MAHARASHTRA METRO RAIL CORPORATION LIMITED
(Jointly owned company of Government of India and Government of Maharashtra)
Clarification
TENDER NO.: Tender No. N2-057/RS-01/2025, Dated 07.03.2025

Sr. No	Volume No./ Part No	Clause No.	Bid Condition	Bidder's Queries	Response/Remarks
1	Part-1 Annexure IV A- Pricing Document	A.5 Price Variation	A.5 Price Variation	We could not find Price Variation for CAMC. Please include the same. We recommend using the price variation formula used by Delhi Metro / Bangalore Metro for the purpose.	Refer corrigendum-2 /S.No. 17
2	Part-1 Annexure IV A- Pricing Document	Price variation A.5.7	The " adjustment of changes in cost " shall be limited to 10% of the portion of contract on which price variation is payable/applicable	The intent of this subclause is not clear and create confusion. Please delete.	The clause is self explanatory
3	Part-1 Annexure IV A- Pricing Document	Price Variation A 6.1	The Employer at its discretion may advise the Contractor in writing about increase of the total quantity upto 14 complete train-set of 3-car. For any increase in quantity, Employer may exercise the option on any date **before six months of the end of DLP**(Refer summary of section-Contract Data). The Contractor shall be required to supply increased ordered quantities at the contracted terms and conditions and determined prices as detailed in Para A.6.2 and A.6.3 below and no additional amount on account of quantity variation or escalation or any other account whatsoever shall be payable to the Contractor.	The variation quantity proportion as part of base order quanity is very high and veriation qty is almost equal to base qty. As per calculation in line with the clause, Maha Metro can place the variation quantity until 1530 days from commencement date which is more than 4 years. It is not possible to hold the price for variation quanity for such a long periods. It is requested to amend the time period for exercing option to any date before one year of the scheduled delivery of the last trainset of the base order quantity, which is the standard clause in metro tenders	Refer corrigendum-2 /S.No.1
4	Part-1 Annexure IV A- Pricing Document	A 6.4	MAHA-METRO shall reimburse the 'taxes and duties' for the variation quantity as detailed above. The reimbursement of 'taxes and duties' actually paid shall be restricted to the amount of 'taxes and duties' applicable for the quantities actually supplied to the Employer calculated on pro-rata basis from the 'Taxes & Duties' for the Contract submitted by the Bidder in the 'Appendix to Bid Total' page of Pricing Document.	As per BDS, ITB 14.15 (new para), it is our understanding that The applicable GST and any other tax / duty would be included in the Bid Price and no tax reimbursement would be provided by MAHA-METRO to the Contractor. In light of the above, we could not understand "reimbursement" of taxes and duties for variation quantity. Pls clarify and amend the clauses.	Refer corrigendum-2 /S.No-14
5	Part-1 Annexure IV A- Pricing Document	COST CENTRE No. G: Unit Exchange Spares, Mandatory Spares, Recommended Spares,	Cost centre G will be only considered for price bid evaluation only. Spares will be procured after competition of CAMC. Contractor to furnish current price of the spares in BID. Spares will be procured after completion of CAMC at escalation rate of 05% for Indian rupee and 02% for foreign Currency per annum.	The approach mooted in the clause is not practicable. Fresh procurement of Spares after completion of 15 years CAMC is not technically possible. Instead we suggest the following alternative, (1) Maha Metro may purchase the listed spares before CAMC commencement which will be under the custody of the Contractor and used by the Contractor as standby spares for undertaking CAMC obligations. At the end of CAMC period, the contractor shall handback all the listed spares to MahaMetro in working condition. In this approach, Maha Metro may eliminate the minimum UES/Emergency Spares which were separately furnished under 'Annexure 'CAMC'.	Refer corrigendum-2/S.no- 10
6	Part-1 Annexure IV A- Pricing Document	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract	Payment of CAMC will be made quarterly. The tenderer shall quote the Lump Sum Annual Maintenance Cost (in four quarters) for the described scope of works as per ERGS Chapter 16 during the CAMC as per the attached milestone schedule for cost Centre I	How is the CAMC payment made when all trains does not enter the operations (i.e when only some of the trains are in operation)?	Refer corrigendum -2 / S.No-2
7	Part-1 Annexure IV A- Pricing Document	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract	The list of minimum UES/Emergency spares that will be stocked by the contractor during CAMC for commissioning and CAMC obligations and shall be furnished separately under 'Annexure CAMC' (Not a part of Cost Centre 'I' and shall not be used for tender evaluation)	At the end of CAMC period, is it necessary to hand back these spares to Maha Metro?	Refer corrigendum -2 / S.No-2
8	Part-1 Annexure IV A- Pricing Document	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract	Notes 4: Discounted cost will be used for financial evaluation of the bid.	The modalties of calculating discounted cost were not spelt out. Please clarify.	Refer corrigendum -2 / S.No-2
9	Part 2 Works Requirement - General Specification	15.1 General	The Contractor shall provide for the use of the Engineer office accommodation, equipment, communication and drawing facilities throughout the course of the Works and for so long a period of time during the defects liability period & CAMC Period as the Engineer may require.The details of the accommodation and other facilities are as under:	The requirements appear to be incomplete and vague. Please clearly spelt out the requirements.	Refer Corrigendum-2, S.no. 18

MAHARASHTRA METRO RAIL CORPORATION LIMITED
NAGPUR METRO

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Clarification
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Sr. No	Volume No./ Part No	Clause No.	Bid Condition	Bidder's Queries	Response/Remarks
