

MUMBAI METRO RAIL CORPORATION LIMITED

Mumbai Metro Line-3 Project

IFB No: MM3-CBS-DEQ-9-02

Design, Manufacture, Supply, Installation, Testing & Commissioning and Comprehensive Maintenance Service of Auto Train Wash Plant

Response to Bidders' Queries (SET-1)

Sr. No.	Part No. & Section No.	Clause No.	Page No.	Bid Document Clause Description	Bidder's Query /Clarification	MMRC Response
1	Part – I Bidding Procedure Section III – Evaluation & Qualification Criteria	2.4.1	10 of 14	General Experience: Experience under Contracts in the role of prime Contractor (single entity or JV member), Sub-Contractor or Management Contractor for at least the last five (5) years starting 1st January 2015.	<p>We are leading and reputable Manufacturers of Railway & Metro Workshop Machinery and a NSIC & MSME registered firm based in Mumbai.</p> <p>We have Joint Venture with Transfer of echnology for manufacturing of Fully Automatic Train Wash Plants under in India. We would like to participate in the Mumbai Metro Line no. 3 tender, but the Eligibility Criteria of the tender is mainly restricted to the principal manufacturers only.</p> <p>We would like to inform you that as per the Govt. of India Notification issued by the Ministry Of Commerce And Industry, Department For Promotion Of Industry And Internal Trade otification No. P-45021/2/2017-Pp (Be-I) Amended Later P-45021/2/2017-Pp (Be-I) Dated 28.05.2018, Eligibility Criteria is largely relaxed / exempted for Indian Manufacturers having JV under TOT with foreign companies.</p> <p>Even Metro Organisations like DMRC & KMRCL are following such relaxed eligibility criteria prescribed by the Govt., for all their M&P procurements.</p>	Bid Conditions perevail



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2	Part – I Bidding Procedure Section III – Evaluation & Qualification Criteria	2.4.2	10 of 14	<p>A minimum number of five (5) similar(i) Works (Design, Manufacture, Supply, Installation, Testing & Commissioning of Wash Plant) that has been satisfactorily and substantially(ii) completed for Metro/Railway/MRT systems as a prime Contractor, viz, OEM (single entity or JV member)(iii) between 1st January 2010 and the latest Bid submission date. Out of the five (05) similar works as above, at least two (02) works should have been provided with Front & Rear Wash arrangement.</p> <p>Out of the above five (05) similar Wash Plant, at least one (01) Wash Plant shall have been completed outside the country of manufacture of the Wash Plant or in India.</p> <p>A minimum two (02) number of similar Wash Plant commissioned in the last seven (07) years, viz. from 1st January 2013 shall be in operation in Metro/Railway/MRT systems including at least one (01) number with provision of Front & Rear wash arrangement with satisfactory performance for a minimum period of 2 years after commissioning and supported by a performance certificate from the end-client. The performance certificate shall not be of issue date more than 2 years from the Bid submission date.</p>	<p>In view of our above request, we request you to consider the OEMs manufacturing experience and modify the clause accordingly.</p>	<p>Bid Conditions prevail</p>



