## MMRC

## MUMBAI METRO RAIL CORPORATION LIMITED

(A JV company of Govt. of India and Govt. of Maharashtra)

5th Floor, A - Wing, Old MMRDA Building, Bandra-Kurla Complex, Bandra (E), Mumbai - 400 051.

MMRC e-Tendering portal: www.tenderwizard.com/MMRC

Website: www.mmrcl.com

Invitation of Bid For, "Design, Manufacture, Supply, Installation, Testing and Commissioning of E&M works comprising of Electrical Sub Stations with HT and LT works, Ventilation and Air Conditioning Systems (VAC), Fire Detection Systems, Fire Suppression (Fire Fighting) Systems, Building Management System (BMS), EOT cranes, Air-Compressors including compressed air piping works and Plumbing Pumps for the Depot Buildings including OCC and at grade Aarey Station for "Mumbai Metro Line -3"

**Date:** [07<sup>th</sup> February 2018]

**Contract No: [MM3-CBS-DEM]** 

## Addendum No: 8

Sr. No	Reference Clause no. and Description	Exist	ing content to be deleted	T	To be replaced as
1.	Sr. No 1 of Addendum -5 Volume1,Section 1, NIT Clause 1.1.2 KEY DETAILS, Approximate Cost of work, Page 1 of 10	INR 61,99,92,389/	-	INR 61,87,18,739	9/-
2.	Sr. No 1 of Addendum - 7. Volume1,Section 1,NIT Clause 1.1.2 KEY DETAILS, Page 1 & 2 of 10	Tender documents on sale  Date & time of Submission of Tender  Date & time of opening of Tender (Tender Security + Technical)	From 24-07-2017 to 11-02-2018 (up to 18:00Hrs) on e-tendering website  12-02-2018 up to 1800 Hrs  14-02-2018 from 1100 Hrs	 Tender documents on sale  Date & time of Submission of Tender  Date & time of opening of Tender (Tender Security + Technical)	From 24-07-2017 to 19-02-2018 (up to 18:00Hrs) on e-tendering website  20-02-2018 up to 1800 Hrs  21-02-2018 from 1100 Hrs

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
3.	Attachment-11 to Addendum-5 Volume-6, Bill Of Quantities Page No xi Percentage Rate Tender Form (Envelop B1) column 3 (Bid Estimated Amount)	61,99,92,389/- (Rupees Sixty One crores Ninety Nine lakhs Ninety Two thousand and Three Hundred Eighty Nine only)	INR 61,87,18,739/- (Rupees Sixty One Crores Eighty Seven Lakhs Eighteen Thousand Seven Hundred Thirty Nine Only)
4.	Page No 1 of 326 Project Sum - Cost Estimate For - Aarey Station and Depot with OCC Building		
	PART-B (Aarey Depot Building)	Amount (Rs)	Amount (Rs)
	B.1 ELECTRICAL LT (DEPOT) B.2 FIRE DETECTION AND FIRE FIGHTING SYSTEM B.3 EOT CRANE /COMPRESSOR B.5 BUILDING MANAGEMENT SYSTEM TOTAL of PART-B (Aarey Depot Building) PART-C (OCC Building) C.1 ELECTRICAL LT (OCC) C.2 FIRE DETECTION AND FIRE FIGHTING SYSTEM C.3 VAC SYSTEM C.6 SPARES (CABLES & LIGHT FIXTURE)	15,05,43,426 3,71,57,784 4,16,63,681 2,00,86,104 26,62,84,918 9,98,16,622 3,42,19,778 6,34,42,779 39,41,501	14,95,09,681 3,71,35,839 4,17,13,089 1,99,34,973 26,51,27,505 9,98,15,790 3,42,18,333 6,34,29,734 38,52,780
	PART-D (Aarey Station) S.1 ELECTRICAL LT (STATION) S.2 FIRE DETECTION AND FIRE FIGHTING SYSTEM S.3 BUILDING MANAGEMENT SYSTEM  TOTAL PART-D (Aarey Station) GRAND TOTAL FOR AAREY STATION, DEPOT AND OCC	21,31,08,056 4,62,13,240 2,33,17,891 92,65,883 8,36,96,739 61,99,92,389	21,30,04,014 4,62,00,272 2,34,23,432 91,61,115 8,36,84,544 61,87,18,739

