



MAHARASHTRA METRO RAIL CORPORATION LIMITED

(Pune Metro Rail Project)

Joint Venture of Govt. of India & Govt. of Maharashtra

CIN: U60100MH2015SGC262054

13-Aug-2025

CORRIGENDUM-II

Name of Work: Design, Supply, Installation, Testing & Commissioning of 25kV Flexible Overhead Catenary System, associated 25kV Sectioning Posts, 33kV Auxiliary Sub-Station (ASS), associated Cabling and SCADA Systems for PCMC-Nigdi Elevated Extension of Pune Metro Rail Project

Tender no: P1A-TR-03/2025 (R)

Following Documents shall be a part of Corrigendum-II:

Corrigendum-I (Part-A): Maha-Metro's Response to Bidder's Pre-Bid Queries

Corrigendum-I (Part-B): Changes in Tender Conditions

Corrigendum-I (Part-C): Extension of Dates



 13/8/25

**Executive Director/Procurement & Contracts,
Pune Metro Rail Project,
Maharashtra Metro Rail Corporation Limited**

Enclosures as above

Corrigendum-II**Part A: Maha-Metro's response to Pre-Bid Queries**

Name of Work: Design, Supply, Installation, Testing & Commissioning of 25kV Flexible Overhead Catenary System, associated 25kV Sectioning Posts, 33kV Auxiliary Sub-Station (ASS), associated Cabling and SCADA Systems for PCMC-Nigdi Elevated Extension of Pune Metro Rail Project

Tender no: P1A-TR-03/2025 (R)

SN	Vol No.	Clause no	Tender condition	Bidder's Queries	Maha-Metro's Response
1	Part 2, Particular Specification,	Clause 2.3(f)	The Contractor shall carry out Traction Simulation study to ascertain the load requirement of the system to verify the sizes of the equipment's (OHE & Power Supply), propose the location of neutral section if required considering both phase-1 extension corridor and submit report for approval by the Employer. Various scenarios shall be simulated as elaborated in Table 4.1 and other relevant requirements. Para The traction simulation study shall be performed using a validated software tool with the approval of the Employer. Dynamic simulation study for interaction between contact line and pantograph shall also be carried out by the Contractor to ascertain the compatibility of the system and submitted to Employer for approval.	As per Part 2, Particular Specification, Chapter 2 – Overview of the Project, Clause 2.3(f), traction simulation is mandated to determine the traction and auxiliary load at RSS level. However, the current scope pertains only to the extension of the existing 33 kV Auxiliary Supply to stations. Hence, traction simulation is not applicable in this context. We request Maha Metro to kindly descope the simulation study requirement from the tender.	Requirement of Simulation studies (traction power, AC load flow, EMC/EMI study, harmonic study, RAMS study) is being descoped from tender.
2	Part 2, Particular Specification,	Clause 2.3(g)	The Contractor shall carry out a study to assess the work to be done to suppress the effect due to 25 kV ac traction (EMI/EMC) on Civil Engineering RCC construction, power, telecom, control and signalling circuits etc. for safety of public, personnel and equipment. These studies shall form part of detailed system design. Since passenger and personnel safety is involved in humid RCC tunnel environment for a high capacity metro system, the long time & short time induced voltage rise above earth potential shall be carefully computed based on reliable field data.	As per Clause 2.3(g) of the same chapter, the bidder is required to conduct EMI/EMC studies. Given that the present scope only involves corridor extension and not new RSS/OHE installations or traction arrangements, this study appears unwarranted. We request that EMI/EMC study requirements be removed from the scope accordingly.	Requirement of Simulation studies (traction power, AC load flow, EMC/EMI study, harmonic study, RAMS study) is being descoped from tender
3				Kindly clarify the detailed scope of 5D BIM and specify the software(s) to be provided or used by the successful bidder.	Please refer 'Annexure IX - G, IT / 5D-BIM Requirements of the Employer, PART-3: Conditions of Contract' for details.
4				The deployment schedule and number of Safety, Health, and Environment (SHE) personnel to be provided have not been specified. Kindly clarify the requirement and deployment schedule for SHE resources under this contract.	Please refer 'APPENDIX VII-B10: KEY PERSONNEL, CONSTRUCTION MACHINERY, SHE MANPOWER' for details.
5				Please confirm whether a Neutral Section is planned within this scope. If yes, kindly provide its exact location.	Neutral section is not planned in this extension.
6				Kindly clarify whether Line Potential Transformers (PTs) or Capacitive Voltage Sensors (CVS) are to be considered for OHE monitoring on the mainline.	Capacitive Voltage Sensors (CVS) may be considered for OHE monitoring.
7				In ASS, is the connection from 415 V Dry Type Transformer to LT Panel within the scope of the PST Contractor or the E&M Contractor? Please clarify.	Please refer ' clause no. 2.4.3 Scope of Interface & Division of Responsibilities, APPENDIX VII-B1: INTERFACES, SECTION VII-B: WORKS REQUIREMENT – PARTICULAR SPECIFICATION' for details.



8				Kindly share the detailed protection philosophy for the 33 kV Auxiliary Network under this tender.	Please refer clause no. '7.3.7 Protections under chapter 7.0 AUXILIARY NETWORK, Part 2 Works Requirement - Particular Specification' for details.
9				Please provide clarity on the specific scope and deliverables under the Asset Management System (AMS) included in this tender.	Please refer 'Annexure IX - G, IT / 5D-BIM Requirements of the Employer, PART-3: Conditions of Contract' for details.
10				Kindly confirm whether pole-mounted BM switchgear or 27.5 kV GIS switchgear is to be provided at FP/SSP/SS locations.	Pole mounted BM switchgear may be provided at FP/SSP/SS locations.
11				Insulators for OHE shall be Composite or Porcelain. Please clarify	Composite Insulators for OHE may be used. Please refer clause no. '6.2.10 Cantilever Assemblies, CHAPTER 6, Part 2 Works Requirement - Particular Specification' for details.
12				As per the SLD provided in the tender, 2 circuits of 25 kV from PCMC RSS have to be taken to Viaduct through cable. Please clarify that whether 2 nos. of 25 kV feeder GIS switchgear shall be provided by Maha Metro or to be considered in this work. If the 25 kV feed with cable has to be extended in this work, then what will be the rating of the 25 kV Cable with run per circuit	25kV switchgear feeders (2 no's) are already installed at PCMC RSS. 25kV & Return cabling work from existing PCMC RSS to proposed Feeding post on viaduct is in the scope of this tender. Please refer clause no. '5.3.3.3 Overhead Contact System' & 3.2.2.5 Desired specifications of Major OHE Equipments, Part 2 Works Requirement - Particular Specification for details.
13				As the requirement of extension of 25 kV feeder from PCMC RSS is envisage in this tender. Therefore, requirement of return cable is not required as per our understanding. Please clarify	Tender condition prevails.
14				Installation of Viaduct lighting has to be done on OHE Portal or separate structure to be provided for mounting of viaduct lighting. If separate structures are required to be installed then what should be the spacing (Span) between two light fittings. Please clarify	Please refer tender clause no. '7.4 VIADUCT LIGHTING, under chapter 7.0 AUXILIARY NETWORK, Part 2 Works Requirement - Particular Specification' for details.
15				Kindly confirm whether Power Factor Compensation systems are to be provided in all ASS locations.	Please refer the tender clause no. '7.6 Dynamic Reactive Power Compensation, chapter 7.0 AUXILIARY NETWORK, Part 2 Works Requirement - Particular Specification' for details. However, This is Design & Build contract, the contractor to propose the design for approval of the Engineer.
16	Part 4	Appendix G - ADJ (Adjustment/Unit Prices)		Please confirm whether the items in Appendix G - ADJ (Adjustment/Unit Prices) will be considered in financial evaluation. Additionally, confirm whether the ADJ items shall be treated as spare items to be procured by Maha Metro.	please refer notes mentioned under table 'APPENDIX G, ADJ: ADJUSTMENT / UNIT PRICES, PART 4: PRICING DOCUMENT' for details.
17	Part 2 – Particular Specification	Clause 7.7.2	As per the outcome of the system studies & upon approval of Maha-metro, the Contractor shall provide suitable rating of system in each Stations ASS as per the space provided by Maha-Metro so as to maintain total harmonic distortion of current within prescribed limit as stipulated in (CEA) (Technical Standards for Connectivity to the Grid) Regulation, 2007 & IEEE 519-2014 standards for existing Pune Metro Phase-1 as well as for extension corridors. In this contract, the Harmonic Distortion study (TDD & THD) & its design shall be done by considering the scenario of existing Pune Metro Phase-1 as well as for extension corridors.	As per part 2 – Particular Specification, Clause 7.7.2 – which is reiterated as "In this contract, the Harmonic Distortion study (TDD & THD) & its design shall be done by considering the scenario of existing Pune Metro Phase-1 as well as for extension corridors." Please clarify that Harmonic study has to be done for the existing corridor also and compensation to be provided for the existing system. If yes, we would request you to kindly descope for the existing system as understanding the quantum of work and providing competitive price for this head will be difficult at this juncture	Tender condition prevails.