10	Part 2 Works Requirement - Technical Specification	7.2.4.3(v); 4.14.3	7.2.4.3(v): At the centre of each door, (both exterior as well as interior) suitable LED indication lamp, duly approved by the Engineer shall be provided to indicate door status (including isolated state). The lamp shall flash during opening / closing and shall be in ON position during open / isolated condition. **LED strip of 1.2 mtr or to the height of door window glass shall be provided on each side of the door leaf inside saloon to indicate the door open / close status.** 4.14.3: Each car shall have minimum eight pairs (four per side) of electrically operated, plug type door or externally hung, sliding bi-parting doors, (See Chapter 7).	**Concern:** Clause no. 7.2.4.3(v) is asking for LED strip of 1.2mtr or height upto door window will be challenging in lieu of externally hung, sliding bi-parting doors as per clause no. 4.14.3. Major challenge are integration of power supply to LED strip, maintenance of door during failed LED strip, interference with sidewall during opening or closing which will lead major deterioration of sidewall, door leaf, power supply cables. As purpose of door opening or closing indication are already covered by door lamp (interior & exterior both). In view of asthetic, it will sound but deterioration in operational & maintenance of door with failed LED strip, door and sidewall. **Clarification required:** Bidder request to modify the clause 7.2.4.3(v) as below: "At the centre of each door, (both exterior as well as interior) suitable LED indication lamp, duly approved by the Engineer shall be provided to indicate door status (including isolated state). The lamp shall flash during opening / closing and shall be in ON position during open / isolated condition." **OR** "At the centre of each door, (both exterior as well as interior) suitable LED indication lamp, duly approved by the Engineer shall be provided to indicate door status (including isolated state). The lamp shall flash during opening / closing and shall be in ON position during open / isolated condition.LED strip of 1.2 mtr or to the height of door window glass shall be provided on each side of the **plug type** door leaf inside saloon to indicate the door open / close	For 4.14.3(v) Refer Corrigendum-2, S.no. 43 For 7.2.4.3 Tender condition prevails
11	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 5 & 6	5 **Time for Completion** 1.1.3.3 Refer to Table: Summary of Sections (Key date) attached as Annexure I. 1-For supply testing & commissioning of 16 nos trainsets- 156 week from date of issue of LOA or Letter to proceed. 2- For CAMC period - 15 years including DLP after start of CAMC 6 **Defects Notification Period (Defect Liability Period) and CAMC period** 1.1.3.7 1- Defect Liability period will be 24 months from date of induction in revenue service of individual train set. 2- CAMC for 15 years will start from date of induction in revenue service of individual trainsets. 3- DLP/CAMC period of increased quantity if any shall also be worked out accordingly.	Since CAMC of 15 years start for individual trainsets, it is our understanding that CAMC period also gets completed gradually, trainset wise. Please confirm our understanding	The clause is self explanatory
12	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 22	..... The performance security amount will be progressively decreased and finally released as under: □ upto 20% reduced when all the 16 trains are inducted in Revenue Operation . □ further 30% reduced by end of completion of DLP period of 8 trains. □ the balance 50% shall be released as provided for in PCC Clause 4.2 Note:-PBG will be Released in above sequence.	Since the contract includes CAMC scope and that CAMC performance security is separately provided, we request to release the supply period performance security as per below: The performance security amount will be released as under: □ 100% amount when all the 16 trains are inducted in Revenue Operation. Accordingly, the clause at SL No. 2, Part B - Specific provisions also to be amended suitably.	Tender condition Prevails
13	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 51	..... All Policy shall be obtained within Four weeks from 'date of commencement' and shall be valid for five years after date of issue of 'Performance Certificate'.	Since the contract includes CAMC scope for 15 years, we request the following change: All Policy shall be obtained within Four weeks from 'date of commencement' and shall be valid for five years after date of induction into revenue operation of all 16 trains. Accordingly, the clause at SL no. 58 of Part B - Specific Provisions shall also have to be modified.	Refer corrigendum -2 / S.No-3
14	Part-3 Section VIII. General Contract Conditions	11.9	Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract. The Engineer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer. Only the Performance Certificate shall be deemed to constitute acceptance of the Works.	Since the contract includes CAMC scope for 15 years, we request to separate the Performance Certificates for Supply period and CAMC period	Agreed.
15	Part 2 Works Requirement - General Specification	2.2 (vii)	The Project Manager shall be continuously on site in Nagpur and devote himself fulltime to the Project, commencing not later than Thirty (30) calendar days from the date of the Commencement Date and shall continue up to the end of Defects Liability Period.	Please confirm that there is no requirement of project manager position during the CAMC period.	Tender condition Prevails
16	Part-1	Volume 1 / Annexure IV A. Pricing Document 2.2 (xii)	The Contractor shall position the Design Manager at Nagpur site from receipt of prototype train till expiry of warranty.	Since the propspective bidders are based in India, we do not see requirement of the clause. The work can be accomplished through deputations on need basis and other members of project team. Request to delete the requirement.	Tender condition Prevails

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17	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part B - Specific Provisions, SL No. 57	The Contractor shall take Comprehensive All Risk (CAR)/EAR(Erection all risk) insurance policies duly covering Marine/Transit, Erection cum Storage insurance of cars for value equivalent to the contract value with deductibles not exceeding one (01) percent value. Insurance policy shall be valid till three months after expiry of DLP. The policy shall include insurance for the complete contract value.	As per our insurance consultant, it is understood, Deductibles are guided by regulation For ex. deductables for Storage & Erection Claims is 5 % of the claim amount In view of the above, it is requested to not explicitly mention dedcutibles in tender document. Deductible amount shall be discussed and agreed as per applicable regulation after the award of the contract. Please amend accordingly.	Tender condition Prevails
18	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part B - Specific Provisions, SL No. 70	The Contractor shall submit a Safe Custody Bank Guarantee in the format given in Section X. Contract Forms againstpayments made for Plant and Equipment received at site . Theamount of safe custody Bank Guarantee shall be equal to 95%percent of the amount due as per relevant clause whereverapplicable. The value of the Safe Custody Bank Guaranteewould be adjusted for the equipments already commissioned.	The purpose of this clause in rolling stock contract is not understood. This is also not prevalent in rolling stock tenders. Please delete the clause.	Refer corrigendum -2 / S.No-4