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
5.	Page No 2 of 326		
	DEP-SUM Part A(HT-Systems) & Part B		
	(Aarey Depot Buildings)		
	B.1 PART-B-ELEC. LT SYSTEM		
		Amount (Rs.)	Amount (Rs)
	B.1.1 MV Switchgear	2,16,55,046	2,16,64,166
	B.1.3 Distribution Cables	3,70,07,882	3,59,70,489
	B.1.6 Highmast & Street light pole	47,75,936	47,70,464
	Total of <b>B.1</b>	15,05,43,426	14,95,09,681
	Page No 3 of 326		
	<b>B.2- FIRE DETECTION AND FIRE</b>		
	FIGHTING SYSTEM (DEPOT)		
	B.2.1 Fire Detection and Alarm System	33,79,989	33,82,062
	B.2.2 Fire Fighting System	2,44,25,587	2,44,01,569
	Total of <b>B.2</b>	3,71,57,784	3,71,35,839
	B.3 -EOT CRANE/COMPRESSOR		
	B.3.2 AIR COMPRESSOR WITH	1,59,51,768	1,60,01,176
	ACCESSORIES & COMPRESSED AIR		
	PIPING		
	Total of <b>B.3</b>	4,16,63,681	4,17,13,089
	B.5-BUILDING MANAGEMENT		
	SYSTEM(BMS)	20001101	
	B.5.1 BMS- DEPOT	2,00,86,104	1,99,34,973

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
6.	Page No 42 of 326 (PART-B DEP-LT)  S.No.11.12 - 250/200 Amps, 415V, Ics=50 kA, 4P, MCCB with variable overcurrent and short circuit releases and 1-set of three phase indicating lamps (red, yellow, blue).	Unit Price (Rs). Total Amount (Rs)  5 6 44,607 44,607	Unit Price (Rs). Total Amount (Rs)  5 6 49,167 49,167
	S.No.11.13 - 250/200 Amps, 415V, Ics=35 kA, 4P, MCCB with variable overcurrent and short circuit releases and 1-set of three phase indicating lamps (red, yellow, blue).  Page No.45 of 326 TOTAL E.01 (M V SWITCHGEAR)	Unit Price (Rs). Total Amount (Rs)  5 6 44,607 44,607  2,16,55,046	Unit Price (Rs). Total Amount (Rs)  5 6 49,167 49,167  2,16,64,166
7.	Page No 51 of 326, (PART-B DEP-LT)		
	S.No1.16 - 3 core 4sq mm CU conductor cable  S.No.1.17 - 3 core 6sq mm CU conductor cable	Unit Price (Rs). Total Amount (Rs)  5 6 264 3,62,336  Unit Price (Rs). Total Amount (Rs)  5 6 169 92,782	Unit Price (Rs). Total Amount (Rs)  5 6 169 2,32,375  Unit Price (Rs). Total Amount (Rs)  5 6 219 1,20,450
8.	Cubic		
	Page No 52 of 326, PART-B DEP-LT  i - 4 core 35 sq. mm Cu. Conductor cable Page 54 of 326 TOTAL FOR E.03 (DISTRIBUTION CABLES)	Unit Price (Rs). Total Amount (Rs)  5 6 4,482 12,32,550  3,70,07,882	Unit Price (Rs). Total Amount (Rs)  5 6 1,082 2,97,452  3,59,70,489