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3	Part – I Bidding Procedure Section III – Evaluation & Qualification Criteria	2.4.2	10 of 14	<p>A minimum number of five (5) similar(i) Works (Design, Manufacture, Supply, Installation, Testing & Commissioning of Wash Plant) that has been satisfactorily and substantially(ii) completed for Metro/Railway/MRT systems as a prime Contractor, viz, OEM (single entity or JV member)(iii) between 1st January 2010 and the latest Bid submission date. Out of the five (05) similar works as above, at least two (02) works should have been provided with Front & Rear Wash arrangement.</p> <p>Out of the above five (05) similar Wash Plant, at least one (01) Wash Plant shall have been completed outside the country of manufacture of the Wash Plant or in India.</p> <p>A minimum two (02) number of similar Wash Plant commissioned in the last seven (07) years, viz. from 1st January 2013 shall be in operation in Metro/Railway/MRT systems including at least one (01) number with provision of Front & Rear wash arrangement with satisfactory performance for a minimum period of 2 years after commissioning and supported by a performance certificate from the end-client. The performance certificate shall not be of issue date more than 2 years from the Bid submission date.</p>	<p>We are reputed suppliers of various kinds of maintenance machineries to Indian Railways and Metros in India. We have gone through the specifications of above mentioned tender and we are very much keen to participate in the mentioned tender.</p> <p>However going through the tender documents we couldn't find any provision that an Indian Manufacturing firm can qualify in the tender using the past experience of their Foreign OEM under the Technology collaboration or Technology transfer agreement.</p> <p>Kindly refer to the letter issued by Government of India—P-45021/2/2017-PP (BEII) dated 29th May 2019 (copy attached) "Manufacture under license /technology collaboration agreements phased Indigenization under a license from a foreign manufacturer". As per the above letter will an Indian manufacturer, manufacturing the equipment under the technology collaboration /Transfer of Technology agreement from a foreign manufacturer fulfilling the Evaluation and Qualification criteria-Section III of Part I qualify as local supplier and be entitled of the purchase preference, in other words would the Local</p>	Bid Conditions prevail



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4	Part 2 Section VI-B	2.3.2	3 of 28	Work related to the production of the equipment shall comply with the relevant Indian Standards or European Standards	We need to get the approval that USA standard will be acceptable. (mechanical and electrical)	Please refer Clause No 1.6.2, Chapter 1, Section VI-A 1.6.2 Plant & Equipment, related equipment and software shall be in accordance with the requirements of the standards and codes specified in the Employer's Requirements - Technical Specification. The Contractor may propose an alternative equivalent international standard or deviation from the specified standards during the design stage. The Contractor shall, in such a case, apply for a 'Notice of No Objection' or 'Notice of No Objection subject to ...' from the Project Manager. The Contractor shall state the exact nature of the change, the reason for making the change and relevant specifications of the materials and equipment. Bid Conditions prevail
5	Part 2 Section VI-B	2.8	6 of 28	The noise level of the Equipment during its operation shall not exceed 75 dB when measured at a distance of one meter from the machine. Minor variation to above limits is acceptable on the discretion of Employer.	Noise level 75 dB one meter from the machine. – reference to section 3.8,12 c) air blowers, this noise level cannot be achieved, there is no air blower will meet this requirement.	Bid Conditions prevail



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6	Part 2 Section VI-B	3.2.2.d)	9 of 28	All pumps, pipes, tanks, spray poles, nozzles, enclosures, side covers to prevent water splashes from wash stations etc. required to be constructed of Stainless-Steel material shall be made of SS 316.	Will SS#304 material is acceptable instead of SS#316	Please refer Sr. No 1 of Addendum No 4.
7	Part 2 Section VI-B	3.2.2 (d)	9 of 28	All pumps, pipes, tanks, spray poles, nozzles, enclosures, side covers to prevent water splashes from wash stations etc. required to be constructed of Stainless-Steel material shall be made of SS 316.	The Stated requirement of SS 316 is quite generic in Nature. Considering the various sub-assemblies of ATWP & their applicability, use of SS 316 grade steel for all the sub-assemblies is not feasible. Therefore, we request you to kindly define specific classification of steel grades for sub-assemblies based on feasibility & applicability. We request you to kindly amend the clause accordingly.	
8	General				On the structural frame of the wash equipment will aircraft aluminum standard be allowed? Or SS# 304. Preferred to use the aircraft aluminum rather SS#304 to control the cost.	