19	Part-1 Annexure IV A- Pricing Document	Attachment to Bid Total DETAILS OF TAXES / DUTIES / LEVIES ETC. INCLUDED IN THE FIXED LUMPSUM PRICE	Notes: The Bidder is required to give in its Bid offer breakdown of fixed lump sum price (without any adjustment) 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 (Appendix J) along with rate of Customs duty. (c) GST on supplied assembled / manufactured components, material 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 (Appendix J) along with rate of GST. (e) GST on maintenance contract items **(Appendix M: O**PT – Optional Items) along with applicable tax rates	We could not find Appendix J and Appendix M referred in the adjacent notes. Please clarify.	Refer Corregendum-2 / S.no 5
20	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 49	49 | **Periods for submission of insurance:** a. evidence of insurance. b. relevant policies | 18.1 | 14 days from Commencement Date 28 days from Commencement Date	The cited periods of 14 days and 28 days are stringent. Also insurance coverage is not relevant during nascent stages of the contract. Hence we propose to change both the time periods to "12 weeks from commencement date"	Tender condition Prevails
21	Part 2 Works Requirement - General Specification	16.5.8	At least three (3) months prior to the end (or early termination) of the CAMC period the Contractor shall restore inventory levels to the quantities defined in the approved lists. The Contractor shall also ensure that the entire inventory is in full working / serviceable condition before handing all the Spares assets back to MAHA METRO.	Please clearly indicate the required level of inventories for restoration (say, 3 months or other)	Tender condition Prevails
22	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 48	48 | **Insurance cover for Contractor's All Risk / EAR (Erection all risk) and other requirements as specified in the GCC** | 18 | 100% of the Total Contract Price excluding CAMC cost	Please clarify whether total contract price for insurance purpose, is including taxes & duties or excluding taxes & duties.	Yes, it is including Taxes & duties
23	Part-1 Annexure IV A- Pricing Document	Attachment to Bid Total DETAILS OF TAXES / DUTIES / LEVIES ETC. INCLUDED IN THE FIXED LUMPSUM PRICE	BOCW Cess	Please clarify if BOCW cess is applicable on supply and CAMC of rolling stock	BOCW is not applicable on supply item but applicable on services part.
24	Part 2 Works Requirement - General Specification	16.1.4 Pg 56/97	Assets having an OEM rated design-life (As defined in contract) that will lapse during the course of the CAMC period shall be replaced by the Contractor (on or before expiry) as part of the obligations of this CAMC Contract at no additional cost to MAHA METRO	Regarding replenishments / replacements of consumables and worn-out items,Condition / performance based Replenishment and replacements should be encouraged and also mentioned as an additional option in addition to time based or distance based replacements. Rolling Stock maintainer shall be free to adopt any one strategy out of time based or distance based or condition based. To avoid unnecessary replacement even the equipment is going to perform its desired function. Please amend the clause accordingly.	Tender condition Prevails

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25	Part 2 Works Requirement - General Specification	16.1.2	Asset categories "Spares" and "Tools" shall include all types of Spares and Consumables,Special Tools, Jigs, Fixtures, Gauges, Testing and Diagnostic Equipment, Mechanical & Electrical Measuring and Testing Equipment, Mechanical, Pneumatic and Electric Tools, test benches and any other items required for all types of maintenance activities carried out on Rolling Stock . During the Maintenance Period (CAMC), the Contractor shall, at its own cost and expense,maintain sufficient stock of Spares and Consumables. The Contractor shall perform and conform to the full scope of Maintenance Requirements for CAMC Assets; including the cleaning of Rolling Stock	Is there any Maha Metro defined list of items for each of the categories mentioned in the adjacent clause?	Tender condition Prevails
26	Part 2 Works Requirement - General Specification	16.5.2	Spares and Consumables (herein referred to only as Spares) shall include but shall not be limited to the following subcategories, as applicable to Rolling Stock assets, a) Unit exchange spares b) Mandatory spares c) Recommended spares; d) Consumable spares; e) Special Tools, Jig, Fixtures, Gauges, Testing and Diagnostic Equipment f) Overhauling Spares; g) Any other items required for maintenance (identified by the Contractor / MAHA METRO / OEM). Note: i. The contractor shall provide the complete list of spares as per above for final approval of Maha-Metro / Engineer separately for DLP and CAMC. ii. The contractor to ensure that the cost of spares used during DLP period shall not be part of spares used during CAMC.	It is our understanding that the Unit Exchange Spares, Mandatory Spares, Recommended spares mentioned in the clause are different from the Cost Centre G list provided in the Pricing Document. Please confirm our understanding.	Your understanding is correct. Refer Corrigendum-2/S.no- 10 &19
27	Part 2 Works Requirement - General Specification	16.5.14	The Contractor is responsible for all remedial action / upgradation required to remedy obsolescence throughout the full duration of the CAMC period and minimum 3 years after CAMC period. Obsolescence remedy shall follow the Contractor's change control process, which shall require MAHA METRO's prior authorisation for the remedial action to proceed.	Duration of CAMC is already 15 years. Also, contractor provide Maha Metro with sufficient spares at th end of CAMC period for future utilization. Obsolescence remedies beyond CAMC period is not possible. It is requested to modify the clause as below: The Contractor is responsible for all remedial action / upgradation required to remedy obsolescence throughout the full duration of the CAMC period ~~and minimum 3 years after CAMC period~~.	Tender condition Prevails
28	Part 2 Works Requirement - General Specification	16.8.2	The PREB team shall consist of at least 10 fully trained staff per shift who shall be strategically located throughout the network, so as to always ensure that incidents will be attended by PREB staff within 30mins of receiving a request to attend an incident	PREB team function when ever train derail or to attend main line reported faults . Dedicated manpower for each shift is not required for the purpose. We recommend to delete specific mention of the number of staff per shift in the adjacent clause, for efficient resource utilization	Tender condition Prevails
