRECTOR	0.055					
3	QUALITY AND SAFETY SPECIALIST	0.05					
4	EQUIPMENT MAINTENANCE SPECIALIST	0.05					
5	OPERATION ORGANIZATION SPECIALIST	0.05					

6	DISPATCHING MANAGER	0.032					
7	STATION MANAGER	0.032					
8	TRAIN OPERATION MANAGER	0.032					
9	ROLLING STOCK MAINTENANCE MANAGER	0.032					
10	TRACK MAINTENANCE MANAGER	0.032					
11	DRIVING SAFETY ENGINEER	0.0125					
12	ROLLING STOCK MAINTENANCE ENGINEER	0.0125					
13	PROCESS EQUIPMENT MAINTENANCE ENGINEER	0.0125					
14	TRACK MAINTENANCE ENGINEER	0.0125					
15	TELECOMMUNICATION S AND SIGNALING ENGINEER	0.0125					

16	ELECTRICAL & MECHANICAL ENGINEER	0.0125					
17	POWER SUPPLY ENGINEER	0.0125					
18	DISPATCH TEAM LEADER	0.0125					
19	MASTER / TECHNICIAN OF ROLLING STOCK MAINTENANCE	0.025					
20	MASTER / TECHNICIAN OF PROCESS EQUIPMENT MAINTENANCE	0.025					
21	MASTER / TECHNICIAN OF TRACK MAINTENANCE	0.025					
22	MASTER / TECHNICIAN OF FLAW DETECTION OF TRACKS	0.025					
23	MASTER / TECHNICIAN OF SIGNALING SYSTEM	0.025					
24	MASTER / TECHNICIAN OF POWER SUPPLY SYSTEM	0.025					

25	TRAIN DISPATCHER	0.08					
26	ELECTRIC & ENVIRONMENTAL CONTROL DISPATCHER	0.08					
27	STATION COMPREHENSIVE CONTROLLER	0.085					
28	DRIVER	0.085					
						TOTAL POST SCORE (TPS)	Σ

8. FINANCIAL STRENGTH

The total score of this category is 15 out of which Bidder has to score at least 2 marks in Category 1, 2 marks in Category 2 & 3 marks in Category 3. Marks shall be scored according to following :-

Sr. No	Financial Strength Category	Scoring Criteria												
1	CURRENT RATIO (Ratio of current assets of the firm to its current liabilities in the last Fiscal Year)	<table> <tr> <td>1 and More</td> <td>=</td> <td>4 Marks</td> </tr> <tr> <td>0.85 to less than 1</td> <td>=</td> <td>3 Marks</td> </tr> <tr> <td>0.7 to less than 0.85</td> <td>=</td> <td>2 Marks</td> </tr> <tr> <td>Less than 0.7</td> <td>=</td> <td>0 Marks</td> </tr> </table>	1 and More	=	4 Marks	0.85 to less than 1	=	3 Marks	0.7 to less than 0.85	=	2 Marks	Less than 0.7	=	0 Marks
1 and More	=	4 Marks												
0.85 to less than 1	=	3 Marks												
0.7 to less than 0.85	=	2 Marks												
Less than 0.7	=	0 Marks												
2	DEBT RATIO (ratio of total liabilities to total assets in the last Fiscal Year)	<table> <tr> <td>0.5 and Less</td> <td>=</td> <td>4 Marks</td> </tr> <tr> <td>More than 0.5 to 0.65</td> <td>=</td> <td>3 Marks</td> </tr> <tr> <td>More than 0.65 to 0.80</td> <td>=</td> <td>2 Marks</td> </tr> <tr> <td>More than 0.8</td> <td>=</td> <td>0 Marks</td> </tr> </table>	0.5 and Less	=	4 Marks	More than 0.5 to 0.65	=	3 Marks	More than 0.65 to 0.80	=	2 Marks	More than 0.8	=	0 Marks
0.5 and Less	=	4 Marks												
More than 0.5 to 0.65	=	3 Marks												
More than 0.65 to 0.80	=	2 Marks												
More than 0.8	=	0 Marks												
3	AVERAGE REVENUE IN USD MILLION FROM MASS TRANSIT OPERATIONS (The average shall be for the last 03 Fiscal years. This will include Government subsidies provided to the Bidder if any)	<table> <tr> <td>More than 100</td> <td>=</td> <td>7 Marks</td> </tr> <tr> <td>More than 80 to 100</td> <td>=</td> <td>5 Marks</td> </tr> <tr> <td>60 to 80</td> <td>=</td> <td>3 Marks</td> </tr> <tr> <td>Less than 60</td> <td>=</td> <td>0 Marks</td> </tr> </table>	More than 100	=	7 Marks	More than 80 to 100	=	5 Marks	60 to 80	=	3 Marks	Less than 60	=	0 Marks
More than 100	=	7 Marks												
More than 80 to 100	=	5 Marks												
60 to 80	=	3 Marks												
Less than 60	=	0 Marks												

**SECTION 06 - TECHNICAL AND FINANCIAL
PROPOSAL SUBMISSION
FORMS**

TECHNOCAL PROPOSAL SUBMISSION - STANDARD FORMS

Technical Proposal Standard Forms shall be used for the preparation of the Technical Proposal as required in this Request for Proposal. The Bidder has to provide information using the forms provided in this section along with other requirements where mentioned . The Client reserves the right to request additional information for clarification or further establishment of information provided. All Technical Proposal Standard Forms except Tender Security shall be notarized.