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9	Part 2 Section VI-B	3.3.1	10 of 28	The Train Wash Plant shall be designed to carry out automatic washing of the side walls (up to the bottom edge) as well as front and rear of the Metro Train cars. The Kinematic Envelope (KE) of the Rolling Stock is attached herewith in Section XI, Part 4. The Contractor before commencing detailed design shall confirm if there is any change in Kinematic Envelope (KE) of train. The Contractor shall interface with Rolling Stock Contractor to get further details.	Need to have the detail information on the signaling system use so we can interface with it.	The broad system of signalling is stated in Clause 2, Section VI-B, Technical Specifications. Further detailing of signalling system as required shall be part of interface with STPT Contractor as per clause-Appendix 5, VI-A General Specification, Part 2 Bid conditions prevail.
10	Part 2 Section VI-B	3.3.4, 3.3.5	10 of 28	3.3.4: It is the Sole responsibility of the Wash Plant Contractor to ensure that the chloride content in the spray water of pre wet station, detergent station, water brush station, first rinsing station & final rinsing station shall not exceed 100ppm, 50ppm, 50ppm, 50ppm & 25PPM respectively. The above values are indicative and shall be finalised during design stage. 3.3.5: The Used Water in Wash plant has to be recycled for Re-use in Wash Plant to the maximum possible extent in order to economise in the overall water consumption without sacrificing the quality of water for washing of train.	please get clarification on the water use per this section: - pre-wet station will use reclaim water - brush station will use reclaim water Why do we have ppm requirement for these to station, reclaim water is not supply from the fresh water supply. The reclaim water is supplied from the recycle water from the wash process. Needs the sample of the fresh water supplied to the wash bay.	The quality of water supply for the Wash Plant shall be as under: PH: 6.5 to 7.5 Total Suspended Solid: Less than 100mg/ltr Oil & Grease: less than 10mg/ltr BOD: less than 30mg/ltr COD: less than 100mg/ltr. The Contractor shall design the system taking the above figures with about 20% variation. Bid conditions prevail.



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11	Part 2 Section VI-B	3.3.9	11 of 28	The position of various stations sensed by sensors, like limit switches, magnetic switches, photo sensors and proximity switches or other proven approved means shall enable complete wash cycle of the full length of train. The limit switch/ proximity switch/ sensors etc. which are required to be provided in the tracks, for sensing of the movement of trains requires proper interface with Track, Signalling & Rolling Stock Contractor.	Need the system information to be able to interface with Track, Signalling & Rolling Stock.	This is a design stage activity. Detailed information of different systems as required and as asked for shall be provided by the respective system Contractors during interace (clause-Appendix 5, VI-A General Specification, Part 2) in design stage after award of contract. Bid conditions prevail.
12	Part 2 Section VI-B	3.3.11	11 of 28	The following facilities/ operation by the control console are required at the Depot Control Centre. a) Auto enabling of Wash Plant with Full Wash/ only Side Wash so that the Plant is being activated by the presence of train for ensuring complete wash. b) Selective disabling of Plant so that the train can pass through the plant in either direction at a maximum speed of 25 km/h without the washing process-taking place. c) Monitoring of details i.e. status/ health, operating hours of the plant shall be monitored at control panel with fault record storage facility for at least 30 faults on the basis on along with audio, VDU and Printer facility to be supplied by the Contractor. d) Complete graphical indication of completion of washing cycle shall be available at control console of Wash Plant and at Depot Control Centre. e) No staff shall be required to man the Plant in Automatic mode, other than to clean and replenish stocks of cleaning media.	Need clarification in detail what do they expect to have, type of reporting system and graphic.	Necessary details of the requirement are given in the Clause 3.3.11 . Further detailing is a design stage activity after award of contract. Bid conditions prevail.