29	Part 2 Works Requirement - General Specification	16.1.6	Designated Depot(s) refers to (i) Mihan & Hingna, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) at terminal station (mostly for inspection, Preventive Maintenance,	Please indicate how many trains will be positioned at satellite depot? With break up of day time and Night time	There are 3 Satellite depots planned at R1,R2 and R4 terminal stations. The approx no. of train in stabling/Minor Mainatainece are planned for 4-8 train sets. Detail discussion can be done at design
30	Part 2 Works Requirement - General Specification	16.9.1	The Contractor shall agree that if any identical defect or deficiency occurs on more than 10% (ten per cent) of the equipment or parts of the Trainsets in any rolling period of 36 (thirty six) months commencing from the second year of Supply, such defect or deficiency shall be deemed to be an epidemic defect (the "Epidemic Defect") and the Contractor shall promptly take corrective actions for such Epidemic Defect under an epidemic defect warranty to be maintained by the Contractor for the CAMC (the "Epidemic Defect Warranty")	We request to limit "Epidemic Defect Warranty" only until the end of Defect Liability Period. This should not be applied to CAMC period as the performance parameters during CAMC period are separately defined along with penalties. Please modify the clause accordingly.	Tender condition Prevails
31	Part 2 Works Requirement - General Specification	16.5.2	Spares and Consumables (herein referred to only as Spares) shall include but shall not be limited to the following subcategories, as applicable to Rolling Stock assets, a) Unit exchange spares b) Mandatory spares c) Recommended spares; d) Consumable spares; e) Special Tools, Jig, Fixtures, Gauges, Testing and Diagnostic Equipment f) Overhauling Spares; g) Any other items required for maintenance (identified by the Contractor / MAHA METRO / OEM). Note: i. The contractor shall provide the complete list of spares as per above for final approval of Maha-Metro / Engineer separately for DLP and CAMC. ii. The contractor to ensure that the cost of spares used during DLP period shall not be part of spares used during CAMC.	At the end of the DLP period, it is our understanding that the unutilized DLP spares may be used for CAMC purpose. Please confirm our understanding.	Refer Corrigendum-2/S.no-19
32	Part 2 Works Requirement - General Specification	16.12.1	At the start of the CAMC Period, the Contractor shall supply twenty (20) diagnostic maintenance laptops of the same specification given in contract , which will be handed over to MAHA METRO	We propose the laptops shall be utilized by the contractor for CAMC purpose and handed over to MAHA METRO after CAMC completion in working condition. This shall result in resource optimation. Please consider.	Tender condition Prevails
33	Part 2 Works Requirement - General Specification	16.5.2	Spares and Consumables (herein referred to only as Spares) shall include but shall not be limited to the following subcategories, as applicable to Rolling Stock assets, a) Unit exchange spares b) Mandatory spares c) Recommended spares; d) Consumable spares; e) Special Tools, Jig, Fixtures, Gauges, Testing and Diagnostic Equipment f) Overhauling Spares; g) Any other items required for maintenance (identified by the Contractor / MAHA METRO / OEM). Note: i. The contractor shall provide the complete list of spares as per above for final approval of Maha-Metro / Engineer separately for DLP and CAMC. ii. The contractor to ensure that the cost of spares used during DLP period shall not be part of spares used during CAMC.	It is our understanding that the UES/Emergency spares listed under 'Annexure CAMC' is part of the spares mentioned in the adjacent clause. Please confirm our understanding.	Refer Corrigendum-2/ S.no-2
34	Part 2 Works Requirement - General Specification	15.3.1 (a)	Four Saloon Cars (of which one shall be provided at the commencement of the Works and the other as agreed by the Employer's Representative) of a type and colour approved by the Employer and having an engine capacity of at least 1600CC.	There are limited options for sedan cars with engine capacity of atleast 1600 cc. We request to reduce the threshold to 1400 cc instead.	Tender condition Prevails

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35	Part 2 Works Requirement - General Specification	6.6.1	With the exception of commercial, "Off The Shelf" Software, the Engineer shall be provided with full access to application software(s) and any other software / hardware tools which may be specifically required for the intended purpose specified in this specification. For commercial software the Contractor shall provide all available documentation for the application and maintenance of that software. In case any commercially available software has been modified for being used in the train, the same shall be supplied to all depots. Also in such case, the modification done shall ensure that the developed software shall work in the intended manner without any limitation whatsoever with the updated software versions and full backward integration shall be available. Complete documentation along with the software to be supplied by the Contractor shall comprise of Signal flow diagram, flow charts, functional blocks, details of signals, interpretations so as to enable Engineer to debug and implement vehicle / train level modifications based on experience in India and to carry out operational & maintenance requirements. Full access to the application software shall be provided for this purpose. It shall be possible for MAHA-METRO to modify / change various parameters / logics used in the software and implement the changes on trains. Full facilities including any software / hardware tools, simulation / test bench which are essential for this purpose shall be supplied. MAHA-METRO may depute their engineers during the TCMS software development. They shall be fully exposed and given hands-on experience of software modification, simulation and implementation. Details shall be finalised during design. Complete set of parameters along with necessary changes that may be required to be made in the supplied software, shall be furnished so that different makes of equipments if need be, can be integrated. It shall also be possible for Engineer to connect / interface additional peripheral equipment as required by MAHA-METRO with vehicle / train software or TCMS, as the case may be, and implement system integration for the same. Contractor shall demonstrate to entire satisfaction of the Engineer that MAHAMETRO will be able to integrate peripheral equipments of makes other than that have been used by Contractor in the train. Any hardware / software tool required for this purpose shall also be supplied. MAHA-METRO engineers shall be given the required training by the Contractor to the entire satisfaction of Engineer and made conversant with the software and other related issues as found necessary during the Contract execution. The documentation of software shall be supplied at the time of testing and commissioning of prototype trainset and this shall be considered as a pre-requisite for accomplishment of Key Date 6. The final document including all changes that may be done during the currency of the Contract shall be supplied after the expiry of the warranty period and this shall be considered as a pre-requisite for issue of Performance Certificate.	Any modification/change involves risk to the safety of the rolling stock & passengers. The parameters shall be as per specified values with authorization of OEMs. Any modification/changes in the software will be implemented by the OEMs during design stage. Based on prior experience, OEMs will only provide standard documents. Intellectual Property like flow charts, signal flows, logic, and interpretation of signal etc. will not be shared by sub-contractor/OEMs. In view of the above, requested to update the ERGS clause suitably.	Tender condition Prevails