FORM TECH-0	Cover Letter.
FORM TECH-1	Technical Proposal Submission Form.
FORM TECH-2	Organizational profile.
FORM TECH-3A	List of Metro Lines operated by the Bidder.
FORM TECH-3B	Details of each Metro Line operated by the Bidder.
FORM TECH-3C	Details of operational features of each Metro Line Operated by the Bidder.
FORM TECH-4A	List of Metro Lines for which the Bidder has maintained the Rolling Stock.
FORM TECH-4B	Details of each Metro Line for which the Bidder has maintained Rolling Stock.
FORM TECH-4C	Details of Service Failures of each Metro Line regarding maintenance of Rolling Stock.
FORM TECH-5A	List of Metro Lines for which the Bidder has maintained the track.
FORM TECH-5B	Details of each Metro Line for which the Bidder has maintained the track.
FORM TECH-5C	Details of Service Failures of each Metro Line regarding maintenance of track.
FORM TECH-6	Details of experience in various other disciplines.
FORM TECH-7A	Summary of total staff planned for the Project.
FORM TECH-7B	Number of staff planned for key & non-key positions.
FORM TECH-7C	Details of staff proposed for key positions.
FORM TECH-7D	Details of staff proposed for non-key positions.
FORM TECH-7E	Short curriculum vitae (CV) of staff proposed for key positions
FORM TECH-8	Financial strength
FORM TECH-9	Power of Attorney
FORM TECH-10	Undertaking
FORM TECH-11	Affidavit - Integrity Pact
FORM TECH-12	Tender Security

FORM TECH-0 COVER LETTER

[Date]

To

[Name and address of Client]

Sub: _____

Dear Sir,

- a) Having examined the tender document and Appendixes we, the undersigned, in conformity with the said document, offer to provide the said items/services on terms of reference to be signed upon the award of contract for the sum indicated as per financial bid.
- b) We undertake, if our proposal is accepted, to provide the items/services comprise in the contract within time frame specified, starting from the date of receipt of notification of award from the client Department / Office.
- c) We agree to abide by this proposal for the period of 180 days (as per requirement of the RFP) from the date of bid opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- d) We agree to execute a contract in the form to be communicated by the Punjab Masstransit Authority (PMA), incorporating all agreements with such alterations or additions thereto as may be necessary to adapt such agreement to the circumstances of the standard.
- e) Unless and until a formal agreement is prepared and executed this proposal together with your written acceptance thereof shall constitute a binding contract agreement.
- f) We understand that you are not bound to accept a lowest or any bid you may receive, not to give any reason for rejection of any bid and that you will not defray any expenses incurred by us in bidding.
- g) We would like to clearly state that we qualify for this work as our company meets all the pre-criteria indicated on your tender document. The details are as under:

Authorized Signatures with Official Seal

FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM

[Date]

To

[Name and address of Client]

Dear Sir,

We, the undersigned, offer to provide the _(insert title of assignment)_ in accordance with your Request for Proposal/Tender Document dated _(insert date)_ and our Proposal. We are hereby submitting our Proposal, which includes the Technical Proposal and the Financial Proposal sealed in two separate envelopes.

We undertake, if our Proposal is accepted, to provide complete services for Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran)

We also confirm that the Government of Pakistan / Punjab has not declared us, or any, ineligible on charges of engaging in corrupt, fraudulent, collusive or coercive practices. We furthermore, pledge not to indulge in such practices in competing for or in executing the Contract, and we are aware of the relevant provisions of the Proposal Document.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature

(In full and initials)

Name and Designation of Signatory

Name of Firm

Address

FORM TECH-2 ORGANIZATIONAL PROFILE

[Provide here a brief (three pages) description of the background and organization of your firm/entity (atleast including number of employees, departmental structure of the firm and how the firm is suitable for this project) and each JV Partner for this assignment.]

FORM TECH-3A LIST OF METRO LINES OPERATED BY THE BIDDER.

Using the Format below, provide list of Metro Lines operated by the Bidder as required in the Request for Proposal. The total number of Metro Lines will be considered for computation of 'A'. First 03 Metro Lines in the table shall be selected for combined performance evaluation in order to compute 'B'. (Please refer to the Evaluation Criteria for Organization's experience related to operations)

Sr. No	NAME OF METRO LINE	NAME OF THE FIRM

FORM TECH-3B DETAILS OF EACH METRO LINE OPERATED BY THE BIDDER

Using the Format below, provide information on each Metro Line operated by the Bidder as required in the Request for Proposal.