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
9.	Page No 66 of 326, PART-B DEP-LT		W. D. D. T. LA.
	Street Light Poles	Unit Price (Rs). Total Amount (Rs)  5 6  27430.97 21,67,047	Unit Price (Rs). Total Amount (Rs)  5 6  27362 2161575
	TOTAL FOR E.06 (Highmast & Street light pole )	47,75,936	47,70,464
10.	Page No 77 of 326, PART-B - DEPOT FIRE Detection & Suppression Systems Sl.No.7 Supply installation testing and commissioning of addressable analogue Talk Back jackcontd Page 79 of 326 TOTAL FOR F.01 Page No 81 of 326 Sl.No.1.8 Providing & fixing Stainless steel cabinet (to enclose FB connection, draw off connection & for external hydrants) fabricated from 16 g sheet contd Page No.87 of 326, TOTAL FOR F.02	Unit Price (Rs). Total Amount (Rs)  5 6 4,894 68,515  33,79,989  Unit Price (Rs). Total Amount (Rs)  5 6 10,262 61572	Unit Price (Rs). Total Amount (Rs)  5 6 5,042 70,588  33,82,062  Unit Price (Rs). Total Amount (Rs)  5 6 6259 37554
11.	Page No. 93 of 326, TOTAL  Page No 101 of 326, PART-B - CAS - BOQ - Depot Air Compressor and its Piping Network 3.4 Providing and fixing gunmetal ball a) 65 mm dia nominal bore b) 25 mm dia nominal bore Total -2	37157784  Unit Price (Rs). Total Amount (Rs)  5 6 6,858 34,290 4,934 1,23,352  33,83,574	37135839  Unit Price (Rs). Total Amount (Rs)  5 6 7,120 35,600 6,858 1,71,450  34,32,982
	GRAND TOTAL = ( TOTAL -1 + TOTAL-2)	1,59,51,768	1,60,01,176

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
12.	Page No 111 of 326 PART-B - BMS BOQ - Depot  S.N. 2.2		(Add following after last paragraph) Touch Screen LCD type Local control Panel directly mounted on the PLC Housing itself, with screen Guard protection A By-pass switch/es shall be provided to completely by-pass the PLC in the event of a total failure of the PLC and associated equipment to enable the normal operation of the equipment controlled by the PLC. Panels shall be fitted with a suitable pocket to contain circuit diagrams and other relevant definitive design drawings.
13.	Page No 115/116 of 326, PART-B - BMS BOQ - Depot S.N.8 WIRING AND CONDUITING 8.1 - 2C X 1.5 Sq.mm 8.2 - 4C X 1.5 Sq.mm. 8.3 - 12C X 1.5 Sq.mm 8.4 - 2C X 1.5 Sq.mm 8.5 - 4C X 1.5 Sq.mm. 8.6 - 12C X 1.5 Sq. mm TOTAL	Unit Price (Rs). Total Amount (Rs)  5 6 128 3,45,329 195 23,26,274 516 13,93,224 146 3,63,853 226 8,58,912 573 14,33,358  2,00,86,104	Unit Price (Rs). Total Amount (Rs)  5 6 125 3,37,500 191 22,76,720 504 13,60,800 142 3,55,000 221 8,39,800 560 14,00,000
14.	Page No. 119 of 326 PART-C (OCC Building) C.01- ELECTRICAL LT SYSTEM C.01.4 Conduit Wiring Total for C.01  C.02- FIRE DETECTION AND FIRE SUPPRESSION SYSTEM (OCC) C.02.2 Fire Fighting System C.02- FIRE DETECTION AND FIRE SUPPRESSION SYSTEM (OCC) Page No. 120 of 326	95,27,198 9,98,16,622 1 ,01,44,783 3 ,42,19,778	95,26,367 9,98,15,790 1,01,43,338 3,42,18,333

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
	C.03 - VAC SYSTEM WITH AIR COOLED CHILLER (OCC) C.03.3 VENTILATION SYSTEM Total for C.03 C.06 - SPARES (CABLES & LIGHT FIXTURE) C.05.1 Distribution cables C.05.2 Light Fixtures Total for C.06	45,57,805 6,34,42,779 1 8,72,052 20,69,448 3 9,41,501	45,44,760 6,34,29,734 17,84,653 20,68,127 38,52,780
15.	Page No. 161 of 326 PART-C - 'SCHEDULE OF QUANTITIES -OCC - LT S.No. 1.1.3 MCB Control with 3 x 4 sq.mm wire Page No. 166 of 326  TOTAL FOR E.04 (CONDUIT	Unit Price (Rs). Total Amount (Rs)  5 6  8317 109784	Unit Price (Rs). Total Amount (Rs)  5 6  8,254 1,08,952
16.	WIRING)  Page No. 188 of 326 Sl.No1.19.3 Providing and fixing inspector's test assembly complete with test value, sight glass sectional drain valve union with corrosion resistant orifice all complete  Page No. 191 of 326, TOTAL FOR F.02	Unit Price (Rs). Total Amount (Rs)  5 6 9,819 49,095  1,01,44,783	95,26,367  Unit Price (Rs). Total Amount (Rs)  5 6 9,530 47,650  1,01,43,338
	Page No. 203 of 326,TOTAL	3,42,19,778	3,42,18,333
17.	Page No. 228 of 326 Sl.No. e) Capacity 2000 i) Capacity 3200 Page No. 228 of 326 TOTAL OF HEAD H.03	Unit Price (Rs). Total Amount (Rs)  5 6 14,248 56,993 17,928 1,97,210  45,57,805	