36	Part 2 Works Requirement - Technical Specification	3.2.2	The rolling stock, including Car-body, bogies, brake system components (valves etc.) all subsystems, equipment and major components etc. (hereinafter referred as "sub-systems") shall be state-of-art and of proven design. Proposed sub-systems shall have been in use and have established their satisfactory performance and reliability on mass rapid transit systems in revenue service over a period of three years or more (in each MRTS) either outside the country of origin in one country or in metros in India. Subsystem / components used in existing rolling stock in Indian metros do not get automatically qualified for use unless specifically approved by the Engineer for this project. If required by the Engineer, Contractor shall provide certificate of satisfactory performance for a period of three years or more from the Metro operators. Where similar sub-systems of a different rating are already proven in service as per the above criteria then the design shall be based on such sub-systems.	We understand that the Metro's Rolling Stock includes Metro / 3 -phase - EMU / 3-phase MEMU/ Trainsets/RRTS/Semi or High speed trains. Similar to the other items such as Automatic Coupler, Compressor, Disc brake etc. mentioned in the ERTS document. Kindly confirm.	Tender condition Prevails
37	Part 2 Works Requirement - Technical Specification	6.7.2	All piping, fittings, fixtures shall be of stainless-steel conforming to the requirements of SUS 316 or equivalent with flare-less double flare compression fittings.	Flareless double flare pipe fittings do not exist. It is recommended toupdate the clause as flareless byte type double compression fittings (as per Din 2353) (this is as per standard practice in Metro rail applications)	Refer Corrigendum-2 / S.no. 45
38	Part 2 Works Requirement - Technical Specification	6.8.1	All driving cabs shall be fitted with analogue pressure gauge with life of more than 15 years which indicates: □ The pressure in the main reservoir pipe and brake pipe. □ The pressure in the brake reservoir and brake cylinder pipe. □ Pressure in the parking brake unit.	The pressure guages supplied for metros shall have a life of 8 years. The clause may be revised suitably.	Tender condition Prevails
39	Part 2 Works Requirement - General Specification	10.2.1	Maha metro will provide appropriate site office and store space to Contractor free of cost. furnishing shall be done by contractor as per requirements and as agreed.	Please provide the layout of space to be provided to the contractor including area details etc.	Contractor may kindly visit Maha Metro depots.
40	Part 2 Works Requirement - Technical Specification	6.13.15	The disc and brake pad shall be proven in EMU metro application. The friction characteristics of the brake pad material shall be tested on brake dynamometer, in both dry and wet conditions in the range of 0-100 kmph under various designed brake forces. The test scheme and acceptance criterion shall be submitted for review by the Engineer. The Tenderer shall furnish brief description of the proposed brake system along with the expected life of brake pads as well as disc on the wheels, based upon experience of other Metro Railways.	The expected life of brake pad cannot be given at this stage as this is specific to the operational conditions, The clause may accordingly be ammended.	Tender condition Prevails
41	Part 2 Works Requirement - Technical Specification	2.17.7	The Contractor shall also furnish the details of Power Quality for the regenerated energy including its harmonic analysis at all mode of operation at different loads (AW0, AW2, AW3).	Harmonic measurement does not depend upon load, it depends upon switching of power devices. So harmonic measurement can be done at any one load. We suggest to do it on AW3.	Refer Corregendum -2 /S.no.21
42	Part 2 Works Requirement - Technical Specification	10.3.2	The vehicle circuit shall be suitably designed to ensure that the Energy Consumption Measurements at specified points integrated over five minutes interval shall be done. Data of Energy Consumption Measurements of following shall be available in the TCMS for the previous 60 days period. The Energy Consumption data shall be stored in file, which can be exported in excel format through wi-fi / wired connection. It should be possible to obtain the Energy Consumption values for following between the users defined start time and end time (input shall also be possible from the VDU of TCMS) in the previous 60 days: Table 10.1: Energy consumption measurements 9. Energy consumption by HVAC during powering 10. Energy consumption by HVAC during non-powering	Energy measurement by HVAC may be deleted as the HVAC being the major load of Auxiliary Power Supply (SIV) and Energy consumption measurements are measured at SIV ((Powering, Coasting & Braking).	Tender condition Prevails

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Sr. No	Volume No./ Part No	Clause No.	Bid Condition	Bidder's Queries	Response/Remarks
43	Part 2 Works Requirement - Technical Specification	3.23.1 (i)	One serviceable fully loaded 3-car train with one pair of motors of a Motor Car isolated shall be capable of pushing a fully loaded defective 3-car train without parking brakes applied, on all Lines as per the specified route alignment up to the next station. Thereafter, the healthy train shall, after all the passengers have detrained at the station, continue to push the defective train up to the terminal station. There shall be no equipment damage or degradation, while maintaining safe operation. Train shall be able to start and move on an up gradient of 4% on above condition including the conditions specified in Clause 3.22.7 above.	We understand that fully loaded condition is same as that of AW3 as defined in 3.22.7. Please confirm	Understanding is correct.