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13	Part 2 Section VI-B	3.3.11	11 of 28	c) Monitoring of details i.e. status/ health, operating hours of the plant shall be monitored at control panel with fault record storage facility for at least 30 faults on the basis on along with audio, VDU and Printer facility to be supplied by the Contractor.	Kindly clarify if the system has to be provided with a facility for printing or printer has to be included in scope of supply. In case, the printer has to be provided kindly confirm the basic specifications of the same.	It is clarified that Printer is required. For Printer specifications, please refer Sr. No 2 of Addendum No 4.
14	Part 2 Section VI-B	3.5.1	12 of 28	Assemblies by Wash Plant Contractor: (a) Control Console at Depot Control Centre (Located Approx. 1 Km away) with cabling in suitable cable Ducts	In the view of incorporating new technology and elimination of infringement issues, we are connecting the Control Console at Depot Control Centre via WIFI and not via Cables. Hence, we request you to kindly permit the same and amend the clause accordingly.	Bid conditions prevail.
15	Part 2 Section VI-B	3.8.7. b)	14 of 28	b)The Contractor shall preferably use Indian detergents, otherwise Contractor shall propose equivalent Indian detergents within one (01) month of commissioning of the Plant.	The information on the local detergent they are using.	This is within Contractor's scope of work. Bid conditions prevail.
16	Part 2 Section VI-B	3.9.5	16 of 28	3.9.5 The consoles shall allow spare spaces for apparatus installation, such as intercom and telephone, etc. in the future.	Need clarification on how much space it will need.	This is a design stage activity and within Contractor's scope of work. The details shall be finalised during design stage in interface with System contractoe as per clause-Appendix 5, VI-A General Specification, Part 2 Bid conditions prevail.



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17	Part 2 Section VI-B	3.12	18 of 28	<p>Wash Apron</p> <p>3.12.1 The wash apron shall be designed by Wash Plant Contractor with appropriate partitions, grating and drain valves for drainage of wastewater, the drainage of storm water and collection of recycled water. The wash pit/apron shall be designed with reinforced concrete structure for the support of the railway track running through the facility.</p> <p>3.12.2 On approval of wash apron design, wash apron will be constructed by Interfacing Civil Depot Contractor.</p>	<p>Make sure that local engineer understand the scope on this "Wash Apron", the design has to be provided, the construction is by others. This has to be done locally on the design to comply with local requirement and code</p>	<p>This is within Contractor's scope of work.</p> <p>Bid conditions prevail.</p>
18	Part 2 Section VI-B	3.14.1	18 of 28	<p>Remote Surveillance System:</p> <p>3.14.1 Remote downloading of the diagnostic and status/ health of machine, through wi-fi and RS-485 or latest communication links access as agreed by the Project Manager, shall be provided within the depot premises. Necessary arrangement for this purpose shall be provided by the Employer (wifi link, server etc.) so that commercially available laptop/ mobile can be connected for the same.</p>	<p>Need clarification on this, who is supplying the license on the program for communication, is there any requirement on the PLC and HMI manufacture. Will Siemen acceptable?</p> <p>Who is supplying the license on the software?</p>	<p>The software license for the software required for the Wash Plant shall be provided by the Contractor. Proven sources of PLC and HMI shall be acceptable</p> <p>Bid conditions prevail.</p>



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19	Part 2 Section VI-B	3.14.3 (a)	18 of 28	<p>The remote surveillance system shall have following characteristics/ features:</p> <p>(a) A PC with software along with a graphic interface shall be provided. All layout and control functions required for record and display of Wash Plant data shall be provided as detailed below.</p> <p>b) Facilities to be provided for information related to Wash Plant functioning and recording of following data:</p> <ul style="list-style-type: none"> • Wash Plant choice (WASH/NO WASH), • Wash Type (FULL WASH/ SIDE WASH) • Rotating brush functioning- rpm, pressure, • Number of washing cycle completed during desired period, • Number of washing cycle completed in terms of trains, • Washing timing and consumption display (water, softened water, detergent, etc.), • Alarms, and • Preventive Maintenance notifications. <p>c) It shall have the facility of extracting required data for analysing in excel worksheet.</p> <p>d) It shall have the facility of automatic production of statistics for daily, weekly, monthly and yearly operation of Wash Plant.</p>	<p>In automatic operational mode of ATWP with driverless Trains, we recommend to monitor the status of Operation & ATWP via IP Cameras. Therefore, we propose to add the following clause to the requirement of remote surveillance system as follows:</p> <p>“The software shall be provided with the possibility to integrate IP cameras for ATWP Monitoring.”</p> <p>We request you to kindly amend the clause accordingly.</p>	<p>Please refer Sr. No 4 of Addendum No 4.</p>



