NAME OF WORK: Design, Supply, Installation, Testing, Commissioning and Personnel Training of Office Automation & Information Technology   system and Design, Supply, Installation, Testing, Commissioning and Comprehensive Maintenance of Access Control System at   11 nos. of Elevated Stations and Depot-cum-Workshop under Navi Mumbai Metro Line-1 Project.

CORRIGENDUM-II (Reply to Pre-Bid Queries)

SN	Vol./Part No.	Clause No.	Bid Condition	Bidder's Queries	Maha Metro's Reply / Amendment
1	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-217	1.1.2.2 & 1.1.2.2.1 & 1.1.2.2.1.1	1.1.2.2 Distributed System Servers 1.1.2.2.1 Cardholder Management System 1.1.2.2.1.1 A method shall be provided to allow geographically separate Access Control servers to manage their own locally connected access controllers while sharing and interchanging data with other Access Control servers that are connected via a Wide Area Network.	Since Local access controllers are IP based and can manage all the functionalities in standalone mode if communication between OCC central server and station is down, also station Door ACS will keep functioning with Central Controller internal database. We recommend to consider only one server at a central location (each at OCC & BCC) for better management and cost effective solution. Maintenance cost will also reduce in many folds. OCC server's HMI clients can be provided at station level for local monitoring/operations. Pl.	Tender condition shall prevail.

				allow.	
2	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page- 219	1.1.2.2.8.1	It shall be able to display all of the operational status and send the alarm signals to the ACS Local server. It shall also be able to detect sensor failure and the damage of connection wire.	We recommend to consider only one server at a central location (each at OCC & BCC) for better management and cost effective solution. Maintenance cost will also reduce in many folds. OCC server's HMI clients can be provided at station level for local monitoring/operations. Pl. allow.	Tender condition shall prevail
3	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-222	1.1.7.1 B	The ACS shall perform the following functions in respect of MRTS operation and maintenance: b. Collect the attendance records of the Employer's staff as well as Maintenance Contractor's staff, who have been issued access cards by Employer.	Kindly clarify that the Card reader on Doors will be used for Attendance, or separate reader is needed for attendance capturing purpose.	Same readers will be used for access control as well as attendance and biometric readers will also be used for attendance.
4	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-222	1.1.7.1 H	h. Shall mainly interface with the GE backbone network, CCTV System and Automatic Fare Collection System, Clock System, Civil works Interface for cabling, routing etc.	Please clarify the Objective of Interface with AFC Fare collection system with ACS. We understand it is interface with AFC Card.	Kindly refer Annexure-VII-6: interface Matrix, page-265. Tender condition shall prevail.

5	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-222	1.1.7.1 I	i. Interface with fire suppression system with different rooms in order to prevent unauthorized entry of staff in case of fire.	As per TS clause 1.1.7.1 : In case of fire all the doors should get open. So, Please clarify the interface requirement with fire suppression system. We understand it is same as TS clause 1.1.7.1. Kindly clarify.	Kindly refer Annexure-VII-6: interface Matrix, page-263. Tender condition shall prevail.
6	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-222	1.1.8.2	The access card response time shall be less than 1 second. It is the time measured between the access card being placed into the reading field of the card reader and the appearing of the successful/failure signal at the card reader display.	Here Display at the Card reader is mentioned, card readers also come along with LED which indicates the success/failure at the Reader. This will also reduce the equipment power requirements as compared to a reader with Display which in result makes the solution effective. Pls clarify.	Successful/failure signal may either be displayed or indicated at reader. Tender condition shall prevail.
7	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-224	1.1.10.7	Each Station shall be able to e. To be equipped with printer.	Printer is not necessary for ACS activities; however ACS can interface with a common printer on network. This will reduce the maintenance cost also in many folds. So kindly remove the printer from system and request to include interface with network printer instead.	Tender condition shall prevail.