44	Part 2 Works Requirement - Technical Specification	3.24.2	SEC of propulsion system (henceforth mentioned as SEC P) shall be calculated for round trip of complete sections with schedule speed of AW2 loaded train. For calculation of SEC P , full auxiliary load with 100% duty cycle BUT excluding HVAC, shall be considered along with the propulsion load. The Committed Energy values (SEC) are at pantograph level. SEC P , as above, shall not be more than 34 Wh/tonne/km.	Please provide route data for evaluation of SEC. Bidding Drawings including GADs not available in Part 2, Section VII-C	The section for evaluation of SEC shall be North-South route. Refer Corrigendum-2/S.no-16
45	Part-1 Section III. Evaluation and Qualification Criteria	History of Non-Performing Contracts	Non-performance of a contract1 did not occur as a result of contractor default in the past 5 years from Bid submissions date.	We understand that for a newly formed company as a consortium member in India, this will be not applicable if there are no contracts performed ,pls confirm	Tender condition Prevails
46	Part 2 Works Requirement - Technical Specification	4.1.9 & 4.4.5	**4.1.9:** MAHA-METRO envisages supply of trains with unpainted car-body (both Aluminium and stainless steel) against this tender. ~~**4.2.10:**~~ ...4.4.5.....The Employer at its sole discretion may however decide during the design finalization stage for partial or complete painting of the Aluminium car-body. Use of unpainted cars in regular train operation shall not affect the aesthetics, train performance, reliability or mechanical life of the car-body.....	**Concern:** Clause no. 4.1.9 should supersede 4.2.10 **Clarification required:** Bidder request to modify the clasue no. 4.1.9 as below: "MAHA-METRO envisages supply of trains with unpainted car-body (both Aluminium and stainless steel) against this tender **and supersede clauses similar to this requirements in this tender."**	Tender condition Prevails
47	Part 2 Works Requirement - Technical Specification	6.2.6	Since dust & humidity protection of the intake air is very crucial in oil-less compressor, specific measures shall be taken to ensure under no circumstance the dust/moisture enters in the compressor	From this clause it is understood that the requirement is oil free main compressor. Please clarify.	Refer Corregendum -2 /S.no-22
48	Part 2 Works Requirement - Technical Specification	6.4.4	Suitable means of oil and dust separation, along with automatic drain valve prior to the air dryer shall be provided.	For an oil-free compressor , an oil seperator is not required. Accordingly the clause may be removed.	Tender condition Prevails
49	Part 2 Works Requirement - Technical Specification	6.4.5	In case of continuous purging through air dryer, an isolating cock shall be provided to bypass air dryer.	By pass of Air dryer is not recommended as brake system is a safety critical system, and any contamination in the system due to moisture may have adverse effects. This clause may be removed.	Tender condition Prevails
50	Part 2 Works Requirement - Technical Specification	4.4.3	**4.4.3:** The exterior appearance of the car body with stainless steel shall be smooth (not corrugated), unpainted metal without the use of filler or other similar material, such that the maximum variation from the required car profile, over any one metre length, **shall not exceed 1.5 mm.....**	**Concern:** flatness over SS carbody about 1.5mm per meter but atleast 2mm/m achieved as per industry practices globally. **Clarification required:** Bidder request to modify the clasue no. 4.4.3 as below: "The exterior appearance of the car body with stainless steel shall be smooth (not corrugated), unpainted metal without the use of filler or other similar material, such that the maximum variation from the required car profile, **over**	Tender condition Prevails
51	Part 2 Works Requirement - Technical Specification	6.7.6	Flexible hoses shall be kept to a minimum, and be proven in EMU metro service. The Contractor shall submit proposals to increase the integrity of the air supply system against rupturing of inter-car flexible hoses. Burst hose protection shall be provided for hoses. Armored hoses shall be provided in the flexible connections in the parking brake piping.	Burst hose protection is provided only for intercar-MR hoses. The clause may be ammended accordingly.	To be decided in Design stage
52	PART 3: Section IX: Particular Conditions of Contract (PCC)	Annexure I (Pg-956)	Annexure I: Table: Summary of Sections (KEY DATES)	We kindly request MAHA-METRO to extend the dispatch timeline for the prototype train from 78 weeks to 105 weeks from the commencement date. Additionally, we request a corresponding extension of 14 weeks for the delivery period of each subsequent train.	Tender condition Prevails
53	Part 2 Works Requirement - Technical Specification	2.20.3 Table 2.6:Interior Noise Levels		We suggest to modify the Table 2.6 as per ISO 3381: "Acoustics Measurement of noise inside railbound vehicles" and ISO 3095: "Acoustics Railway applications - Measurement of noise emitted by railbound vehicles" Please refer as below: Table 2.6:Interior Noise Levels	Tender condition Prevails
54	Part 2 Works Requirement - Technical Specification	2.20.3 Table 2.6:Interior Noise Levels	<table><tr><th rowspan="2">Location (Section)</th><th colspan="2">Interior noise</th></tr><tr><th>Stationary</th><th>Running (elevated and</th></tr><tr><td></td><td>Elevated</td><td>80kmph</td></tr><tr><td>Passenger Saloon</td><td>68</td><td>75</td></tr><tr><td>Driving Cab (Elevated and at grade)</td><td>68</td><td>70</td></tr></table>	<table><tr><th rowspan="2">Location (Section)</th><th colspan="2">Interior noise</th></tr><tr><th>Stationary</th><th>Running (elevated and at grade)</th></tr><tr><td></td><td>Elevated</td><td>80kmph</td></tr><tr><td>Passenger Saloon</td><td>72</td><td>75</td></tr><tr><td>Driving Cab (Elevated and at grade)</td><td>72</td><td>75</td></tr></table>	Tender condition Prevails
55	Part 2 Works Requirement - Technical Specification	6.13.17	All the pneumatic control equipment, safety valves, governors, switches, sensors etc. in the underframe shall be provided in IP53 or higher compliant lockable boxes for dust control. These boxes shall be made of stainless steel / aluminium (anodized)	Safety valves are not to be provided in valve boxes. The clause may be updated accordingly.	Refer Corregendum-2/S.no- 28

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56	Part 2 Works Requirement - Technical Specification	6.13.19	The speed measurement devices and couplings required for measurement of train speed in a fail-safe manner by the Signalling and Train Control Contractor shall be installed on one axle for each Unit.	It is understood that it is one Odometer per 3-car train which shall be supplied by Signalling and Train Control Contractor. Please clarify	This to be discused and interfaced with Signalling contractor during detail design.