Name of Metro Line	Maximum Design Capacity in terms of Passengers per Hour per Direction (pphpd)
Date of Inception of Metro Line operations & Date of Bidder's Engagement with Metro Line	Bidder's Type of Engagement with Metro Line (Owner / Contractor)
dd-mm-yyyy & dd-mm-yyyy	
Details in Case of Bidder's Engagement as Contractor	
Contract Value in USD	Contract Start Date
Contract End Date	Participation as Single Entity / JV
In case of JV, participation as Lead / Member	In case of JV, names of other member firms
Main Operational Features of Metro Line	
Duration taken shall be the last two years of operation under the Bidder. In case the Bidder is still performing the operation services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018. <i>(Details to be provided using Form Tech-1C)</i>	
Maximum Number of Pairs Scheduled in a day	Maximum pphpd served in a day
Minimum Peak Headway Scheduled in a day (Minutes)	Average Daily Ridership
Other Features	
Number of Stations	Journey Distance (Km)
Scheduled Journey Time (Minutes)	
Narrative Description of the Project <i>(You can attach one extra sheet one side only)</i>	
Details of Actual Services Provided by the Bidder as Single Entity or as JV Related to Operations	

FORM TECH-4A LIST OF METRO LINES FOR WHICH THE BIDDER HAS MAINTAINED THE ROLLING STOCK.

Using the Format below, provide list of Metro Lines in which the Bidder has provided the maintenance services for Rolling Stock as required in the Request for Proposal. The total number of Metro Lines will be considered for computation of 'A'. First 03 Metro Lines in the table shall be selected for combined performance evaluation in order to compute 'B'. (Please refer to the Evaluation Criteria for Organization's experience related to Rolling Stock)

Sr. No	NAME OF METRO LINE	NAME OF THE FIRM

FORM TECH-4B DETAILS OF EACH METRO LINE FOR WHICH THE BIDDER HAS MAINTAINED THE ROLLING STOCK

Using the Format below, provide information on each Metro Line for which the Bidder has provided the maintenance services for Rolling Stock as required in the Request for Proposal.

Name of Metro Line	Maximum Design Capacity in terms of Passengers per Hour per Direction (pphpd)
Date of Inception of Metro Line operations & Date of Bidder's Engagement with Metro Line	Bidder's Type of Engagement with Metro Line (Owner / Contractor)
dd-mm-yyyy & dd-mm-yyyy	
Details in Case of Bidder's Engagement as Contractor	
Contract Value in USD	Contract Start Date
Contract End Date	Participation as Single Entity / JV
In case of JV, participation as Lead / Member	In case of JV, names of other member firms
Main Features of Metro Line Related to Maintenance of Rolling Stock	
Fleet Size maintained in terms of number of train sets	Length of each train set (meters)
All Trains Maintained in the Fleet are equipped with Automatic Train Protection Function (Yes/No)	Rolling Stock maintained includes as a part of Fleet, Chinese Standard Type B1 Rolling Stock (Code-GB50157) OR Rolling Stock of Equal or Higher Specifications (Yes / No)(Please establish through any proper evidence in case of equal or higher specifications)
Performance of Rolling Stock	
This pertains to Service Failures during the last two years attributable to maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.09.2016 to 30.08.2018. <i>(Details of Service Failures to be provided using Form Tech-4C)</i>	
Number of Hours of Operation during 02 Years	Fleet Size in terms of Number of train sets during 02 years
Service Failure-1: Total incidents in which the vehicle had to be evacuated, or vehicle remained motionless for more than 5 minutes before recovery.	Service Failure-2: Total incidents in which the vehicle had to be towed, disturbing all the line traffic
Narrative Description of the Project <i>(You can attach one extra sheet one side only)</i>	
Details of Actual Services, Provided by the Bidder as Single Entity or as JV Related to Maintenance Services for Rolling Stock	

FORM TECH-4C DETAILS OF SERVICE FAILURES OF EACH METRO LINE REGARDING MAINTENANCE OF ROLLING STOCK.

Using the Format below, provide information on each Metro Line for Service Failures indicated in Form Tech-4B

Name of Metro Line			
DETAILS OF SERVICE FAILURE - 1			
Sr. No	Brief Description of Service Failure including Root Cause and measures taken	Date of Occurrence of Service Failure	Resolution Time
DETAILS OF SERVICE FAILURE - 2			
Sr. No	Brief Description of Service Failure including Root Cause and measures taken	Date of Occurrence of Service Failure	Resolution Time

FORM TECH-5A LIST OF METRO LINES FOR WHICH THE BIDDER HAS MAINTAINED THE TRACK.