18				As per our understanding, mandatory spare list is not provided in the tender	Your understanding is generally correct.
19				Please clarify whether the supply and installation of plinth jumpers falls under the scope of the PST Contractor or the Track Contractor.	Its under OCS/PST contractor. The same is specified in the tender clause no. '9.8 INTERFACES WITH TRACK CONTRACTOR, APPENDIX VII-B1: INTERFACES,
20	Part 3- PCC	Clause 1.1.27	Defects Notification Period (DNP) / Defect Liability Period (DLP): 24 Months from the date of Commissioning of assets for public uses(Revenue Operation Date) /system taking over whichever is later.	As per PCC Clause 1.1.27, the DNP/DLP is mentioned as 24 months from the date of commissioning for public use or system taking over, whichever is later. We request you to kindly revise this clause to: "24 months from the date of commissioning of assets/ROD/system taking over, whichever is earlier."	Tender condition prevails.
21				We kindly request you grant an extension of 1 (One) month extending the submission deadline to 18th September, 2025.	Please refer Corrigendum-II Part C



Corrigendum-II
Part B: Changes in Tender Conditions

Name of Work: Design, Supply, Installation, Testing & Commissioning of 25kV Flexible Overhead Catenary System, associated 25kV Sectioning Posts, 33kV Auxiliary Sub-Station (ASS), associated Cabling and SCADA Systems for PCMC-Nigdi Elevated Extension of Pune Metro Rail Project

Tender no: P1A-TR-03/2025 (R)

SN	Vol No.	Clause no	Existing	Replaced herewith
1	Part 2 Particular Specification	2.3,1 (f)	The Contractor shall carry out Traction Simulation study to ascertain the load requirement of the system to verify the sizes of the equipment's (OHE & Power Supply), propose the location of neutral section if required considering both phase-1 extension corridor and submit report for approval by the Employer. Various scenarios shall be simulated as elaborated in Table 4.1 and other relevant requirements. Para The traction simulation study shall be performed using a validated software tool with the approval of the Employer. Dynamic simulation study for interaction between contact line and pantograph shall also be carried out by the Contractor to ascertain the compatibility of the system and submitted to Employer for approval.	Deleted
2	Part 2 Particular Specification	2.3,1 (g)	The Contractor shall carry out a study to assess the work to be done to suppress the effect due to 25 kV ac traction (EMI/EMC) on Civil Engineering RCC construction, power, telecom, control and signalling circuits etc. for safety of public, personnel and equipment. These studies shall form part of detailed system design. Since passenger and personnel safety is involved in humid RCC tunnel environment for a high capacity metro system, the long time & short time induced voltage rise above earth potential shall be carefully computed based on reliable field data.	Deleted
3	Part 2 Particular Specification	3.2.2.4 (b)	The design of the OHE including simulation / system studies	Deleted
4	Part 2 Particular Specification	5.4.2.9	The Contractor shall carry out computer simulations (dynamic simulation between contact line and pantograph using a validated software tool) to demonstrate the anticipated current collection performance. The adopted computer simulation programs should be validated against physical testing results, in accordance with EN 50318.	Deleted
5	Part 2 Particular Specification	5.4.5.9.1	Return Conductor Return conductor shall be aluminium conductor conforming to Bureau of Indian Standards, specification IS: 398 (Part I)-Latest Revision. OR Copper conductor of adequate size to be finalised by EMC simulation study. The Conductor shall conform to Indian Railway's RDSO specification for "Annealed stranded copper conductors (ETI / OHE/ 3, Latest version) and IS:9968 (Part 2)."	Return Conductor Return conductor shall be aluminium conductor conforming to Bureau of Indian Standards, specification IS: 398 (Part I)-Latest Revision. OR The Conductor shall conform to Indian Railway's RDSO specification for "Annealed stranded copper conductors (ETI / OHE/ 3, Latest version) and IS:9968 (Part 2)."
6	Part 2 Particular Specification	5.4.5.9.2	Earth Conductor Earth Conductors shall be made of Aluminium conductor conforming to Bureau of Indian Standards, specification IS: 398 (Part I)-Latest Revision. OR Flexible copper conductors of adequate size to be finalised by EMC simulation study. The Earth Conductor shall conform to Indian Railway's RDSO specification for "Annealed stranded copper conductors" (ETI/OHE/3, Latest version) and IS: 9968 (Part 2).	Earth Conductor Earth Conductors shall be made of Aluminium conductor conforming to Bureau of Indian Standards, specification IS: 398 (Part I)-Latest Revision. OR The Earth Conductor shall conform to Indian Railway's RDSO specification for "Annealed stranded copper conductors" (ETI/OHE/3, Latest version) and IS: 9968 (Part 2).
7	Part 2 Particular Specification	7.7.1	To design the scheme using dynamic compensation system in RSS/Station ASS of MAHA-METRO for maintaining the total harmonics distortions within the prescribed limit as stipulated in Central Electricity Authority (CEA) (Technical Standards for Connectivity to the Grid) Regulation, 2007 & IEEE 519-2014 standards. The contractor shall be required to carry out detailed measurements design and network modelling, load flow studies to work out final capacities and scheme of dynamic compensation system to maintain total harmonic distortion of current at point of common couplings (PCMC RSS, Rangehill RSS, Vanaz RSS) for existing Pune Metro Phase-1 as well as at Extension corridor ASS.	To design the scheme using dynamic compensation system in Station ASS of MAHA-METRO for maintaining the total harmonics distortions within the prescribed limit as stipulated in Central Electricity Authority (CEA) (Technical Standards for Connectivity to the Grid) Regulation, 2007 & IEEE 519-2014 standards. The contractor shall be required to carry out Harmonic Distortion study and scheme of dynamic compensation system to maintain total harmonic distortion of current for Extension corridor.
8	Part 2 Particular Specification	7.7.2	As per the outcome of the system studies & upon approval of Maha-metro, the Contractor shall provide suitable rating of system in each Stations ASS as per the space provided by Maha-Metro so as to maintain total harmonic distortion of current within prescribed limit as stipulated in (CEA) (Technical Standards for Connectivity to the Grid) Regulation, 2007 & IEEE 519-2014 standards for existing Pune Metro Phase-1 as well as for extension corridors. In this contract, the Harmonic Distortion study (TDD & THD) & its design shall be done by considering the scenario of existing Pune Metro Phase-1 as well as for extension corridors.	As per the outcome of the system studies & upon approval of Maha-metro, the Contractor shall provide suitable rating of system in each Stations ASS as per the space provided by Maha-Metro so as to maintain total harmonic distortion of current within prescribed limit as stipulated in (CEA) (Technical Standards for Connectivity to the Grid) Regulation, 2007 & IEEE 519-2014 standards for extension corridor only. In this contract, the Harmonic Distortion study (TDD & THD) & its design shall be done by considering the scenario of extension corridor only.
9	Part 2 Particular Specification	APPENDIX VII-B1 1.3	INTERFACE WITH POWER SUPPLY AUTHORITIES	Deleted



10	Part 2 Particular Specification	APPENDIX VII-B2 7.6.3.1 SN 1	<table><tr><td>1</td><td>EMI/EMC study</td><td>Shall perform EMC / EMI study duly considering the inputs provided by Telecom contractor. The Contractors shall also jointly develop a plan detailing how the electromagnetic compatibility of Traction, S&TC and Telecom systems including Radio systems</td><td>Shall provide all inputs & develop EM Management Plan. Will furnish the locations of Telecom cables, Telephone exchanges, Location of RADIO Tower & any other details required by PS Contractor for performing simulation study</td></tr></table>	1	EMI/EMC study	Shall perform EMC / EMI study duly considering the inputs provided by Telecom contractor. The Contractors shall also jointly develop a plan detailing how the electromagnetic compatibility of Traction, S&TC and Telecom systems including Radio systems	Shall provide all inputs & develop EM Management Plan. Will furnish the locations of Telecom cables, Telephone exchanges, Location of RADIO Tower & any other details required by PS Contractor for performing simulation study	Deleted																																																		
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11	Part 2 Particular Specification	APPENDIX VII-B2 7.6.3.1 SN 2	<table><tr><td>2</td><td>Telecom Cables and exchange locations</td><td>Shall jointly prepare a plan for compatibility of the Telecom system. Shall perform EMC simulation study.</td><td>Will furnish the locations of telecom cables and Telephone exchanges, in sufficient details for enabling 'modelling' of cables and for performing simulation study on Electro-magnetic compatibility.</td></tr></table>	2	Telecom Cables and exchange locations	Shall jointly prepare a plan for compatibility of the Telecom system. Shall perform EMC simulation study.	Will furnish the locations of telecom cables and Telephone exchanges, in sufficient details for enabling 'modelling' of cables and for performing simulation study on Electro-magnetic compatibility.	Deleted																																																		
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14	Part 2 Particular Specification	APPENDIX VII-B7 Clause 2 (a)	Various simulation study reports as per PS including Traction Simulation Study report	Deleted																																																						
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16	Part 4 Pricing document	Part 4 Pricing document	Entire Part 4: Pricing document	Entire Part 4: Pricing document revised and attached as Annexure-C2A. Bidder shall upload the filled & scanned pdf of pricing document revised as per the attached Annexure-C2A with this corrigendum. Failure to upload the same shall lead to rejection of the bid.																																																						