57	Part 2 Works Requirement - Technical Specification	~~6.15.16~~ 6.15.6	Brake system design shall ensure that in the event of isolation of 33% percent bogie brakes, train can safely work at least up to maximum speed of 80 kmph. In case of two bogie isolation (33%) Contractor shall ensure that no braking distance shall be effected as long as train controlling is being done by signalling system	Clause may please be rephrased as below. Brake system design shall ensure that in the event of isolation of one bogie brake, train can safely work at least up to maximum speed of 80 kmph. In case of one bogie isolation, Contractor shall ensure that no braking distance shall be effected as long as train controlling is being done by signalling system	Refer Corregendum -2 /S.no. 59
58	Part 2 Works Requirement - Technical Specification	2.20.5 Table 2.7:Exterior	Noise levels Location (Section) / Interior noise: Stationary / Running (elevated and at grade) 80kmph At platform (Elevated and at grade): 67 / 82	We suggest to modify the Table 2.7 as per ISO 3381: "Acoustics - Measurement of noise inside railbound vehicles" and ISO 3095: "Acoustics - Railway applications - Measurement of noise emitted by railbound vehicles" Please refer as below: Table 2.7: Exterior Noise Levels Location (Section) / Interior noise Measurements: Stationary / Running (elevated and at grade) 80kmph At platform (Elevated and at grade): 67 / 84	Tender condition Prevails
59	Part 2 Works Requirement - Technical Specification	Chapter 4	4.2 Mock-ups - General	Can relevant technical documents and drawings be used to replace the required Virtual Reality mock-up?	Tender condition Prevails
60	Part 2 Works Requirement - General Specification	Page: 327 of 1193	All replacement and repairs under the warranty shall be carried out by the Contractor promptly and to the complete satisfaction of the Engineer on notification of the defect by the Engineer / Employer so that no car is unfit for revenue service for more than 48 hours, which shall exclude time taken for withdrawal / induction of trains from / to revenue services. In case of any train remains out of revenue operation beyond specified duration above due to reasons attributable to Contractor, Engineer/Employer may at its sole discretion impose a penalty on the Contractor, commensurate with the revenue and opportunity loss to the Employer. Decision of Employer shall be final and binding	No penalty amount or cap is defined for trains out of service beyond 48 hours due to contractor-related reasons. Providing a clear penalty structure and cap is crucial to ensure enforceable and fair accountability, aligning with industry standards. Bidder request Maha-Metro to specify penalty amount per incidence and also a cap for such damages	Tender condition Prevails
61	Part 2 Works Requirement - Technical Specification	7.2.1 (vii)	**Stainless steel / aluminium** sheet metal of similar finish, as adopted for sidewall shall be of ample gauge to provide adequate strength and rigidity, shall be used for outer sheet. Specific approval shall be obtained from the Engineer during design stage. Joints and edges shall be thoroughly sealed against ingress of moisture with drain holes located at the bottom of the doors to allow drainage of condensate. However, inside door leaf of Aluminium with matching shade good quality paint / textured stainless steel instead of painted one can be acceptable.	7.2.1 (vii) and 7.6.1 clauses are contradicting	Refer Corrigendum-2/ S.No- 23
62	Part 2 Works Requirement - Technical Specification	7.6.1	All exterior doors shall be of **stainless steel** of same finish as sidewall and should have the same durability as the vehicle body. The interior finish of door leaves shall be powder coated / textured unpainted stainless steel and shall be compliant with the visual design and withstand severe wear and tear. It shall not be possible for a door to become detached from the vehicle under any operating conditions, including heavy side load from standing passengers or sudden pressure transients.....	7.2.1 (vii) and 7.6.1 clauses are contradicting	Refer Corrigendum-2/ S.No- 23
63	PART 3: Section IX: Particular Conditions of Contract (PCC)	Annexure I Table: Summary of Sections (KEY DATES) 6 Prototype Train	6.1 Dispatch of prototype train (Milestone B1/C1) — 78 6.2 Delivery and receipt of prototype train (Milestone D1/E1) — 90 6.3 Testing and commissioning in Depot of Prototype Train set (Milestone F1) — 94	Timeline for Delivery of Prototype in 78 weeks is very stringent, in line other metro practice we propose following changes In other Metro Projects single KD of delivery & Receipt of Prototype at nominated depot is given hence requesting same in N2-057/RS-01/2025	Tender condition Prevails
64	Part 2 Works Requirement - Technical Specification	9.3.2	The battery charger shall be capable of charging a discharged battery to 80% full charge within 4 hours. **Once the battery is fully charged, float charge should stop after 10 minutes…...**	Clause may be modified as below. The battery charger shall be capable of charging a discharged battery to 80% full charge within 4 hours.Once the battery is fully charged, **float charge should exist**….	Refer Corrigendum -2/ S.no- 60
65	Part 2 Works Requirement - Technical Specification	10.1.8	The cables which are intended to be used in emergency circuit for alarms and communication shall have intrinsic fire-survival properties in compliance with EN 50200 for PH60 and EN **50289.**	EN 50200 is generic specification applicable for all applicable such as building protection. For railway application, for HL3 maximum deboarding time in case of fire is 15 minutes as per EN45545. Hence PH30 rating shall be more than sufficient for railway application. Increasing PH rating will thicken the cable without any advantage.	Refer Corrigendum -2/ S.no- 26

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<table>
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<tr><td>66</td><td>Part 2 Works Requirement - Technical Specification</td><td>10.10.3</td><td>The Contractor shall provide equipment and install the system to enable remote downloading of all the stored TCMS data, data recordings, environment data and linked files, if any, through wireless / GPRS / radio communication network of Signaling system. The downloading shall be real time / time interval actuated / fault actuated / manual triggered. The data as above shall be downloaded on a central server (in redundant configuration) which then shall be linked to each depot through Employer's intranet. The Contractor shall supply the multiuser software(s) required for analysis of the faults and predict ions / judgments on likely faults / failures. The specification of the software shall be got approved from the Engineer. Depot management tools, issue of work orders etc. shall be linked with this software.....</td><td>(i) We assume that Multiusers count is 10 Nos. as RS contractor is required to supply 10 laptops as per ERTS 10.10.4. Please confirm.