8	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-224	1.1.10.9	Smart Cards used for the Access control System shall be compatible with the Automatic Fare Collection system such that the card can serve the dual purpose of Access control as well as Employee Pass for travel on the metro System.	As per TS Clause 1.1.2.1.1, the ACS smart card will be supplied by AFC contractor, also AFC card shall be used for Access Control System. So separately Access Cards are not required? Pls. clarify.	Kindly refer Annexure-VII-6: interface Matrix, page-265. Tender condition shall prevail.
9	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-224	1.1.10.10	Similar card issuing and cancellation facilities through a stand-alone Work Station shall be provided at the designated depots.	We understand the standalone workstation means the dedicated workstation at depots. Pls clarify.	Tender conditions shall prevail.
10	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-225	1.1.10.14	In addition to Access Control System there shall be a provision of attendance system using bio-metric (facial and card) access point reader at station, depot, OCC and RSS. Number of reader and specification shall be decided at the time of detail design. There should be provision for the generation and integration of attendance report to HR Systems through the network.	Please mention the Quantity of the Face device needed for attendance purpose.	Please refer PART 4: Final Financial Bid & Bill of Quantities Tender condition shall prevail.
11	Part-II: Work Requirements Section VII-C.I: Particular/Technical	1.1.11.1	RC/NC shall have built-in intelligence and database which shall allow the units to continue	Since Local RC/NC have the intelligence and can manage all the functionalities in	Tender condition shall prevail.

	Specifications (Access Control System) Page-225		operation without loss of data in the event of loss of communication with the server at OCC. The storage capacity of each RC/NC shall be able to store at least 50,000 transactions that can be communicated later to the server.	standalone mode if communication between OCC central server and station is down, also station Door ACS will keep functioning with RC/NC internal storage/database. We recommend to consider only one server at a central location (OCC) for better management and cost effective solution. Maintenance cost will also reduce in many folds. OCC server's HMI clients can be provided at station level for monitoring/operations. Pl. allow.	
12	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-226	1.1.14.5 & 1.1.14.6 & 1.1.14.7	Time Recorder shall be communication to reader controller and support to TCP/IP protocol. Two line LED display shall be provided on Time Recorder. The storage capacity of each Time Recorder shall be able to store at least 3,000 transactions.	Time recording of employees is a software module which will get the Punching data from the reader via controller and calculate the attendance. No additional hardware is needed for Time recording purpose. Request to modify the clause accordingly as having a Time recorder separately for attendance is not needed.	Tender condition shall prevail.
13	Part-II: Work Requirements	1.1.16	Access Point Sensor	We understand Access Point sensor is the	Tender condition shall prevail.

	Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-227		b) The access point sensors shall have suitable internal memory for data storage for fast access.	controller, because if we consider it as a door sensor it won't come with a memory. Pls clarify.	
14	Part-II: Work Requirements Section VII-C.I: Particular/Technical Specifications (Access Control System) Page-229	1.1.25.1 d	These interfaces shall, as a minimum, include the following: CCTV System to enable video images from CCTV cameras monitoring the relevant site areas to be presented automatically to the operators of the CCTV HMI on the associated CCTV monitors, as appropriate, on: d) ACS contractor shall provide potential free contact to nearest CCTV to each reader & Fire Alarm Panel for Interface. 2-core cable, laying and termination at both end is in the scope of ACS contractor.	Instead of Providing Hardwired contact to CCTV system, interface can be achieved by server level software integration (between ACS & CCTV), it would be more advanced and reliable. Request to make the appropriate changes accordingly.	Tender condition shall prevail.
15	Part-1: Bidding Procedure Section-II: Bid Data Sheet A-General Page-27	ITB 4.9 (Additional Para)	Further, a Power of Attorney signed by all the JV/ Consortium Members duly supported by their board resolutions or statement of joint decision signed by directors must also accompany the Bid authorizing the Lead Member, inter alia, to submit the Bid on their behalf. The	Earlier we submitted power of attorney on e-stamp certification no. IN-DL20679373264827T for NAVI MUMBAI METRO LINE-1 PROJECT(CIDCO) Tender no. NM1-TL-01/2021 .Now its's is	Tender condition shall prevail.