Encl: 1) Annexure-C2A- Revised Part 4 Pricing document





MAHARASHTRA METRO RAIL CORPORATION LIMITED

(Pune Metro Rail Project)

Joint Venture of Govt. of India & Govt. of Maharashtra

CIN: U60100MH2015SGC262054

13-Aug-2025

CORRIGENDUM-II

Part-C: Extension of Dates

Name of Work: Design, Supply, Installation, Testing & Commissioning of 25kV Flexible Overhead Catenary System, associated 25kV Sectioning Posts, 33kV Auxiliary Sub-Station (ASS), associated Cabling and SCADA Systems for PCMC-Nigdi Elevated Extension of Pune Metro Rail Project

Tender no: P1A-TR-03/2025 (R)

	Description as per Corrigendum-I	Revised herewith as
Documents on sale	Tender Documents can be downloaded from 16.00 hrs. on 21/07/2025 to 16.00 Hrs. on 18/08/2025 from e-tender portal of Govt. of Maharashtra i.e https://mahatenders.gov.in (hereafter referred to as 'Maha-Tenders Portal').	Tender Documents can be downloaded from 16.00 hrs. on 21/07/2025 to 16.00 Hrs. on 25/08/2025 from e-tender portal of Govt. of Maharashtra i.e https://mahatenders.gov.in (hereafter referred to as 'Maha-Tenders Portal').
Last Date & Time for submission of Tender	Online submission up till 16:00 Hrs. on 18/08/2025 on e-tender portal of Govt. of Maharashtra.	Online submission up till 16:00 Hrs. on 25/08/2025 on e-tender portal of Govt. of Maharashtra.
Date & Time of Opening of Tender	On 19/08/2025 at 16:30 Hrs in Maharashtra Metro Rail Corporation Limited (Maha-Metro) Procurement Department, A2 Block, District Court Interchange Metro Station, Nyaymurti Ranade Path, Shivaji Nagar, Pune-411005, India.	On 26/08/2025 at 16:30 Hrs in Maharashtra Metro Rail Corporation Limited (Maha-Metro) Procurement Department, A2 Block, District Court Interchange Metro Station, Nyaymurti Ranade Path, Shivaji Nagar, Pune-411005, India..



Executive Director/Procurement & Contracts,
Pune Metro Rail Project,
Maharashtra Metro Rail Corporation Limited.

Annexure-C2A to Corrigendum-II



Annexure-C2A to Corrigendum-II



MAHARASHTRA METRO RAIL CORPORATION LIMITED

(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

BID DOCUMENTS

FOR

Name of work:

**DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE
OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV
AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS
FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION**

**Tender No.
P1A-TR-03/2025(R)**

PART 4: PRICING DOCUMENT

Maharashtra Metro Rail Corporation Limited
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INSTRUCTIONS FOR COMPLETING THE PRICING DOCUMENT

1.0 General Requirements

- 1.1 This Contract is a fixed Lump Sum priced Contract for "Design, Supply, Installation, Testing & Commissioning Of 25kv Flexible Overhead Catenary System, Associated 25kv Sectioning Posts, 33kv Auxiliary Sub-Station (Ass), Associated Cabling And Scada Systems For Pune Metro Rail Project Pcmc-Nigdi Elevated Extension". The Contract Price shall be fixed throughout the performance of the Contract and not subject to variation on any account except as provided for in the Contract.
- 1.2 Bidder is requested to refer [Clause 13.7 of PC](#) while quoting the rates. The Brief description of sections ([Appendix C](#)) to be referred for quoting the rates.
- 1.3 The imported items required to be delivered directly viz. Plants & Machinery, equipment, spares, tools, jigs and fixtures etc. at MAHA-METRO's Depot/Sites may be shipped in favour of MAHA-METRO.
- 1.4 Bidder shall quote fix lump sum price inclusive of all taxes, duties, levies, insurance, freight, cess and all other incidental charges required to fulfil the contract requirements, including statutory deduction viz. TDS towards Income tax etc.

The Bidder shall be required to give in its Bid offer breakdown of his fixed lump Sum price clearly giving the following:

- (a) Customs duty on offshore manufactured items, if any, along with rate of Custom duty.
- (b) GST on completely assembled / manufactured items, if any, along with rate of GST.
- (c) Customs duty on imported spares, jigs, fixtures, special tools and diagnostic equipments etc., forming part of [Cost Centre-D of Section MS](#) along with rate of Custom duty.
- (d) GST on spares, jigs, fixtures, special tools and diagnostic equipment etc., forming part of [Cost Centre-D of Section MS](#) along with rate of GST.
- (e) other levies / cess etc. as applicable

The successful Bidder shall maintain complete records of duties, taxes, and levies etc. payable to various authorities in respect of equipment / assemblies / components, spares appearing in [Cost Centre-D of Section MS](#) and works and submit the receipts / records as and when demanded in writing by the Employer for verification.

- 1.5 The Contractor shall undertake all custom clearance activities including all formalities, liaising with the custom authorities / custom house agents as well as transportation of goods to the site in Pune, and these activities shall be inclusive in the price.
- 1.6 Should the Employer obtain a waiver and exemption or concession specific for any taxes and duties etc. in full or part thereof, the Contractor will be advised on the process to be followed to obtain exemption / refund of such taxes, duties etc., from the concerned Authorities. The Contractor shall arrange for the remittance of the refund so obtained to the Employer. In case of waiver / exemption / concession, the Contractor shall pay the amount calculated by the Engineer on account of waiver / exemption / concession to the Employer either separately or the Employer at its discretion shall deduct the calculated amount from any payments due to the Contractor under the Contract. In case of failure by the Contractor to obtain and remit the refund within reasonable time (to be decided by the Employer & intimated to the Contractor) to the Employer, the same will be recovered by the Employer from the amounts due as payment to the Contractor or as debt due from the Contractor. If the Contractor fails to take the required action to obtain refund or exemption, the Employer may take action in accordance with the Conditions of Contract.

- 1.7 Any new taxes or any statutory variation [which comes into effect after the last date of submission of Bid] in Customs Duty, GST and any other taxes on finished product / item during the contractual completion shall be to the Employer's account for which the Contractor shall furnish the documentary evidence in support of their claims. However, any increase in cost due to new taxes or change in existing taxes introduced during extended contractual period due to Contractors fault shall be to Contractor's account.

2.0 Price Variation

Refer GCC 13.7 & PCC Annexure-IX-F Price variation Clause for Electrical items.

3.0 Apportionment of Fixed Lump Sum Price to Sections and to Cost Centres and Milestones under each Section

- 3.1 The whole of the works including design, are divided into Sections, primarily on a geographical basis. Each Section is divided into the various Cost Centres named according to their general scope of work.
- 3.2 The fixed Lump Sum price for whole of the Works shall be apportioned by the Bidder amongst the various Sections. The apportioned amount for each Section will be further distributed among various Cost Centres included in that Section, separately for foreign currency and for the Indian Rupee portion. The apportioned amount for each Cost Centres will be further distributed amongst various Milestones included in that Cost Centre, separately for the foreign currency and the Indian Rupee portion. Wherever the Bidder comprises a Consortium and the Bidder desires separate payments to each Member of the Consortium, the Bidder shall clearly lay down the Milestones / Currencies allocated to the different Members of the Consortium, which shall be in agreement with the intended percentage share of the Members as indicated in the Consortium agreement for this Contract.
- 3.3 The sum of amounts shown against Milestones in a Cost Centre is the Cost Centre Total that is to be carried forward to the Section Summary. The division of the respective Cost Centre Totals between Indian Currency and Foreign currency shall be shown in the said Summary. The Section Summary shall be carried forward to the Bid Total.
- 3.4 The scope and extent of the Works are to be ascertained by reference to the Contract Documents as a whole and shall not be limited in any manner whatsoever by the descriptions of the Cost Centres under each Section or of the Milestones under each Cost Centre, as given in the Appendices to the Pricing document.

4.0 Statutory Clearance

The Contractor shall be solely responsible for all the statutory clearances including customs, GST, other taxes / levies, transportation etc. required for the successful execution of this Contract.