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
	Page No. 232 of 326 TOTAL OF ALL HEADS	6,34,42,779	Unit Price (Rs). Total Amount (Rs)  5 6 10,996 43,984 17,925 1,97,175 6,34,29,734
18.	Page No. 242 of 326, S.N.2.4 b) 25 mm dia nominal bore	Unit Price (Rs). Total Amount (Rs)  5 6 4,934 24,670	Unit Price (Rs). Total Amount (Rs)  5 6 6,858 34,290
	Page No. 243 of 326, Total -1	15,84,993	15,94,612
	GRAND TOTAL = (TOTAL - 1)	15,84,993	15,94,612
19.	Page No. 244 of 326,  PART-C - SCHEDULE OF SPARE QUANTITIES -OCC – LT  S.01 DISTRIBUTION CABLES 1 FRLS Cable	Supply of 1100 V grade, armoured, FRLS, XLPE, aluminium (AL) / Copper (CU) conductor cables on existing trays / walls/columns/ indoor including the cost of supply and fixing, crimping lugs, double compression and weather proof brass glands, Earthing lugs and shrouds, supports with suitable clamps, saddles, hooks, bolts etc. & in ground/ trenches including the cost of proper dressing of cables, markers providing identification tags, sand filling etc. (cost of excavation, sand & bricks, included here) earthing of glands armouring etc. complete as per specifications as required and as below.	Supply of 1100 V grade, armoured, FRLS, XLPE, aluminium (AL)/Copper (CU) conductor cables as below
20.	Page No. 246 of 326,  PART-C - SCHEDULE OF SPARE QUANTITIES -OCC – LT  S.01 DISTRIBUTION CABLES 2 Fire Survival Cables	Supply, of 1100 V grade, armoured, FIRE SURVIVAL CABLE, XLPE, Copper (CU) conductor cables on existing trays / walls/columns/indoor including the cost of supports with suitable clamps, saddles, hooks, bolts etc. & in ground/trenches including the cost of supply and fixing, crimping lugs, double compression weather proof flame proof brass glands, Earthing lugs and shrouds, proper dressing of cables, markers providing identification tags, sand filling etc. (cost of	Supply, of 1100 V grade, armoured, FIRE SURVIVAL CABLE, XLPE, Copper (CU) conductor cables as below

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
		excavation, sand & bricks, included here) earthing of glands armouring etc. complete as per specifications as required and as below.	
21.	Page No. 245 of 326 PART-C - SCHEDULE OF SPARE QUANTITIES -OCC – LT S.No.1.16 - 3 core 4 sq mm CU conductor cable Page No. 246 of 326 S.No.2 Fire Survival Cable i - 4 core 240 sq. mm Fire Survival Cu. Conductor cable  TOTAL FOR S.01 (DISTRIBUTION	Unit Price (Rs). Total Amount (Rs)  5 6 198 37488  Unit Price (Rs). Total Amount (Rs)  5 6 4,482 3,69,765	Unit Price (Rs). Total Amount (Rs)  5 6 127 24042  Unit Price (Rs). Total Amount (Rs)  5 6 3,586 2,95,812
22.	Page No 250 of 326 PART-C - SCHEDULE OF SPARE QUANTITIES -OCC – LT S.No.1.11 47W High power LED Decorative Post Top with 1600 lm neutral white output having contd a) Supply of above given items  TOTAL FOR S.02 (LIGHT FIXTURE)	Unit Price (Rs). Total Amount (Rs)  5 6 13,217 13,217	17,84,653  Unit Price (Rs). Total Amount (Rs)  5 6 11,895 11,895  20,68,127
23.	Page No. 251 of 326 STN- SUM- PART-D (Aarey Station) S.01 - ELECTRICAL LT SYSTEM FOR AAREY STATION  E.01 MV Switchgear E.06 Protective Earthing S.01 - ELECTRICAL SYSTEM FOR AAREY STATION	1,15,98,811 26,39,624 4,62,13,240	1,15,95,872 26,29,594 4,62,00,272