			formats of the Power of Attorney as well as the board resolution are provided in Section IV: Bidding Form. All the relevant forms should be duly signed and be submitted as per the requirements of the forms.	retender. So kindly consider same power of attorney for tender no.NM1-TL-03/2022 also.	
16	Part-1: Bidding Procedure Section-II: Bid Data Sheet A.General Page-34	ITB 19.1 (Additional Para) (d)	A scanned copy of this BG is to be uploaded online and the Bidder should ensure physical submission of the original bank guarantee at the office of MAHA-METRO at address specified in Bidding Documents, within 7 (Seven) working days from the time and last date scheduled for handing over the Bidding Documents (online).	Earlier we submitted the bank guarantee BG Number: 0031NDDG00079322 for NAVI MUMBAI METRO LINE-1 PROJECT(CIDCO) Tender no. NM1-TL-01/2021 .Now its's is retender.So kindly consider the same bank guarantee for tender no.NM1-TL-03/2022 also.	Tender condition shall prevail.
17	Part-1: Bidding Procedure Section-II: Annexure-II-D Tool Kit for- E-Tender Portal Page-72	A] Tender Forms i.	Tender Forms can be purchased from the e-Tendering Portal of Maha-Metro, i.e. https://mahametrorail.etenders.in after paying Tender Fees via online mode as Per the Tender Schedule.	Earlier we submitted the dcouments free for MUMBAI METRO LINE-1 PROJECT(CIDCO) Tender no. NM1-TL-01/2021 .Now its's is retender.So kindly consider the same tender fee for tender no.NM1-TL-03/2022 also.	Tender condition shall prevail.
18	PART-II: Work Requirement Annexure-VII-6: Interface Matrix	Annexure-VII-6.I - b.Interface Requirement between ACS	Extend Fire alarm potential free contacts to ACS system through cable. Cable, laying and	Fire Cable shuold be laying by E & M Contractor as per ACS contractor.	Tender condition shall prevail.

		Contractor and E & M Contractors	termination is in scope of contractor.		
	Page-263				
19	PART-II: Work Requirement Annexure-VII-6: Interface Matrix Page-264	Annexure-VII-6.I - D. Interface Requirement between ACS Contractor and system Contractors	Extend CCTV potential free contacts to ACS system through cable. Cable, laying and termination is in scope of contractor.	Each CCTV wired connection with ACS not required. For better and reliable integration. Please consider software level CCTV integration	Tender condition shall prevail.
20	Part-II, Section VII-A.I Intrusion Detection Facilities Page no.232	1.1.25.10.3		For depot perimetric please let us know the length and the perimeter and what is the preferred technology? Perimeter fence is widely used globally and is allowed legally in India with IEC 60335-2-76:2018, IEC610003-2:2018 and IEC610003-3:2013, Certification. It is already deployed in Noida Metro NCRTC Delhi, Kolkata metro going to deploy for depot security.	Depot perimeter length is approx. 2.5 km. For Intrusion detection facilities industry best practices to be followed in bidding.
21	Part-II, Section VII-A.I Station Security System Page no. 224	1.1.10.7	i. At service gate at platforms access point reader shall be positioned at the common location, and shall be accessible from both the entry and exit side. Further at each Wicket gate / Service gate it is required to have	i. Reader should be IP67 rated for outside operation. ii. Wiegand protocol in access control is outdated it can be easily hacked and the communication is also	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including

			exit button installed on Via Duct side. All equipment, cabling installed at edge of the platform should be complying to IP 66 and of outdoor type.	not monitored centrally in OCC. iii. OSDP is widely being used a open protocol for reader connectivity. OSDP is encrypted, monitored and uses less number of cables compared to Wigeand. iv. Reader comes under UL 294 certification. so UL294 to be included. v. Reader should be direct metal mounting as non-metal mounting reader required spacer on metal surfaces which is a tedious process.	integration with other system contractors)
22	Part-II, Section VII-A.I Intrusion Detection Facilities Page no. 232	1.1.25.10.3	a. An assessment shall be undertaken during the Detailed Design phase to determine the category of risk level to be applied, in accordance with EN 50131. Initially, the the risk level shall be assumed to be high-risk which is classified as Grade 3.	i. EN 50131 which is for hold up and for standalone installations which is very common in western world. We request this to be removed and replace with following standard which is applicable for installation. Ii. EN 50130 is for Alarm Management for the ACID system were all the equipment are integtrated with each other and can be managed and	Tender specification shall prevail. EN 50133 and EN 50130 are already applicable to this tender. (1.1.3 Standards & References)