5.0 Milestone Payment Schedule (MPS)

- 5.1 The MPS completed by the Contractor shall set out the maximum cumulative amount for all Cost Centers for all Sections put together in relation to each month for which payment may be sought in accordance with [Clause 14 of GC](#). This information should also be presented in a tabular form. Monthly Cash Flows for the Contract will form part of the Pricing Document.
- 5.2 The MPS covers the period, which will commence on the first day of the calendar month next after the month containing the Commencement Date of the Works as per the Contract. The first application for interim payment may be made not earlier than during the month following the calendar month next after the month containing the Commencement Date of the Works, such first application relating to the first month (i.e. month 1) of the MPS.
- 5.3 The prices shall not be unbalanced, therefore, the following price apportionments shall apply:

SN	Cost Center / Milestone	Price Apportionment	Remarks
1	Cost Center A (Detailed Design)	Not more than 7.5% apportioned to that Section	Applicable to Sections PH-1A PSI, PH-1A OHE,
2	Cost Center C (Installation and Site Testing)	Not less than 12% apportioned to that Section	
3	Cost Center D (System Acceptance Tests, Integrated Testing & Commissioning)	Not less than 8% apportioned to that Section	
4	Milestone A1 (SHE) of Cost Center A of Section MS	Not less than 0.25% of Bid Total	
5	Milestone A3 & A4 (Key Personnel & DLP staff) of Cost Center A of Section MS	Not less than 3.5% of Bid Total	
6	Milestone A5 (Transport & Site facilities) of Cost Center A of Section MS	Not less than 1.5% of Bid Total	
7	Deleted		
8	Deleted		

6.0 Bid Total

- 6.1 The Pricing Document contains Sections, with Cost Centres under each Section and Milestones under each Cost Centre. The Sections, Cost Centres and Milestones have been prepared to indicate the extent of detail required in the Bid. The Bidder shall prepare and complete documents, in this format, as being his Bid and submit as part of his Financial Package.

Items / Milestones against which no rate or sum is entered by the Bidder, whether quantities are stated or not, shall be regarded as covered by other rates in the pricing document. This, however, shall not apply to such Cost Centers / Milestones for which certain minimum / maximum values as % of Bid Total or Cost Center(s) Total are defined. Non-compliance of these prescribed % values will render the bid unresponsive and liable for rejection.

Further, in case of unreasonable apportionment of the costs among Cost Centers and Milestones, Employer reserves the right to ask the Bidder to re-apportion the costs among various Milestones / Cost Centers in an appropriate manner while keeping the Bid Total intact.

- 6.2 The Pricing Document completed and submitted by the Bidder, as part of his Bid, should use an indexing and page numbering system such that its extent and completeness is clearly evident.

7.0 Currency

- 7.1 Section Totals, Cost Centre Totals and Milestone amounts shall be indicated in Indian Rupees and in foreign currencies wherever required.
- 7.2 Milestone wise bifurcation of Off-shore and On-shore equipments / components' currencies and the member of the JV / Consortium responsible to for the same shall be clearly indicated in the Pricing Document.

8.0 Cost Centres

- 8.1 Cost Centres under each Section are fixed and shall not be changed by the Bidder. The Bidder, however, may add additional Milestones in a Cost Centre provided such Milestones genuinely relate to that Cost Centre activity. The Cost Centres represent the major items of the Works for which the Employer will pay the Contractor, and the Bidder shall ensure that he has allowed for all his costs he requires for the Contract to meet the Works Requirements.

- 8.2 If during the course of execution, it becomes necessary, to meet the Works Requirements (as indicated in these Bidding Documents), to add more Milestones in a Cost Centre, the Lump Sum Price of the whole of Works, which will remain unaltered, will be reapportioned amongst the Sections, and further redistributed under the Cost Centres in each Sections and the Milestones in each Cost Centre. The liability of the Employer shall be limited to the fixed Lump Sum price already accepted and the Contractor shall have no right to claim any thing over and above the fixed Lump Sum price for any such addition of Milestones in any Cost Centre. The decision of the Employer will be final and binding in such matters and will not be subject to Conciliation and Arbitration.

9.0 Milestones

- 9.1 The Milestones represent the completion of verifiable activities to be undertaken by the Contractor. A date for the achievement of each Milestone expressed as a number of weeks from the Commencement Date of the Works shall be entered in the column provided. Milestones that lead to the achievement of a Stage must always precede the Key Date for achievement of that Stage. Milestones shall be converted to Calendar dates when the Notice to Proceed is issued.
- 9.2 Contractor is allowed to claim the lump sum cost of supply of milestones in the cost centers B of all Sections except Section MS for each currency portion separately after certifying that all the materials considered in the currency portion of the milestones has been supplied.

10.0 Fees to Government Agencies

Fees deposited by the Contractor to Government Agencies for obtaining permission for laying of cables, conductors, supervision charges etc. shall be reimbursed by MAHA-METRO on submission of documentary evidence of payment. Road restoration work is under the scope of Contractor, the price for which shall be included in the Price Bid.

11.0 Interconnection of Pune Metro Phase-1 & Extension corridors (Phase-1A) Traction & Power Supply System:

The Interconnection of Pune Metro Phase-1 with Extension corridor of Traction & Power Supply System will require to be done during the non-operation hours under Power Block/PTW of the Metro system and this aspect shall be considered during pricing. No extra payment shall be made for work under PTW for this work. For carrying out such modification works, the Contractor shall make out a specific request to the Employer, at least 15 days before the proposed date of commencement of the Modification Works, indicating among other details, the work proposed to be carried out, the details of the staff proposed to be deployed and the dates and duration during which the works will be carried out.

The Employer will advise the agreed program of work to the Contractor, and the work will generally be programmed to be carried out during the non-operating hours of the Metro system under Power Block/PTW. At the end of the allotted time of work, the Contractor shall restore the existing installation to operable condition, so that operation of existing Metro services can be recommended without any difficulty. If due to any reasons, the Contractor fails to restore the existing installations as above, a penalty of Rs 50,000- per hour or part thereof, will be levied from the Contractor, without prejudice to any other claims of the Employer against the Contractor which may arise due to the Contractors inability to restore the installation to operable condition as per agreed schedule.

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX A

BID TOTAL

APPENDIX A: BID TOTAL

(THIS DOCUMENT IS TO BE PREPARED AND COMPLETED BY THE BIDDER)

The Total Fixed lump sum price shall be apportioned among the Sections as below:

SN	Sections / Descriptions	Foreign Currency (USD)	Foreign Currency (Euro)	Indian Rupees (INR)
PH-1A OHE	PCMC Dead end to Bhakti Shakti (Elevated)			
PH-1A PSI	PCMC Dead end to Bhakti Shakti (Elevated)			
MS	Miscellaneous			
Bid Total Fixed lump sum price (in figures)				
Bid Total Fixed lump sum price (in words)				
Bid Total Price in equivalent Indian Rupees (INR) (with exchange rate as on base date)				

SIGNATURE OF BIDDER

Attachment to Bid Total

DETAILS OF TAXES / DUTIES / LEVIES ETC. INCLUDED IN THE FIXED LUMP SUM PRICE(Refer [Para 1.4 above under 'Instructions for completing the Pricing Document'](#))

Section / Cost Centre	Taxes, Duties, Levies etc.														Total Amount of all Taxes / Duties / Levies / Cess
	# Custom Duty		CGST		SGST		IGST		Royalty		BOCW Cess		Any other Tax / Levy / Cess		
	1		2		3		4		4		5		6		(7) = Sum of (1) to (6)
	Rate (%)	Amt	Rate (%)	Amt	Rate (%)	Amt	Rate (%)	Amt	Rate (%)	Amt	Rate (%)	Amt	Rate (%)	Amt	
Total															

Notes:

The Bidder is required to give in its Bid offer breakdown of fixed lump sum price clearly giving the following:

- (a) Customs duty on offshore manufactured items, if any along with rate of Customs duty.
- (b) Customs duty on imported spares, jigs, fixtures, special tools and diagnostic equipment etc. forming part of [Cost Centre-D of Section MS](#) along with rate of Customs duty.
- (c) GST on completely assembled / manufactured components, if any along with rate of GST.
- (d) GST on spares, jigs, fixtures, special tools, testing and diagnostic equipments etc. forming part of [Cost Centre-D of Section MS](#) along with rate of GST.
- (e) Other levies / Cess etc. as applicable
- (f) The amount mentioned other than INR for the purpose of comparison of the applicable taxes and levies, the exchange rate prevailing on the date 28 days before the latest date of submission of the Tender would be considered.
- (g) In case of multiple tax rates, same is to be informed separately along with the amount of tax for each tax rate.
- (h) [# The breakdown of Custom Duty is as follows:](#)

Section / Cost Centre	BCD (Basic Custom Duty)		ACD (Additional Custom Duty)		SWS (Social Welfare Surcharge)		NCCD (National Calamity Contingent Duty)		ADD (Anti-dumping Duty)		CVD (Countervailing Duty)		IGST		G Cess (GST Comp. Cess)		SG (Safeguard Duty)		SAED (Special Additional Excise Duty)		GSIA		TTA		HEALTH		14. Any other component of Custom Duty		Total Custom Duty Amt
	1		2		3		4		5		6		7		8		9		10		11		12		13				
	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	Rate (%)	AMT	(15) = Sum of (1) to (14)
Total																													

SIGNATURE OF BIDDER

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX B
SECTION SUMMARIES

APPENDIX B: SECTION SUMMARIES**Section PH-1A OHE (PCMC Dead end to Bhakti Shakti Elevated Section)**

Cost Centres	Description of Cost Centres	Foreign Currency (USD)	Foreign Currency (Euro)	Indian Rupees (INR)
A	Detailed Design			
B	Manufacture and Delivery			
C	Installation and Site Testing			
D	System Acceptance Tests, Integrated Testing and Commissioning			
Section Total carried to Bid Total				

Section PH-1A PSI (PCMC Dead end to Bhakti Shakti Elevated Section)

Cost Centres	Description of Cost Centres	Foreign Currency (USD)	Foreign Currency (Euro)	Indian Rupees (INR)
A	Detailed Design			
B	Manufacture and Delivery			
C	Installation and Site Testing			
D	System Acceptance Tests, Integrated Testing and Commissioning			
Section Total carried to Bid Total				

Section MS (Miscellaneous)

Cost Centres	Description of Cost Centres	Foreign Currency (USD)	Foreign Currency (Euro)	Indian Rupees (INR)
A	SHE, IT Requirements and Other Requirements			
B	Preliminaries and General Requirements			
C	Deleted			
D	Deleted			
E	Supervision of Maintenance			
F	Deleted			
Section Total carried to Bid Total				

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX C

BRIEF DESCRIPTION OF SECTIONS

APPENDIX C: BRIEF DESCRIPTION OF SECTIONS

Sections	Description	Elevated	
		length (km)	Nos. of stations
PH-1A	PCMC Dead end to Bhakti Shakti <i>PCMC Dead end to Bhakti Shakti Station</i> <i>(including)</i>	4.8 + approx.0.5 existing corridor	4

Note: Bidders shall ascertain the length of corridor/Section for the works in particular section from the Alignment drawings. Any change up to plus/minus 100 meters in the alignment of the overall corridor shall not be considered as a variation.