Using the Format below, provide list of Metro Lines in which the Bidder has provided the maintenance services for Track as required in the Request for Proposal. The total number of Metro Lines will be considered for computation of 'A'. First 03 Metro Lines in the table shall be selected for combined performance evaluation in order to compute 'B'. (Please refer to the Evaluation Criteria for Organization's experience related to Track)

Sr. No	NAME OF METRO LINE	NAME OF THE FIRM

FORM TECH-5B DETAILS OF EACH METRO LINE FOR WHICH THE BIDDER HAS MAINTAINED THE TRACK

Using the Format below, provide information on each Metro Line for which the Bidder has provided the maintenance services for Track as required in the Request for Proposal.

Name of Metro Line	Maximum Design Capacity in terms of Passengers per Hour per Direction (pphpd)
Date of Inception of Metro Line operations & Date of Bidder's Engagement with Metro Line	Bidder's Type of Engagement with Metro Line (Owner / Contractor)
dd-mm-yyyy & dd-mm-yyyy	
Details in Case of Bidder's Engagement as Contractor	
Contract Value in USD	Contract Start Date
Contract End Date	Participation as Single Entity / JV
In case of JV, participation as Lead / Member	In case of JV, names of other member firms
Main Features of Metro Line Related to Maintenance of Track	
Length of Track Maintained (km)	Main Line Track consists of Standard Gauge , 40-60 kg/m U75V Continuously welded hot rolled rails with concrete tie integrated ballast bed OR Main Line having track with equivalent or higher specs <i>(Please establish through any proper evidence in case of equal or higher specifications)</i>
Performance of Rail Track	
This pertains to Service Failures during the last two years attributable to maintenance under the Bidder. In case the Bidder is still performing the maintenance services of Metro Line at bid submission time, the duration will be from 01.01.2017 to 31.12.2018. <i>(Details of Service Failures to be provided using Form Tech 3-3)</i>	
Service Failure-1: Percentage of trips delayed for more than 5 minutes from their scheduled journey time	Service Failure-2: Percentage of incomplete or missed trips
Narrative Description of the Project <i>(You can attach one extra sheet one side only)</i>	
Details of Actual Services, Provided by the Bidder as Single Entity or as JV Related to Maintenance Services for Track	

Using the Format below, to provide the details as required in the Request for Proposal.

01: OPERATION AND MAINTENANCE OF HIGH VOLTAGE SUBSTATIONS			
Number of years of Experience:			
Total coverage area in acres supported by the High Voltage Substations operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
02: OPERATION AND MAINTENANCE OF TRACTION SUPPLY SYSTEM FOR TRAINS			
Number of years of Experience:			
Total length of the track in Kms for which traction supply is operated and maintained by the bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
03: OPERATION AND MAINTENANCE OF POWER SCADA			
Number of years of Experience:			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
04: OPERATION AND MAINTENANCE OF LOW VOLTAGE POWER SUPPLY AND ILLUMINATION			
Number of years of Experience:			
Total floor area in sq-m for which low voltage power supply and illumination is operated and maintained by the Bidder so far			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
05: OPERATION AND MAINTENANCE OF ATC BASED TRAIN SIGNALING SYSTEM			
Number of years of Experience:			
Total length of track in Km, for which ATC based Train Signaling System is operated and maintained by the Bidder so far.			
Total number of stations in the Train Systems for which ATC based Train Signaling System is operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			

-			
06: OPERATION AND MAINTENANCE OF RADIO COMMUNICATION SYSTEM AND PUBLIC WIRELESS SYSTEM			
Number of years of Experience:			
Total coverage area in acres supported by the Radio Communication System and Public Wireless System operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
07: OPERATION AND MAINTENANCE OF RADIO FIBER OPTIC SYSTEM			
Number of years of Experience:			
Total length of Fiber Optic Cable system in Km operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
08: OPERATION AND MAINTENANCE OF FIRE ALARM SYSTEM, BUILDING AUTOMATION SYSTEM AND CLOCK SYSTEM			
Number of years of Experience:			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
09: OPERATION AND MAINTENANCE OF PASSENGER INFORMATION SYSTEM AND PUBLIC ADDRESS SYSTEM			
Number of years of Experience:			
(Number of Displays + Number of Speakers) supported by PIS and PAS operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
10: OPERATION AND MAINTENANCE OF CCTV SYSTEM			
Number of years of Experience:			
Total cameras supported by the CCTV System operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
11: OPERATION AND MAINTENANCE OF VISUAL CONTROL PANELS FOR TRAIN OPERATIONS			
Number of years of Experience:			

Number of Visual Control Panels operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
12: OPERATION AND MAINTENANCE OF BUILDING ACCESS SYSTEM			
Number of years of Experience:			
Total building floor area in sq-m supported by the Access Control System operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
12: OPERATION AND MAINTENANCE OF TELEPHONE SYSTEM			
Number of years of Experience:			
Total access gateways supported by the Telephone System operated and maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
12: OPERATION AND MAINTENANCE OF AUDIO VIDEO RECORDING SYSTEM			
Number of years of Experience:			
Combined Storage Capacity in Tera Bytes of Audio Video Recording Systems maintained by the Bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
13: OPERATION AND MAINTENANCE OF FIRE FIGHTING SYSTEM			
Number of years of Experience:			
Total floor area in Sq-m of public / commercial buildings for which Fire Fighting System is operated and maintained by the bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
14: OPERATION AND MAINTENANCE OF HVAC SYSTEM			
Number of years of Experience:			
Total floor area in Sq-m of public / commercial buildings for which HVAC System is operated and maintained by the bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation

-			
-			
15: OPERATION AND MAINTENANCE OF OUTDOOR AND INDOOR ESCALATORS			
Number of years of Experience:			
Total number of escalators operated and maintained by the bidder in various projects so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
16: OPERATION AND MAINTENANCE OF ELEVATORS			
Number of years of Experience:			
Total number of elevators operated and maintained by the bidder in various projects so far			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
17: OPERATION AND MAINTENANCE OF PLATFORM SCREEN DOORS / AUTOMATIC PASSENGER GATES			
Number of years of Experience:			
Total number of Platform Screen Doors and Automatic Platform Gates operated and maintained by the bidder in various projects so far			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			
17: OPERATION AND MAINTENANCE OF WATER SUPPLY, SENTINATION AND SEWERAGE SYSTEM			
Number of years of Experience:			
Total floor area in Sq-m of public / commercial buildings for which Water Supply, Sanitations and Sewerage System is operated and maintained by the bidder so far.			
Project Details			
Sr. No	Project Name	Project Duration (From-To) [MM-YYYY]	Firm Name with Project Brief including relevant information requested for evaluation
-			
-			

FORM TECH-7A SUMMARY OF TOTAL STAFF PLANNED FOR THE PROJECT

Using the Format below, provide the details of total human resource strength for this project

	FOREIGN	LOCAL
NO. OF STAFF PLANNED FOR KEY POSITIONS	A1	B1
NO. OF STAFF PLANNED FOR OTHER THAN KEY POSITIONS	A2	B2
TOTAL STAFF PLANNED	$C1 = A1+A2$	$C2 = B1+B2$
	$C1 + C2$	

FORM TECH-7B NUMBER OF STAFF PLANNED FOR KEY & OTHER THAN KEY POSITIONS

Using the Format below, provide information about Key positions mentioned, number of personnel planned by the Bidder against each key position, positions other than key positions planned by the Bidder and number of personnel planned against them

Sr. No	Position	No of Personnel Proposed
KEY POSITIONS		
1	Operation Director	
2	Maintenance Director	
3	Quality and Safety Specialist	
4	Equipment Maintenance Specialist	
5	Operation Organization Specialist	
6	Dispatching Manager	
7	Station Manager	
8	Train Operation Manager	
9	Rolling Stock Maintenance Manager	
10	Track Maintenance Manager	
11	Driving Safety Engineer	
12	Rolling Stock Maintenance Engineer	
13	Process Equipment Maintenance Engineer for Depot and Stabling Yard	
14	Track Maintenance Engineer	
15	Telecommunications and signaling Engineer	
16	Electrical & Mechanical Engineer	
17	Power Supply Engineer	
18	Master / Technician of Rolling Stock Maintenance	
19	Master / Technician of Process Equipment Maintenance for Depot and Stabling Yard	
20	Master / Technician of Track Maintenance	
21	Master / Technician of Flaw Detection of Tracks	

22	Master / Technician of Signaling System	
23	Master / Technician of Power Supply	
24	Dispatch Team Leader	
25	Train Dispatcher	
26	Electric & Environmental Control Dispatcher	
27	Station Comprehensive Controller	
28	Driver	
NON-KEY POSITIONS		
1		
2		
.		
.		

FORM TECH-7D DETAILS OF STAFF PROPOSED FOR OTHER THAN KEY POSITIONS

Using the Format below, provide the details of positions other Non-Key positions planned by the Bidder

1	2	3			4	5
Sr. No	Position	No of Personnel Planned			Education Range (Lowest - Highest)	Experience Range in Years (Min - Max)
		FOREIGN	LOCAL	TOTAL		
1						
2						
3						
4						
.						
.						
.						
.						

Note:

- In Column 4, mention in terms of Degree or years of education*

FORM TECH-7E SHORT CURRICULUM VITAE (CV) OF STAFF PROPOSED FOR KEY POSITIONS

Using the Format below, provide short CV of each person proposed by the Bidder against Key positions

Key Position			
Name of the Firm (<i>Insert Name of the Firm Proposing the staff</i>)			
Name of the Person (<i>Insert Full Name</i>)			
Date of Birth			
Nationality			
EDUCATION			
Degree	Major courses relevant to Key Position	Institute	MM-YYYY
.			
.			
PROFESSIONAL CERTIFICATIONS AND TRAININGS IF ANY			
1			
2			
.			
EMPLOYMENT RECORD			
<i>Starting with present position, list in reverse order every employment held by staff member as per format here below</i>			
Employer	Position	From (MM-YYYY)	TO (MM-YYYY)
.			
.			
.			
DETAILS OF TASK ASSIGNED FOR THIS PROJECT			
1			
2			
.			
CERTIFICATION			
<p><i>I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.</i></p> <p>Signature of the Person _____ Date (dd-mm-yyyy) _____</p>			

FORM TECH-8 FINANCIAL STRENGTH

The following financial data form shall be filled out by the Bidder; and by all partners in case of a Joint Venture and along with one summary form for all partners.