				acknowledged at one platform for industrial grade.	
23	Suggestions Page no. 225	1.1.11		In case ACS RC/NC & controller installed outside, it is suggested to take temp pf minimum 65-70 degress Celsius of each controller for seamless working in summers.	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement.
24	Part-II, Section VII-A.I Reader Controller (RC) and Network Controller Page no.226	1.1.11.16	Each controller should able to handle minimum of 64 doors or above without any additional hardware/(s)	This Contradicting with point no 1.1.11.13.64 door controller is a very old architecture as as if 1 controller fails 64 doors will be failed. You should go for Two door controller as if single controller fails, its only effects on two doors.	Clause 1.1.11.13 "Each RC shall control at least 4 readers, and shall be able to work independently." is applicable to Reader controller & 1.1.11.16 "Each controller should able to handle minimum of 64 doors or above without any additional hardware/(s)" is applicable to Network Controller and both are exclusive to each other. So, Tender specification shall prevail.
25	Scope of work of Access Control & Intrusion Detection			For PIDS Intrusion Detection at OCC/BCC, it is suggested to take drone	Tender specification shall prevail.

				integration as it will be helpful for the total premises covers on receipt of alarm.	
26	Part-II, Section VII-A.I Security Page no. 228	1.1.20.1	The ACS shall be secured against threats to data confidentiality and integrity and against unauthorised intrusions to the system.	AES 256-bit End to End encryption are followed widely in global so we request you to consider to make the system secured against the threats.	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including integration with other system contractors)
27	Part-II, Section VII-A.I Security and Encryption Page no. 236	1.1.25.11.1.1		AES 256-bit End to End encryption are followed widely so there for request you to consider for the security and encryption.	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including integration with other system contractors)
28	Part-II, Section VII-C: Particular/Technical Specification Page: 247	1.2.11	The Contractor shall take the connections from two separate ISP's (Internet Service Provider) such that the overall bandwidth requirement for Navi Mumbai Metro for operation and administration LANs are shared between the two. The charges for first-time connection and renewals are to be borne by the contractor	More Clarification required	Contract description is self-explanatory. Any additional information required can be questioned clearly. BOQ mentions "Internet lease line 30 Mbps or better as per TS" for 1 year. Lease line to be considered

			for 06 months till the start of DLP. Subsequent annual charges after COD are to be borne by the O&M Contractor.		2 nos. for 1 year, one each from different ISP's.
29	Part-II, Section VII-C: Particular/Technical Specification Page: 258	1.5.1	CAT 6e/CAT 7 Class F (STP) shall be used as Ethernet data cables. CAT 6e/CAT 7 Class F (STP) shall be made with flame-retardant and LSLH material. Combo termination point for data (RJ 45) connectivity shall be provided at every location on furniture. OFC is required for more than 90-meter cable length. CAT 6e/7 cable shall comply with relevant NFPA 130 requirements.	Cat-7 is not fashion, it is requested to consider the only Cat 6e or Cat-8 in place of Cat-7	Tender specification shall prevail.
30	Reader Controller (RC) and Network Controller Page no. 225	1.1.11	For the System working in the redundant mode, it is suggested to have Annunciator Panel at Station/OCC/BCC so that in case of network failure or server failure the system will work in offline mode & it can be operated at Station/OCC/BCC level.	It is suggested to take Annunciator Panel at OCC/BCC, it is already deployed in Noida Metro, Bhopal Indore metro going to deploy for station & depot security.	Tender specification shall prevail.
31	Part-II, Section VII-A.I Intrusion Detection Facilities Page no. 232	1.1.25.10.3		For depot perimetric please let us know the length and the perimeter and what is the preferred technology? Perimeter fence is widely used globally and is allowed	Depot perimeter length is approx. 2.5 km. For Intrusion detection facilities industry best practice to be followed in bidding.