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO: P1A-TR-03/2025(R)

MILESTONES SCHEDULE

APPENDIX D

SECTION PH-1A OHE

APPENDIX D: SECTION PH-1A OHE**COST CENTRE A: Detailed Design**

This Cost Centre comprises all those obligations and ongoing activities throughout of the Contract not associated directly with any other Cost Centre.

This Cost Centre A comprises of all activities relating to the detailed design of PCMC Dead end to Bhakti Shakti Section which also included additional OHE work & required modification work from CH: (-)614.399 M to PCMC Dead end (Approx - 0.5 Km additional OHE for each line)

- (a) 25kV Flexible OHE
- (b) 25kV Switching Posts (FP / SP / SSP / SS)
- (c) 25kV positive and return cables & Control Cables
- (d) BT and RC system
- (e) Earthing and bonding
- (f) Tubular portal support structure designs

This includes but not limited to:

- (a) Submission of Preliminary Design, Final Design and Drawings for various equipment and subsystems including the requirement of space and mounting details
- (b) Specifications for various equipment and subsystems
- (c) Schedule of materials required for implementing the Design
- (d) Submission of "As-built" drawings and documentations
- (e) Any other items considered necessary to comply with the Scope of Work. (Bidder may add detailed scheduled/items which considered in this Cost centre.)

Note : please be noted that OHE portals are already installed from CH : (-) 614.399 M to PCMC Dead end section (Approx -0.5 KM). Bidder to assess balance OHE work, required modification work to inter connect with existing OHE & Bid accordingly.

SECTION PH-1A OHE**COST CENTRE A: Detailed Design**

Milestone No.	Work Description	Apportioned Amount			Key Date
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection subject to....." from the Employer's Representative for:				
A1	Preliminary design and specifications for PCMC Dead end to Bhakti Shakti Section including addition OHE work approx. - 0.5 Km for each line.				KD-1
A2	Final design and specifications for PCMC Dead end to Bhakti Shakti Section including addition OHE work approx. - 0.5 Km for each line.				KD-3
A3	Schedule of Materials for PCMC Dead end to Bhakti Shakti Section including addition OHE work approx. - 0.5 Km for each line.				KD-3
A4	"As-built" drawings & documentation for PCMC Dead end to Bhakti Shakti Section including addition OHE work approx. - 0.5 Km for each line.				KD-5
A5	Any other item(s) considered necessary to comply with Scope of Work				-
Cost Centre Total Carried to Section PH-1A OHE Summary					

SECTION PH-1A OHE**COST CENTRE B: Manufacture and Delivery**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This includes but is not limited to:

Receipt/delivery of the following equipment for this for PCMC Dead end to Bhakti Shakti Section which also included additional OHE work & required modification work from CH: (-)614.399 M to PCMC Dead end (Approx - 0.5 Km additional OHE for each line), after type test, factory acceptance test, provision of indemnity bond, and proof of insurance:

- (a) Delivery of equipment for the Flexible OCS at Contractor's premises in Pune
- (b) Delivery of equipment for FP / SP / SSP / SS including Control Cables at Contractor's premises in Pune (Refer tender drawing for typical arrangement)
- (c) Delivery of 25kV traction cable including return cable and equipment from RSS/TSS to Feeding Posts (FP) to OHE at Contractor's premises in Pune.
- (d) Delivery of equipment for earthing & bonding including cables, buried earth conductor, overhead protection conductor, plinth jumpers etc at Contractor's premises in Pune.
- (e) Any other item(s) considered necessary to comply with Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

Note : please be noted that OHE portals are already installed from CH : (-) 614.399 M to PCMC Dead end section (Approx -0.5 KM). Bidder to assess balance OHE work, required modification work to inter connect with existing OHE & Bid accordingly.

SECTION PH-1A OHE**COST CENTRE B: Manufacture and Delivery**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection subject to..." from the Engineer for each of the following Milestones activities after: <ul style="list-style-type: none"> • Certification of type tests, • Certification of factory acceptance test • Provision of indemnity bond • Proof of insurance 				
B1	Delivery of equipment for the 25kV flexible OCS at Contractor's premises in Pune				
B1.1	Delivery of Steel Structure & SPS				KD-4
B1.2	Delivery of Cantilever Assembly				
B1.3	Delivery of Composite Insulator and fittings				
B1.4	Delivery of Catenary Wire				
B1.5	Delivery of Contact Wire				
B1.6	Delivery of Dropper Wire, Jumpers etc. with its Assemblies.				
B1.7	Delivery of ATD, Section Insulator				
B1.8	Delivery of guy rod, termination and other OHE items etc.				
B2	Delivery of 25kV Traction cable/feeder wire including return cables and equipment from RSS/TSS to Feeding Post (FP) to OCS at Contractor's premises in Pune				
B2.1	Delivery of 25 kV Traction cable from RSS/TSS to feeding Post				KD-4
B2.2	Delivery of Traction Return Cable from RSS/TSS to Rail at FP location				
B3	Delivery of equipment for the FP / SP / SSP / SS including Control Cables at Contractor's premises in Pune				
B3.1	Delivery of Interrupters, SPS & fittings				KD-4
B3.2	Delivery of CVS and fittings				
B3.3	Delivery of Lightning arrestor and fittings				
B3.4	Delivery of Power & Control Cables				
B4	Delivery of equipment for Earthing and Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor (OPC), Plinth jumpers etc. at Contractor's premises in Pune				KD-4
B5	Deleted				KD-4

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
B6	Any other item (s) considered necessary to comply with Scope of Work				-
Cost Centre Total Carried to Section PH-1A OHE Summary					

SECTION PH-1A OHE**COST CENTRE C: Installation and Site Testing**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This shall include but not be limited to:

Delivery to Site from Contractor's premises for this PCMC Dead end to Bhakti Shakti Section which also included additional OHE work & required modification work form CH: (-)614.399 M to PCMC Dead end (Approx - 0.5 Km additional OHE for each line) for each line in Pune, submission of Installation Plan, Installation Drawings, inspection of equipment and site preparations, pre-installation tests, installation of equipment, post-installation tests, energization and any other item(s) considered necessary to comply with the scope of work for:

- (a) Delivery of Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and energization of all equipment for the flexible OCS;
- (b) Delivery of Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and energization of all equipment for FP/SP/SSP/SS including Control Cables.
- (c) Delivery to Site from Contractor's premises in Pune, installation and testing (including pre-installation tests and post-installation tests) and energization of all 25kV traction cable including return cable and equipment from RSS/TSS to Feeding Post to OCS. The road restoration work is in scope of contractor and price shall be included in bid.
- (d) Delivery of Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and energization of all equipment for earthing & bonding including cables, Buried Earth Conductor (BEC), Overhead Protection Conductor (OPC), Plinth Jumpers, etc.
- (e) Any other item(s) considered necessary to comply with the Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

Note : please be noted that OHE portals are already installed from CH : (-) 614.399 M to PCMC Dead end section (Approx -0.5 KM). Bidder to assess balance OHE work, required modification work to inter connect with existing OHE & Bid accordingly.

SECTION PH-1A OHE**COST CENTRE C: Installation and Site Testing**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Employer's Representative for:				
C1	Delivery to Site from Contractor's premises in Pune, installation and testing (including pre-installation tests and post-installation tests) and energization of all equipment for the 25kV flexible OCS				KD-5
C2	Delivery to Site from Contractor's premises in Pune, Installation and Testing (includes pre-installation tests and post installation tests) and energisation of 25 kV Traction Cable/feeder wire including return cables and all equipment from RSS/TSS to Feeding Post to OCS				KD-5
C3	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post installation tests) and energisation of all equipment for FP/SP / SSP / SS including Control Cables				KD-5
C4	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post-installation tests) and energisation of all equipment for Earthing & Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor, Plinth Jumpers etc.				KD-5
C5	Deleted				KD-5
C6	Any other item (s) considered necessary to comply with Scope of Work				
Cost Centre Total Carried to Section PH-1A OHE Summary					

SECTION PH-1A OHE**COST CENTRE D: System Acceptance Tests and Integrated Testing and Commissioning**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This shall include but not be limited to for this PCMC Dead end to Bhakti Shakti Section which also included additional OHE work & required modification work from CH: (-)614.399 M to PCMC Dead end (Approx - 0.5 Km additional OHE for each line) for each line in Pune.