Information from Balance Sheet:(In USD) for the last Fiscal Year	
(1) Total Assets	
(2) Current Assets	
(3) Total Liabilities	
(4) Current Liabilities	
Information from Income Statement: Total Revenue (including subsidy from the Government if any) for last three (03) applicable Fiscal Years: (In USD)	
(5) First Year	
(6) Second Year	
(7) Third Year	

Current Ratio (2) / (4)	
Debt Ratio (3) / (1)	
Average Annual Turnover [(5) + (6) + (7)] / 3	

Provide information on current or past litigation or arbitration over the last three (3) years as shown in the form below if any:-		
Year	Matter in Dispute	Value of Award Against the Bidder (USD)

Bidder has to provide copies of the original audited financial statements for the last three financial years. In case the currency used in financial audited statements is not USD, use the USD equivalent figures required in the Form Tech-8 worked out by using the average exchange rate for the relevant time period obtained from xe.com. Where the financial statements are not in English, attested and notarized English-copies of the Income Statement (and Statement of Other Comprehensive Income), Balance Sheet, Statement of Cash Flows and Statement of Shareholders' Equity must be provided.

FORM TECH-8 POWER OF ATTORNEY

(On a Legal / Revenue Stamp Paper of PAKISTAN/ of the bidder's country in the relevant value OR on the bidder's letter head officially signed and stamped)

We (name of the company and address of the registered office) do hereby appoint and authorize Mr. / Ms. (full name and residential address) bearing National Identity Card (CNIC) of PAKISTAN OR equivalent as in Bidder's country of origin. (Ref No_____, copy enclosed) who is presently engaged with us and holding the position of _____, as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our proposal for Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran)

in response to the tenders invited by the Punjab Masstransit Authority including signing and submission of all documents and providing information/responses to Punjab Masstransit Authority in all matters in connection with our Bid.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this _____ day of _____ 20__

For _____

(Signature)

(Name, Designation and Address)

Accepted

(Signature)

(Name, Title and Address of the Attorney)

Date:

Instructions for preparation of power of attorney

- a) *To be executed by an authorized representative of the bidder.*
- b) *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants and when it is so required the same should be under common seal affixed in accordance with the required procedure.*
- c) *Also, wherever required, the Bidder should submit for verification of the extract of the charter documents and documents such as a resolution/power of attorney in favor of the Person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*
- d) *In case the Application is signed by an authorized Director / Partner or Proprietor of the Applicant, a certified copy of the appropriate resolution / document conveying such authority may be enclosed in lieu of the Power of Attorney.*

FORM TECH-9 UNDERTAKING

It is certified that the information furnished herein and as per the document submitted is true and correct and nothing has been concealed or tampered with. We accept full responsibility and strict liability for making any false declaration, misrepresenting facts or taking any action likely to defeat the purpose of this declaration and representation. We have gone through all the conditions of tender and are liable to any punitive action for furnishing false information / documents.

Dated this ____ day of _____ 20__

Signature

(Company Seal)

In the capacity of _____

Duly authorized to sign bids for and on behalf of:

FORM TECH-10 AFFIDAVIT - INTEGRITY PACT

We _(Name of the bidder / supplier)_ being the first duly sworn on oath submit, that Mr. / Ms. _____ (if participating through agent / representative) is the agent / representative duly authorized by _(Name of the bidder company)_ hereinafter called the Operator/Service Provider to submit the attached bid to the _(Name of the Client)_. Affiant further states that the said M/s (Bidding Firm/Company Name) has not paid, given or donate or agreed to pay, given or donate to any line officer or employee of the _(Name of the Client)_ any money or thing of value, either directly or indirectly, for special consideration in the letting of the contract, or for giving undue advantage to any of the bidder in the bidding and in the evaluation and selection of the bidder for contract or for refraining from any form of non-compliance.

[Name of service provider/operator] hereby declares its intention not to obtain or induce the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Punjab (GoPb) or any administrative subdivision or agency thereof or any other entity owned or controlled by it through any corrupt business practice.

Signature & Stamp

Subscribed and sworn to me this _____ day of _____ 20__

Notary Public

FORM TECH-11 TENDER SECURITY

WHEREAS [Name and Address of the Operator / Service Provider] has submitted Tender against Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran) (hereinafter called "the Tender") to the Punjab Masstransit Authority 5th Floor, Arfa Software Technology Park, 346-B, Ferozpur Road, Lahore (hereinafter called "the Client") for the Total Tender Price of PKR (in figures _____) (in words _____).