				legally in India with IEC 60335-2-76:2018, IEC610003-2:2018 and IEC610003-3:2013, Certification. It is already deployed in Noida Metro NCRTC Delhi, Kolkata metro going to deploy for depot security.	
32	Part-II, Section VII-A.I Station Security System Page no. 224	1.1.10.7	i. At service gate at platforms access point reader shall be positioned at the common location, and shall be accessible from both the entry and exit side. Further at each Wicket gate / Service gate, it is required to have an exit button installed on Via Duct side. All equipment, cabling installed at the edge of the platform should be complying to IP 66 and of outdoor type.	i. Reader should be IP67 rated for outside operation. ii. Wiegand protocol in access control is outdated it can be easily hacked and the communication is also not monitored centrally in OCC. iii. OSDP is widely being used an open protocol for reader connectivity. OSDP is encrypted, monitored, and uses less number of cables compared to Wigeand. iv. Reader comes under UL 294 certification. so UL294 to be included. v. Reader should be direct metal mounting as non-metal mounting reader required spacer on metal	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including integration with other system contractors)

				surfaces which is a tedious process.	
33	Part-II, Section VII-A.I Intrusion Detection Facilities Page no.232	1.1.25.10.3	a. An assessment shall be undertaken during the Detailed Design phase to determine the category of risk level to be applied, in accordance with EN 50131. Initially, the the risk level shall be assumed to be high-risk which is classified as Grade 3.	i. EN 50131 which is for hold up and for standalone installations which is very common in western world. We request this to be removed and replace with following standard which is applicable for installation. Ii. EN 50130 is for Alarm Management for the ACID system were all the equipment are integrated with each other and can be managed and acknowledged at one platform for industrial grade.	Tender specification shall prevail. EN 50133 and EN 50130 are already applicable to this tender. (1.1.3 Standards & References)
34	Part-II, Section VII-A.I Reader Controller (RC) and Network Controller Page no. 225	1.1.11	The system shall support 1,000,000 card holder's databases.	1000000 card holders are for system or controller? If it is for controller then 40000-50000 is more than enough. As number of employees will be 2000-3000.	The system shall support 1,00,000 card holder's database.
35	Part-II, Section VII-A.I	1.1.11	Each controller should be able to handle a minimum of 64 doors or above without any additional hardware/(s)	This Contradicting with point no 1.1.11.13. Request you to consider 2 Door 2 Reader controller as	Clause 1.1.11.13 "Each RC shall control at least 4 readers, and shall be able to work independently." is

	Reader Controller (RC) and Network Controller Page no. 226			64 door controller is a very old architecture as if 1 controller fails 64 doors will be failed. You should go for Two door/Four door controller.	applicable to Reader controller & 1.1.11.16 "Each controller should be able to handle a minimum of 64 doors or above without any additional hardware/(s)" is applicable to Network Controller and both are exclusive to each other. So, Tender specification shall prevail.
36	Part-II, Section VII-A.I Security Page no. 228	1.1.20.1	The ACS shall be secured against threats to data confidentiality and integrity and against unauthorized intrusions to the system.	AES 256-bit End to End encryption are followed widely in global so we request you to consider to make the system secured against the threats.	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including integration with other system contractors)
37	Part-II, Section VII-A.I Security and Encryption Page no. 236	1.1.25.11.1.1		AES 256-bit End to End encryption are followed widely so there for request you to consider for the security and encryption.	Tender specification is minimum requirement. Better technology can be accepted incompliance to overall tender work requirement (including integration with other system contractors)

38	Part-II, Section VII-C Particular/Technical Specification Page no. 247	1.2.11	The Contractor shall take the connections from two separate ISP's (Internet Service Provider) such that the overall bandwidth requirement for Navi Mumbai Metro for operation and administration LANs are shared between the two. The charges for first time connection and renewals are to be borne by the contractor for 06 months till start of DLP. Subsequent annual charges after COD are to be borne by the O&M Contractor.	More Clarification required	Contract description is self-explanatory. Any additional information required can be questioned clearly. BOQ mentions "Internet lease line 30 Mbps or better as per TS" for 1 year. Lease line to be considered 2 nos. for 1 year, one each from different ISP's.
39	Part-II, Section VII-C Particular/Technical Specification Page no. 258	1.5.1	CAT 6e/CAT 7 Class F (STP) shall be used as Ethernet data cables. CAT 6e/CAT 7 Class F (STP) shall be made with flame-retardant and LSLH material. Combo termination point for data (RJ 45) connectivity shall be provided at every location including end-point socket on furniture. OFC is required for more than a 90-meter cable length. CAT 6e/7 cable shall comply with relevant NFPA 130 requirements.	Cat-7 is not fashion, it is requested to consider the only Cat 6e or Cat-8 in place of Cat-7	Tender specification shall prevail.