- System Acceptance Tests in accordance with accepted System Acceptance Plan
- Integrated Testing and Commissioning in conjunction with Designated Contractors
- Safety certification, in the approved format, for opening the section for revenue operation, including for traction power supply
- Any other item(s) considered necessary to comply with the Scope of Work. (Bidder may add detailed scheduled/items which considered in this Cost centre.)
- Rate quoted against SAT & ITC plans (D1 & D2) shall not be more than 30% of this Cost Centre.

Note : please be noted that OHE portals are already installed from CH : (-) 614.399 M to PCMC Dead end section (Approx -0.5 KM). Bidder to assess balance OHE work, required modification work to inter connect with existing OHE & Bid accordingly.

SECTION PH-1A OHE**COST CENTRE D: System Acceptance Tests and Integrated Testing and Commissioning**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
D1	<p>Obtain the “Notice of No-Objection” or “Notice of No-Objection Subject to ---” from the Engineer for the System Acceptance Test (SAT) Plan for the Cost Centers as a whole included in Section covering:</p> <ul style="list-style-type: none"> • Flexible OCS • FP/SP/SSP/SS at • 25kV Traction Cable including return cable and equipment from RSS/TSS to FP to OCS • Earthing & Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor, Plinth Jumpers etc. • Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D2	<p>Obtain the “Notice of No-Objection” or “Notice of No-Objection Subject to ---” from the Engineer for the Integrated Testing and Commissioning (ITC) Plan for the Cost Centers as a whole included in Section covering:</p> <ul style="list-style-type: none"> • Flexible OCS • FP/SP/SSP/SS at • 25kV Traction Cable including return cable and equipment from RSS/TSS to FPs to OCS • Earthing & Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor, Plinth Jumpers etc. • Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D3	<p>Obtain the “Notice of No-Objection” or “Notice of No-Objection Subject to ---” from the Engineer for the System Acceptance Test (SAT) for the Cost Centers as a whole included in Section covering:</p> <ul style="list-style-type: none"> • Flexible OCS • FP/SP/SSP/SS at • 25kV Traction Cable including return cable and equipment from RSS/TSS to FP to OCS • Earthing & Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor, Plinth Jumpers etc. 				KD-7

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	<ul style="list-style-type: none"> Any other item(s) considered necessary to comply with Scope of Work 				
D4	Obtain the "Notice of No-Objection" or "Notice of No-Objection Subject to ---" from the Engineer for the Integrated Testing and Commissioning (ITC) for the Cost Centers as a whole included in Section covering: <ul style="list-style-type: none"> Flexible OCS FP/SP/SSP/SS at 25kV Traction Cable including return cable and equipment from RSS/TSS to FP to OCS Earthing & Bonding including Buried Earth Conductor (BEC), Overhead Protection Conductor, Plinth Jumpers etc. Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D5	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Engineer for completion of Service Trials				KD-7
D6	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Engineer for Safety Certificate.				KD-7
D7	Any other item(s) considered necessary to comply with the Scope of Work.				
Cost Centre Total Carried to Section PH-1A OHE Summary					

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX E
SECTION PH-1A PS

APPENDIX E: SECTION PH-1A PS**COST CENTRE A: Detailed Design**

This Cost Centre comprises all those obligations and ongoing activities throughout of the Contract not associated directly with any other Cost Centre.

This Cost Centre A comprises of all activities relating to the detailed design of PCMC Dead End to Bhakti Shakti station Section:

- (a) 33kV Power Supply and Distribution in the corridor
- (b) SCADA system for the Section
- (c) Guideway lighting
- (d) Dynamic Compensation

This includes but not limited to:

- (a) Submission of Preliminary Design, Final Design and Drawings for various equipment and subsystems including the requirement of space and mounting details
- (b) Specifications for various equipment and subsystems
- (c) Schedule of materials required for implementing the Design
- (d) Submission of "As-built" drawings and documentations.
- (a) Any other items considered necessary to comply with the Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

SECTION PH-1A PS**COST CENTRE A: Detailed Design**

Milestone No.	Work Description	Apportioned Amount			Key Date
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection subject to....." from the Employer's Representative for:				
A1	Preliminary design and specifications for PCMC Dead End to Bhakti Shakti station				KD-1
A2	Final design and specifications for PCMC Dead End to Bhakti Shakti station				KD-3
A3	Schedule of Materials for PCMC Dead End to Bhakti Shakti station				KD-3
A4	"As-built" drawings & documentations for PCMC Dead End to Bhakti Shakti station				KD-6
A5	Any other item(s) considered necessary to comply with Scope of Work				-
Cost Centre Total Carried to Section PH-1A PS Summary					

SECTION PH-1A PS**COST CENTRE B: Manufacture and Delivery**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This includes but is not limited to:

Receipt / delivery of following equipment for this Section after type test, factory acceptance test, provision of indemnity bond, and proof of insurance:

- (a) Delivery of equipment for the 33kV ASS including 33kV cabling, Pilot Wire works at Contractor's premises in Pune
- (b) Delivery of SCADA equipment for 25kV flexible OCS equipment (also including the PCMC Feeding post configuration to existing SCADA system via RTU at PCMC ASS), 33kV ASS equipment & its connectivity with existing OCC & BOCC at Contractor's premises in Pune
- (c) Delivery of, J-hangers, guideway lighting etc. to be provided on the guideway at Contractor's premises in Pune
- (d) Delivery of equipment for Dynamic IGBT reactors for Reactive Power & Harmonic compensation etc. at Contractor's premises in Pune
- (f) Any other item(s) considered necessary to comply with Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

SECTION PH1-A PS**COST CENTRE B: Manufacture and Delivery**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection subject to..." from the Engineer for each of the following Milestones activities after: <ul style="list-style-type: none"> • Certification of type tests, • Certification of factory acceptance test • Provision of indemnity bond, • Proof of insurance 				
B1	Delivery of equipment for the 33kV ASS (GIS type) at Contractor's premises in Pune				
B1.1	Chinchwad Station ASS				KD-4
B1.1.1	33kV GIS Panels				
B1.1.2	Dry Type Transformers (400KVA)				
B1.1.3	AC & DC Distribution board				
B1.1.4	All other ASS Ancillary work Equipment				
B1.2	Akurdi Station ASS				
B1.2.1	33kV GIS Panels				
B1.2.2	Dry Type Transformers(400KVA)				
B1.2.3	AC & DC Distribution board				
B1.2.4	All other ASS Ancillary work Equipment				
B1.3	Nigdi Station ASS				
B1.3.1	33kV GIS Panels				
B1.3.2	Dry Type Transformers(1000KVA)				
B1.3.3	AC & DC Distribution board				
B1.3.4	All other ASS Ancillary work Equipment				
B1.4	Bhakti Shakti Station ASS				
B1.4.1	33kV GIS Panels				
B1.4.2	Dry Type Transformers (400KVA)				
B1.4.3	AC & DC Distribution board				
B1.4.4	All other ASS Ancillary work Equipment				
B2	Delivery of 33kV cable including pilot wire, control cables, jointing at Contractor's premises in Pune (from existing PCMC station ASS to Bhakti Shakti ASS section)				KD-4
B3	Delivery of SCADA equipment for 25kV flexible OCS equipment (also including the PCMC Feeding post connectivity configuration to existing SCADA system through RTU at PCMC ASS), 33kV ASS equipment & its connectivity with existing OCC & BOCC at Contractor's premises in Pune				KD-4
B4	Delivery of equipment for guideway				KD-4

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	lighting suitable to mount on OHE portals/masts including cables & junction box at Contractor's premises in Pune				
B5	Delivery of equipment for cable tray / bracket including support arrangement on guideway etc. at Contractor's premises in Pune				KD-4
B6	Delivery of equipment for Dynamic IGBT reactors for Reactive Power & Harmonic compensation etc. at Contractor's premises in Pune				KD-4
B7	Any other item (s) considered necessary to comply with Scope of Work				
Cost Centre Total Carried to Section PH-1A PS Summary					

SECTION PH-1A PS**COST CENTRE C: Installation and Site Testing**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This shall include but not be limited to:

Delivery to Site from Contractor's premises for this Section in Pune, submission of Installation Plan, Installation Drawings, inspection of equipment and site preparations, pre-installation tests, installation of equipment, post-installation tests, energization and any other item(s) considered necessary to comply with the scope of work for:

- (a) Delivery to Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and energization of all equipment for the 33kV ASS including 33kV cabling, Pilot wire works;
- (b) Delivery to Site from Contractor's premises in Pune, installation and testing (including pre-installation tests and post-installation tests) and energization of all equipment of 33kV Ring Main feeder including Pilot Wire
- (c) Delivery to Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and energization of all equipment for the lighting on the guideway;
- (d) Delivery to Site from Contractor's premises in Pune, installation & testing (includes pre-installation tests and post-installation tests) and testing of all equipment for SCADA system for 25kV flexible OCS equipment (also including the PCMC feeding post connectivity configuration to existing SCADA system through RTU at PCMC ASS) and 33kV ASS equipment & its connectivity with existing OCC & BOCC
- (e) Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post installation tests) and energisation of Dynamic IGBT reactors for Reactive Power & Harmonic compensation etc. at Contractor's premises in Pune.