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20	Part 2 Section VI-B	3.16.6	20 of 28	Minimum 6 (six) vertical brushes (3 pairs) shall be provided for cleaning of side walls and 2 (two) horizontal brushes for cleaning of front and rear. The speed of brush cylinder shall suit the requirements of desirable level of washing.	"2 horizontal brushes for cleaning front and rear", will vertical wrap around brushes or high pressure water system be allowed? (need to have the profile of the front and back of the train) . This is very critical if we cannot use the vertical wrap around brushes WE WILL NOT BE ABLE TO BID ON THIS. The specification specify drive thru wash process and the train is power on the top with Pantograph, horizontal brush will create safety problem.	Please refer Sr. No 5 of Addendum No 4
21	Part 2 Section VI-B	3.17.5	20 of 28	Pumps indicative capacity of each section is mentioned below. The Contractor shall mention proposed capacity in their Bid. Capacity may increase or decrease during detailed design as per actual site conditions and shall be approved based on submission of design calculation at the design stage	The pumps information only reference to the electric motor size, there is no volume/pressure information. If the pumps motor size is bigger than the list will the site can accommodate the power supply.	We have planned for maximum of 110 KW of power supply for the complete Wash Plant. Bidders are expected to use equipment requiring as less power as possible. Bid conditions prevail.
22	Part 2 Section VI-B	3.20.2	21 of 28	Spray jets, brushes, brush drive gear and other equipment shall be accessible by fixed lockable safety ladders and walkways that shall be provided to ensure routine inspection and maintenance. The interval of such maintenance should be seven days or more. No electrical overhead equipment or wiring should be accessible from these ladders and walkways.	Need clarification on this, are they requiring plat form for maintenance. This can be very expensive.	Maintenace platform is not required but all the equipment at height shall be accesable for maintenance through fixed locable safety ladders. Bid condtions prevail.
23	Part 2 Section VI-B	3.20.3	21 of 28	Suitable number (Minimum six) of weatherproof LED floodlights of at least 100 W each and IP 66 based along with rigid support poles, etc. of reputed make shall be provided to enable adequate illumination for maintenance work when required to be carried out during night and for inspection of wash process.	Is this part of the Wash Apron?	Yes, it is a part of Wash Plant and shall be installed along the Wash Apron /Wash bed by the Contractor. Bid conditions prevail.



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24	Part 2 Section VI-B	3.21.1	22 of 28	c) Before despatch of Wash Plant to the site, checks and tests shall be carried out on the Equipment and its sub-assemblies by the Employer's representative in the manufacturing works to ensure that the supply is in accordance with the technical specification and with the approved design documents.	Who is paying for the inspection expenses on visiting the factory? Need the clarification on how many staff member. Complete testing of the equipment package in the factory with water is not possible. Please get the understanding on this matter.	Refer Clause No 23.2, Section VII, General Conditions of Contract, Part 3, wherein complete details are indicated. In Factory the Check & Test shall be carried out as per clause 3.21.1, Section VI-A, Part 2. Bid conditions prevail.
25	Part 2 Section VI-B	3.23.2	23 of 28	In the event of lack of water, the pumps of the corresponding stations shall get shut down automatically and the corresponding brushes shall be retracted.	For effective monitoring and control of water level, all tanks shall be provided with ultrasonic sensors for accurate level controls. We request you to kindly amend the clause accordingly.	Please refer Sr. No 6 of Addendum No 4
26	Part 2 Section VI-B	4	24 of 28	Comprehensive Maintenance Service during DLP and Post-DLP.	Please make sure to get clear understanding on this section on providing the service and maintenance (N/S Corp. engineer will provide the training to you during the installation and start up).	Please refer Clause 4, Section VI-B and Section X for all requirements related to the Comprehensive Maintenance of the Wash Plant. Bid conditions prevail.