AND WHEREAS [Name of the Bank] having registered office at [Address of the Bank] (hereinafter called "the Guarantor") has agreed to give the Operator/Service Provider a Guarantee;

THEREFORE the Guarantor hereby affirms to bind himself, his successors and his assigns to the Client, for the sum of PKR (in figures _____) (in words _____) and undertakes to pay to the Client, upon receipt of his written demand(s), any sum(s) as specified by him, not exceeding the above limit in aggregate, without cavil / argument and without the Client having to substantiate / prove or to show grounds / reasons for such claim(s), on the occurrence of any / all of the following conditions:

1. If the Operator/Service Provider withdraws the Tender during the period of the Tender validity specified by the Operator / Service Provider on the Tender Form; or
2. If the Operator / Service Provider does not accept the corrections of his Total Tender Price; or
3. If the Operator / Service Provider, having been notified of the acceptance of the Tender by the Client during the period of the Tender validity, fails or refuses to furnish the Performance Security, in accordance with the Tender Document.

Provided that the Client shall specify the occurred condition(s) owing to which the said sum is due to him.

Provided further that any demand(s) / claim(s) from the Client shall reach the Guarantor within thirty working days after the expiry of the Guarantee.

This guarantee shall remain valid up to _____ or until furnishing of the Performance Security, whichever is later.

Date this _____ day of 20____.

GUARANTOR

Signature _____
CNIC # _____
Name _____
Designation _____
Address _____

FINANCIAL PROPOSAL SUBMISSION - STANDARD FORMS

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal as required in this Request for Proposal.

FORM FIN-1	Financial Proposal Submission Form.
FORM FIN-2	Price Summary for entire Contract Period.
FORM FIN-3	Breakdown of Remuneration.
FORM FIN-4	Breakdown of Direct (Non-Salary) Expenses.

FORM FIN-1 FINANCIAL PROPOSAL SUBMISSION FORM

[Date]

To

[Name and address of Client)

Dear Sir,

We, the undersigned, offer to provide the Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran) in accordance with your Request for Proposal dated _(insert date)_ and our Technical Proposal. Our attached Financial Proposal is for the sum of PKR (insert amount in words and figures)_. This amount is inclusive of all applicable taxes as per Laws of the Government of Pakistan, but is exclusive of Sales Tax on Services which shall be added by the Client over and above the offered amount, as applicable/required under the relevant Tax Laws, to arrive at the Contract Price. Accordingly, the Contract Price shall be subject to adjustments for change in rate of Sales Tax on Services as and when applicable.

Our Financial Proposal shall be binding upon us up to expiration of the validity period of the Proposal. We also declare that the Government of Pakistan / Punjab has not declared us or any Sub-Operators for any part of the Contract, ineligible on charges of engaging in corrupt, fraudulent, collusive, or coercive practices. We furthermore, pledge not to indulge in such practices in competing for or in executing the Contract, and are aware of the relevant provisions of the Proposal Document.

We understand you are not bound to accept any Proposal you receive.

Signed

In the capacity of:

Duly authorized to sign the proposal on behalf of the Applicant.

Date:

ITEM	PRICE (PAK RUEES)
RENUMERATION	X
DIRECRT (NON-SALARY) EXPENSES	Y
TOTAL PRICE	X + Y

Notes to the Price Table:

- *Lowest value of "X" will determine the successful bidder, provided mandatory requirements are met and bidder has qualified technical evaluation successfully.*
- *Mobilization Advance will be given and recovered as stated in RFP . Contract Payment will be made on monthly basis*
- *The quoted price is inclusive of all applicable taxes as per Laws of the Government of Pakistan, but is exclusive of Sales Tax on Services which shall be added by the Client over and above the offered amount, as applicable/required under the relevant Tax Laws, to arrive at the Contract Price. Accordingly, the Contract Price shall be subject to adjustments for change in rate of Sales Tax on Services as and when applicable.*

Date _____

Signature of authorized person

Name:

(Company Seal)

In the capacity of

Duly authorized by

Note: No cutting or overwriting is allowed. Any cutting or overwriting will lead to rejection of the financial bid.

FORM FIN-3

BREAKDOWN OF RENUMERATION

		PRICE (PAK RUPEES)												
Sr. No	ITEMS	Before Commen cement	YEARS											Total
			1	2	3	4	5	6	7	8	9	10	11	
1	Foreign Staff on Key Positions													
2	Local Staff on Key Positions													
3	Foreign Staff on other than Key Positions													
4	Local Staff on other than Key Positions													
	Others if any not covered above to comply with requirement of RFP													
TOTAL RENUMERATION														X

FORM FIN-4

BREAKDOWN OF DIRECT (NON-SALARY) EXPENSES

		COST (PAK RUPEES)												
Sr. No	ITEMS	Before Commen cement	YEARS											Total
			1	2	3	4	5	6	7	8	9	10	11	
1	Consumables including lubricants, filters, fuel for locomotives and generators etc.													
2	Security of non-public areas of corridor													
3	Travelling including foreign tours													
4	Transport including duty vehicles etc.													
5	Office accommodations including utilities, furnishings etc.													
6	Foreign staff Residence including utilities, furnishing etc.													
7	Staff uniforms, ID cards etc.													
8	Recruitments													
9	Trainings													