Any other item(s) considered necessary to comply with the Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

SECTION PH-1A PS**COST CENTRE C: Installation and Site Testing**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Employer's Representative for:				
C1	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post-installation tests) and energisation of all equipment for the 33kV ASS for:				
C1.1	Chinchwad Station ASS				KD-5
C1.2	Akurdi Station ASS				
C1.3	Nigdi Station ASS				
C1.4	Bhakti shakti Station ASS				
C2	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post-installation tests) and energisation of all equipment 33kV cables including pilot wire, jointing(from existing PCMC ASS to Bhakti Shakti ASS section)				KD-5
C3	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post-installation tests) and energisation of all equipment for SCADA equipments for 25kV flexible OCS equipment (also including the PCMC Feeding post connectivity configuration to existing SCADA system through RTU at PCMC ASS) and 33kV ASS equipments & its connectivity with existing OCC & BOCC				KD-6
C4	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post-installation tests) of guideway lighting suitable to mount on OHE portals/masts including cables & junction box				KD-5
C5	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post installation tests) and testing of all equipment for Cable Tray including support arrangement on guideway etc.				KD-5
C6	Delivery to Site from Contractor's premises in Pune, Installation and Testing (including pre-installation tests and post installation tests) and testing of all equipment for Dynamic IGBT Reactors for Reactive Power & Harmonic compensation etc.				KD-5
C7	Any other item (s) considered necessary to comply with Scope of Work				-
Cost Centre Total Carried to Section PH-1A PS Summary					

SECTION PH-1A PS**COST CENTRE D: System Acceptance Tests and Integrated Testing and Commissioning**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This shall include but not be limited to for this Section:

- System Acceptance Tests in accordance with accepted System Acceptance Plan
- Integrated Testing and Commissioning in conjunction with Designated Contractors
- Safety certificaion, in the approved format, for opening the section for revenue operation, including for traction power supply
- Any other item(s) considered necessary to comply with the Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

Rate quoted against SAT & ITC plans (D1 & D2) shall not be more than 30% of this Cost Centre

SECTION PH1-A PS**COST CENTRE D: System Acceptance Tests and Integrated Testing and Commissioning**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
D1	Obtain the "Notice of No-Objection" or "Notice of No-Objection Subject to ---" from the Engineer for the System Acceptance Test (SAT) & Integrated Testing and Commissioning (ITC) Plan for the Cost Centers as a whole included in Section covering: <ul style="list-style-type: none"> • 33kV Ring Main cables • ASS equipment for Stations • Guideway lighting including cables • SCADA system for line installations • Dynamic Compensation • Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D2	Obtain the "Notice of No-Objection" or "Notice of No-Objection Subject to ---" from the Engineer for the System Acceptance Test (SAT) for the Cost Centers as a whole included in Section covering: <ul style="list-style-type: none"> • 33kV Ring Main cables • ASS equipment for Stations • Guideway lighting including cables • SCADA system for line installations • Dynamic Compensation • Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D3	Obtain the "Notice of No-Objection" or "Notice of No-Objection Subject to ---" from the Engineer for the Integrated Testing and Commissioning (ITC) for the Cost Centers as a whole included in Section covering: <ul style="list-style-type: none"> • 33kV Ring Main cables • ASS equipment for Stations • Guideway lighting including cables • SCADA system for line installations • Dynamic Compensation • Any other item(s) considered necessary to comply with Scope of Work 				KD-7
D4	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Engineer for Safety Certificate.				KD-7
D5	Any other item(s) considered necessary to comply with the Scope of Work.				
Cost Centre Total Carried to Section PH-1A PS Summary					

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX F

SECTION MS

APPENDIX F: MISCELLANEOUS**COST CENTRE A: SHE, IT Requirements and Other Requirements**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This Cost Centre includes but is not limited to:

- Compliance to all Key personnel requirements as per PS
- Compliance to all SHE requirements as per SHE organization chart
- Compliance to IT requirements of Employer (as per General Specifications)
- Transport for Employer's Representative
- Any other item considered necessary to comply with the Scope of Work. (Bidder may add detailed scheduled/items which considered in this Cost centre.)

SECTION MS (MISCELLANEOUS)**COST CENTRE No. A: SHE, IT and Other Requirements**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ____" from the Engineer for:				
A1	<p>Deployment of SHE personnel as per 'Appendix VII, B10 - Key Personnel & Construction Machinery, SHE manpower' of Part-II Works Requirement. The payment shall be made on monthly basis starting from deployment of SHE manpower.</p> <p>Notes:</p> <ol style="list-style-type: none"> 80% of apportioned payment as per this Milestone shall be equally spread over till scheduled contract completion time (after deployment of SHE manpower) for the purpose of payment. Balance 20% will be released on completion of work, subject to continued deployment of SHE staff in the period beyond contract completion time. Any shortfall of deployment of SHE personnel from the numbers indicated in the SHE requirement will attract penalty @Rs 10,000/- for each day of delay for any of the above staff. 				-
A2	IT requirements of MAHA-METRO – Refer Part 3 Annexure IX-G				-
A3	<p>Deployment of Key Personnel except SHE personnel at A1 above as per 'Appendix VII-B10 - Key Personnel & Construction Machinery, SHE manpower' of Part-II Works Requirement, viz.</p> <p>Payment for this Milestone shall be made quarterly starting after 3 months from the Commencement Date. 80% of the apportioned amount shall be paid in this manner till Completion Date, Balance 20% will be released on completion of work, subject to continued deployment of Key personnel beyond contract completion time.</p> <p>Delayed mobilization of the staff compared with agreed deployment schedule will attract penalties @Rs 10,000/- for each day of delay for any of the above staff. This penalty shall be twice of this rate (i.e. Rs 20,000/- for each day of delayed deployment) in case of Dy. Chief Project Manager.</p>				-
A4	<p>Deployment of on-site DLP staff as per 'PS Table 13.1', viz.</p> <p>Payment for this Milestone shall be made quarterly starting after 3 months from the DLP Start Date. Apportioned amount shall be paid in</p>				

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	this manner till DLP end Date. Delayed mobilization of the staff compared with agreed deployment schedule will attract penalties @Rs 10,000/- for each day of delay for any of the above staff.				
A5	Transport and other Facility for Employer's Representative				-
A6	Any other item considered necessary by the contractor to comply with the Scope of Work				
Cost Centre Total Carried to Section MS Summary					

Note:

1. Refer [Para 5.3](#) of Pricing Document for price apportionment

SECTION MS (MISCELLANEOUS)**COST CENTRE B: Preliminaries and General Requirements**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

This Cost Centre includes but is not limited to:

This includes but is not limited to:

- Submission of DLP Plan including OEM certified staff for various systems / subsystems / equipment in adequate numbers;
- Liaison with other Designated Contractors during the design process;
- Design Validation / auditing by Third Party
- Submission of Plans and programs as per Appendix 4 of GS
- Any other item considered necessary to comply with the Scope of Work. (Bidder may add detailed scheduled/items which considered in this Cost centre.)

SECTION MS (MISCELLANEOUS)**COST CENTRE B: Preliminaries and General Requirements**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection subject to..." from the Employer's Representative for:				
B1	Deleted				
B2	Deleted				
B3	DLP Plan (including OEM certified staff for various systems / subsystems / equipment)				KD-7
B4	Design Validation / auditing by Third Party				KD-5
B5	Submission of Plans and programs as per Appendix 4 of GS				-
B6	Any other item(s) considered necessary to comply with the scope of Works				
Cost Centre Total Carried to Section MS Summary					

Note:

1. Refer [Para 5.3](#) of Pricing Document for price apportionment.

SECTION MS (MISCELLANEOUS)

COST CENTRE C: Deleted

SECTION MS (MISCELLANEOUS)

COST CENTRE D: Deleted

SECTION MS (MISCELLANEOUS)**COST CENTRE E: Supervision of Maintenance**

This Cost Centre comprises all those obligations and ongoing activities throughout the Contract not associated directly with any other Cost Centre.

Flexible OCS, FP/SS/SP/SSP, overall earthing system, SCADA System for 25kV equipment and 33kV ASS equipment for Corridor:

PH-1A PSI PCMC dead end to Bhakti Shakti

PH-1A OHE PCMC dead end to Bhakti Shakti (including additional approx.. 0.5KM OHE from chainage (-) 614.399 M to PCMC dead end (each line)

Any other item(s) considered necessary by the Contractor to comply with the Scope of Work. Bidder may add detailed scheduled/items which considered in this Cost centre.

Any other item(s) considered necessary by the Contractor to comply with the Scope of Work.