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
	S.02-FIRE DETECTION AND FIRE FIGHTING SYSTEM F.05 Portable Fire Extinguishers S.02-FIRE DETECTION AND FIRE FIGHTING SYSTEM	2,53,287 2,33,17,891	3,58,828 2,34,23,432
	Page No. 252 of 326 S.03-BUILDING MANAGEMENT SYSTEM B.01 BUILDING MANAGEMENT SYSTEM S.03 - BMS FOR AAREY STATION	92,65,883 92,65,883	91,61,115 91,61,115
		8,36,96,739	8,36,84,544
24	Grand Total		
24.	Page 276/277 of 326,PART-D - STATION – LT  S.No. n) - 5-32A FP MCB 10 kA	Unit Price (Rs).       Total Amount (Rs)         5       6         3,888       3,888         4,572       4,572         3,611       3,611         4,288       4,288         1,900       1,900         2,308       2,308         874       874         1,160       1,160         3,858       3,858	Unit Price (Rs). Total Amount (Rs)  5 6 3459 3459 4067 4067 3215 3215 3797 3797 1691 1691 2051 2051 778 778 1032 1032 3430 3430
25	TOTAL E.01 (M V SWITCHGEAR)	1,15,98,811  Unit Price (Rs). Total Amount (Rs)	1,15,95,872
25.	Page No. 293 of 326 S.No.2.1 Supply, laying, testing and commissioning of 30 mm dia copper rod, laying of vertical earth electrodes 3 m deep contd	Unit Price (Rs).         Total Amount (Rs)           5         6           15,844         3,48,576	Unit Price (Rs).         Total Amount (Rs)           5         6           15,482         340604
	Page No. 294 of 326, 3.6, 70Sqmm single core Copper cable for clean earthing	Unit Price (Rs).         Total Amount (Rs)           5         6           542         89,508	Unit Price (Rs). Total Amount (Rs)  5 6 530 87450

Sr. No	Reference Clause no. and Description	Existing content to be deleted	To be replaced as
	-	26,39,624	26,29,594
	TOTAL FOR E.06		
26.	Page No. 311 of 326		
	PART-D - Station - Fire		
	<b>S.N.1.2</b> - Carbon dioxide extinguisher		
	conforming to relevant IS with high	Unit Price (Rs). Total Amount (Rs)	Unit Price (Rs). Total Amount (Rs)
	pressure discharge tube, horn, control	5 6	5 6
	valve, IS marked including clamps etc.	4521 180824	6787 271480
	4.5 kg capacity extinguisher		
	<b>S.N.1.4</b> Providing and fixing fire		
	extinguishers water type of Capacity 9 liter	Unit Price (Rs). Total Amount (Rs)	Unit Price (Rs). Total Amount (Rs)
	with internal plastic fitting and ISI marked	5 6 1874 3749	5 6 2728 5456
	as per IS-940 with Gun metal Cap Co2	18/4 3/49	2/28 5450
	cartridge and Initial refil.		
	<b>S.N.1.5</b> Providing and Fixing Co2 gas type	Unit Price (Rs). Total Amount (Rs)	Unit Price (Rs). Total Amount (Rs)
	trolley mounted fire extinguisher of	5 6	5 6
	capacity 22.5 kg with ISI marked and as	14223 28447	20812 41624
	Item IS 2878with discharge nozzle and		
	initial refil.		
	Page No. 312 of 326,TOTAL FOR F.05	2,53,287	3,58,828
	Page No. 316 of 326,TOTAL	2,33,17,891	2,34,23,432
27.	Page No. 320 of 326		
	PART-D-AAREY STATION BMS	Unit Price (Rs). Total Amount (Rs)	Unit Price (Rs). Total Amount (Rs)
	S.N.4.1 e Level sensor	5 6	5 6
		62,910 1,25,820	10,526 21,052
	Page No. 322 of 326,		
	TOTAL	92,65,883	91,61,115