10	Cost of licenses such as PTA etc													
11	Cost of Software including Asset Management, Ticket Management etc.													
12	Back office fee													
	Others not covered above to comply with requirement of RFP													
TOTAL DIRECT (NON-SALARY) EXPENSES														Y

SECTION 07 - ANNEXES

FORMAT FOR PERFORMANCE SECURITY

PERFORMANCE SECURITY

Issuing Authority:
Date of Issuance:
Date of Expiry:
Claim Lodgment Date:

WHEREAS [Name and Address of the Operator/Service Provider] (hereinafter called "the Operator") has agreed to supply the Services and render the Services against Tender for Operation and Maintenance of Services for Metro Rail Transit System on the Orange Line in Lahore (From Ali Town to Dera Gujran) (hereinafter called "the Contract") for the Contract Value of PKR (in figures _____) (in words _____).

AND WHEREAS it has been stipulated in the Tender Document that the successful Operator shall furnish Performance Security, within ten (10) working days of the receipt of the Acceptance Letter from the Client, in the form of a Bank Guarantee, issued by a scheduled bank operating in Pakistan, as per the format provided in the Tender Document or in another form acceptable to the Client, valid from the date of issue until all obligations have been fulfilled in accordance with the Contract;

AND WHEREAS [Name of the Bank] having registered office at [Address of the Bank] (hereinafter called "the Guarantor") has agreed to give the Operator a Guarantee;

THEREFORE the Guarantor hereby affirms to bind himself, his successors and his assigns to the Client, for the sum of PKR (in figures _____) (in words _____) and undertakes to pay to the Client, upon receipt of his written demand(s), any sum(s) as specified by him, not exceeding the above limit in aggregate, without cavil / argument and without the Client having to substantiate / prove or to show grounds / reasons for such claim(s), on the occurrence of any / all of the following conditions:

1. If the Operator commits a default under the Contract;
2. If the Operator fails to fulfill any of the obligations under the Contract;
3. If the Operator violates any of the provisions of the Contract.

Provided that the Client shall specify the occurred condition(s) owing to which the said sum is due to him.

And further provided that any demand(s) / claim(s) from the Client shall reach the Guarantor within thirty working days after the expiry of the Guarantee.

This guarantee shall remain valid up to _____ or until expiry of warranties or all obligations have been fulfilled in accordance with the Contract, whichever is later.

Date this _____ day of 20____

GUARANTOR

Signature _____

CNIC # _____

Name _____

Designation _____

Address _____

OLMRTS Waste Treatment and Disposal Procedure

The waste generated in the OLMRTS is roughly classified into three kinds for which respective treatment is agreed below:

Class	Categories	Description of Contents	Treatment/disposal
1	Toxic/ hazardous waste	Includes all waste with economic value such as waste lubricants, oils, painting, fluorescent lamps, bulbs, batteries, cells, electronic components, circuit boards, rails, nuts and bolts, metals (iron wires, boxes, parts), cables (wires) etc.	The Service Provider shall seal such waste; except rails, large rolls of wires and cables; in solid enclosure and move all such waste to the storage. The storage shall be built by the Employer in the depot. The location and areas shall be confirmed and agreed by and between the Employer and the Service Provider.
		Includes all waste with no economic value such as organic solvent, detergent, waste dangerous goods container, cartridges, chemicals, etc	The Service Provider shall seal such waste in solid enclosure, and reseal them in yellow plastic bags provided by the Employer, which shall be subsequently placed in large bins located outside nearby the exit of the depot and stabling yard for onward disposal by local waste management company, the cost (if any) of which shall be borne by the Employer.
2	Organics/ canteen residue	Includes waste of no economic value generated from leftovers, vegetable waste, used edible oil.	The Service Provider shall seal such contents in blue plastic bags provided by the Employer, which shall be subsequently placed in large bins located outside nearby the exit of the depot and stabling yard for onward disposal by local waste management company, the cost (if any) of which shall be borne by the Employer.
3	General waste	Includes recyclable waste such as waste paper (scraps, package boxes), plastics (pipes, bottles, bags, tableware), glass (cullet, bottles), rubber, fabrics (wipes, gloves, cotton) , woods(wooden cartons).	The Service Provider shall seal such contents in white plastic bags provided by the Employer, which shall be subsequently placed in large bins located outside nearby the exit of the depot and stabling yard for onward disposal by local waste management company, the cost (if any) of which shall be borne by the Employer.

		Also it includes other reusable waste such as waste bricks, tiles, ceramics, construction residue, worn-out ballast etc.	The Service Provider shall arrange the disposal of such contents through its own resources.
		Sewerage, storm water.	Provisions of sewerage and storm water disposals shall be provided by the Employer at his own cost (if any).