The Contractor along with his DLP staff shall also provide OEM certified experts / staff for supervision of maintenance in accordance with the Works Requirements. The deployment of the OEM experts under this Cost Centre may not be continuous and they may be required to supervise the maintenance in short periods at a time. Other Staff and Labour will be provided by the Employer.

SECTION MS (MISCELLANEOUS)**COST CENTRE E: Supervision of Maintenance**

Milestone No.	Work Description	Apportioned Amount			Key Dates
	Milestone Activity	USD	EURO	INR	
	Obtain the "Notice of No Objection" or "Notice of No Objection Subject to ---" from the Employer's Representative for completion of the following in accordance with the Works Requirements:				
E1	Supervision of Maintenance*				
E1.1	PH-1A PSI PCMC dead end to Bhakti Shakti				-
E1.2	PH-1A OHE PCMC dead end to Bhakti Shakti (incl additional 0.5KM/per line OHE near PCMC dead end				-
E2	Any other item(s) considered necessary by the Contractor to comply with the Scope of Work.				-
Cost Centre Total Carried to Section MS Summary					

SECTION MS (MISCELLANEOUS)

COST CENTRE F: Deleted

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(PUNE METRO RAIL PROJECT, PHASE-1 Extension)

Name of work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX G

ADJ: ADJUSTMENT / UNIT PRICES

Unit Prices for Additional Quantities

Item No.	Description	Unit	Qty	Unit Rate		
				USD	EURO	INR
	Traction equipment (25kV)					
1.	Manually operated isolator with operating rod insulator	Set	1			
2.	Motor operated isolator with operating rod insulator	Set	1			
3.	Manually operated isolator with earthing heel with operating rod insulator	Set	1			
4.	Interrupters	Nos.	1			
5.	Circuit Breaker	Nos	1			
6.	Breaker Control Unit (BCU Unit)	Nos	1			
7.	Capacitive Voltage Sensor (CVS)	Nos.	1			
8.	Lightning Arrester	Nos.	1			
9.	Automatic tensioning device for full tension length	Nos.	1			
	OHE – Insulators					
10.	Bracket tube insulator	Nos.	1			
11.	Stay tube insulator	Nos.	1			
12.	25kV post insulator	Nos.	1			
13.	9-tonne insulator	Nos.	1			
14.	Light weight section insulator assembly for mainline	Nos.	1			
	OHE – Cantilever Fittings					
15.	Complete set of fittings including bracket tube, stay tube, register arm, steady arm, registration, contact swivelling clip, etc	set	1			
16.	Nuts and bolts etc.	Kg.	1			
17.	OHE steel structure	MT	1			
	OHE – Fittings					
18.	Contact wire splice (for 150 sqmm contact wire)	Nos.	1			
19.	Messenger wire splice	Nos.	1			
20.	Strain clamp (bolted) for 93 sqmm ACSR	Nos.	1			
21.	Splice OPC (crimped) for 93 sqmm ACSR	Nos.	1			
22.	Complete dropper Assemblies (contact wire clamp , messenger wire clamp, dropper clips, nuts & bolt etc) excluding dropper wire,	Set	1			
	OHE – Cables and Wires					
23.	Contact wire (150 sqmm)	Km	1			
24.	Catenary wire (65 sqmm)	Km	1			
25.	12 sqmm / other appropriate size dropper wire (to be used in this project)	mtr	1			
26.	93.3 sqmm ACSR (OPC/BEC)	Km	1			
27.	Jumper wires of 164 sqmm	Mtr	1			
28.	Jumper wires of 107 sqmm	Mtr	1			
29.	Jumper wires of 50 sqmm	Mtr	1			
30.	Voltage Detector with 5 mtr telescopic insulated stick with carrying bag	No.	1			

Item No.	Description	Unit	Qty	Unit Rate		
				USD	EURO	INR
	33kV equipment					
31.	Earthing isolator (3 pole)	Nos.	1			
32.	Voltage transformer (3 no's set, i.e. 1 for each phase)	Set	1			
33.	3-pole circuit breaker	Nos.	1			
34.	Current transformer suitable for Incomer/Outgoing feeder ((3 no's set, i.e. 1 for each phase)	Set	1			
35.	Current transformer suitable for Transformer feeder (3 no's set, i.e. 1 for each phase)	Set	1			
36.	Lightning/Surge arrester	Nos.	1			
37.	Fuse of each rating	Nos.	1			
38.	33kV GIS complete cubicle consisting of one breaker associated CT/PT's, control & monitoring equipment suitable for Incomer/outgoing feeder in ASS (one complete feeder panel)	Nos.	1			
39.	33kV GIS complete cubicle consisting of one breaker associated CT/PT's, control & monitoring equipment suitable for Transformer feeder in ASS (one complete feeder panel)	Nos.	1			
	33kV Cabling					
40.	33kV Single core Cable	KM	1			
41.	Straight through joint kit (1 No.)	Nos.	1			
42.	End termination kit (1 No.)	Nos	1			
	25kV Cabling					
43.	25kV Single Core Cable	KM	1			
44.	3.3kV return cable	KM	1			
45.	25kV cable termination kits Outdoor Type (1 No.)	Nos.	1			
46.	25kV cable termination kits Indoor type (1 No.)	Nos.	1			
47.	25kV cable Straight through joint kit (1 No.)	Nos.	1			
48.	Return Cable(3.3kV) Termination Kit	No	1			
49.	Return Cable(3.3kV) Straight Through Jointing kits	No	1			
	RTU/SCADA					
50.	CMU Card	Nos.	1			
51.	I/O cards of any type (1 no.)	Nos.	1			
52.	Power supply unit (1 no.)	Nos.	1			
53.	FO converter (1 no.)	Nos.	1			
	Protection and Metering					
54.	Protection relays of any type (1 no.)	Nos.	1			
55.	Metering relays of any type (1 no.)	Nos.	1			
	33kV Transformer					
56.	2500kVA, 33/0.415kV Dry Type	No.	1			
57.	400kVA, 33/0.415kV Dry Type	No.	1			
58.	200kVA, 33/0.415kV Dry Type	No.	1			

Item No.	Description	Unit	Qty	Unit Rate		
				USD	EURO	INR
	Viaduct light					
59.	Viaduct Light 90 Watt LED along with clamps & fittings	Nos	1			
60.	Junction box 3 phase for viaduct light	Nos	1			
	Services					
61.	Shifting from store at Pune, Erection, Testing & Commissioning of Dry type transformer at any metro station ASS of PMRP	Per Transformer	1			
62.	Dismantling of installed transformer at any metro station of PMRP and shifting to warehouse at Pune	Per Transformer	1			
63.	Dismantling of Single Mast/Portal & shifting to Employers warehouse.	No.	1			
64.	Dismantling of cantilever & shifting to Employers warehouse	No.	1			
65.	OHE load Transfer from Temporary OHE mast to station drop arms and dropper wire replacement (150 Meter)	Per Station	1			
66.	Liftings of RRV from Road level to Viaduct level	Per lifting	1			
	Total					

APPENDIX G: ADJ (ADDITIONAL / UNIT PRICES)

Notes:

- The unit price shall be inclusive of supply of materials only at Pune metro site. Items at number 61 to 66 are service based works. The price will include all associated accessories and fixtures of the respective items and all duties, taxes, etc. including tax deducted at source.
- Apportioned percentage in MPS such as cost centre A (Design), C (Installation, Testing & Commissioning) & D (Integrated testing) will be applicable for erection & commissioning of above supplied items.
- The unit prices shall be valid until the Taking Over Certificate of the Section.
- Bidder must quote ADJ schedule with the bid submissions. The awarded contract price will not include the cost of Appendix-G: ADJ. However, based on future requirements, Maha-Metro may ask the Contractor to supply these items through quantity variation in this Contract. In such cases, Price variation in accordance with Annexure-IX-F will be applicable for items of ADJ schedule.
- All materials and cables shall comply specifications mentioned in the tender document/specification approved by Employer.

MAHARASHTRA METRO RAIL CORPORATION LIMITED
(**PUNE METRO RAIL PROJECT, PHASE-1 Extension**)

Name of Work: DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 25kV FLEXIBLE OVERHEAD CATENARY SYSTEM, ASSOCIATED 25kV SECTIONING POSTS, 33kV AUXILIARY SUB-STATION (ASS), ASSOCIATED CABLING AND SCADA SYSTEMS FOR PUNE METRO RAIL PROJECT PCMC-NIGDI ELEVATED EXTENSION

TENDER NO. P1A-TR-03/2025(R)

APPENDIX H
MONTHLY CASH FLOWS FOR THE CONTRACT

APPENDIX H: MONTHLY CASH FLOWS FOR THE CONTRACT

This Document is to be prepared by the Bidder and submitted as per [Para 4.0 'Milestone Payment Schedule'](#) of 'Instructions for completing the Pricing Document'.

Note that the amount of [Cost Centres C \(Training\) and D \(Spares, tools ...\)](#) of [Appendix F: Section MS \(Miscellaneous\)](#), [Appendix G: Adjustment / Unit Prices](#) will not be included in the monthly cashflow