(ii) We request Employer to provide the basic specificational requirements for fault analysis and prediction of likely faults.</td><td>(i) It shall be more than 10 nos. and can be finalised during design stage.

(ii) The clasue is self explanatory.</td></tr>
<tr><td>67</td><td>PART 3:
Section IX: Particular Conditions of Contract (PCC)</td><td>Annexure I
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6 Prototype Train</td><td>Key dates of 6 prototype train</td><td><table><tr><th>Key Date</th><th>Description of Stage</th><th>Weeks from Commencement Date</th><th>Remark</th></tr><tr><td>6</td><td>Prototype Train</td><td></td><td></td></tr><tr><td>6.1</td><td>Despatch of prototype train (Milestone B1/C1)</td><td></td><td></td></tr><tr><td>6.2</td><td>Delivery and receipt of prototype train (Milestone D1/E1) at nominated Depot</td><td>102</td><td></td></tr><tr><td>6.3</td><td>Testing and commissioning in Depot of Prototype Train set (Milestone F1)</td><td>124</td><td></td></tr></table></td><td>Tender condition Prevails</td></tr>
<tr><td>68</td><td>PART 3:
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8 Delivery in nominated Depot, testing & commissioning etc.</td><td><table><tr><td>8</td><td>Delivery in nominated Depot, testing & commissioning etc.</td><td></td></tr><tr><td>8.1</td><td>2 Train Sets (excluding one prototype train) (TS 2&3)</td><td>98</td></tr><tr><td>8.2</td><td>5 Train Sets (TS 4,5,6,7 & 8)</td><td>110</td></tr><tr><td>8.3</td><td>5 Train Sets (TS 9,10,11,12 &13)</td><td>122</td></tr><tr><td>8.4</td><td>3 Train Sets (TS 14 ,15, 16)</td><td>136</td></tr></table></td><td>Timeline for Delivery of Trains is very stringent, request following changes, inline with other Metro Projects:<table><tr><th>Key Date</th><th>Description of Stage</th><th>Weeks from Commencement Date</th><th>Remark</th></tr><tr><td>8</td><td>Delivery in nominated Depot, testing & commissioning etc.</td><td></td><td></td></tr><tr><td>8.1</td><td>2 Train Sets (excluding one prototype train) (TS 2&3)</td><td>114</td><td></td></tr><tr><td>8.2</td><td>5 Train Sets (TS 4,5,6,7 & 8)</td><td>126</td><td></td></tr><tr><td>8.3</td><td>5 Train Sets (TS 9,10,11,12 &13)</td><td>138</td><td></td></tr><tr><td>8.4</td><td>3 Train Sets (TS 14 ,15, 16)</td><td>146</td><td></td></tr></table></td><td>Tender condition Prevails</td></tr>
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9 Integrated Testing, Commissioning and Service Trials</td><td><table><tr><td>9.1</td><td>Prototype Train (including oscillation trials) (Milestone F1)</td><td>94</td></tr><tr><td>9.2</td><td>2 Train Sets (TS 2&3)</td><td>102</td></tr></table></td><td>Timeline for Integrated Testing, Commissioning & Service Trials of Trains is very stringent, request following changes, inline with other Metro Projects:</td><td>Tender condition Prevails</td></tr>
<tr><td>70</td><td>Part 2 Works Requirement - Technical Specification</td><td>11.6.1</td><td>The Contractor shall provide twin hermetic scroll/rotary compressors proven for sufficiently long time in Metro service. Scroll/rotary compressor shall be suitable for operation at high ambient temperatures up to 50ºC. The details of the drive for the compressor shall be provided. Full details of the compressor and its experience in Metro application, particularly in high temperature, dusty and humid environment shall be furnished. Unloading of compressor shall be linked with HP setting. The compressor motor(s) shall be inverter based VVVF drive to optimize the energy efficiency and improved controls in view of the varying passenger loads and complete details of the same shall be provided during design stage.
References of the inverter controlled HVAC system shall be submitted with the bid to verify the proven design and supplies to metro trains.</td><td>In case of two compressor in one HVAC, we recommend to go with one compressor of fixed type and other with VVVF controlled. As with this arrangement also we can achieve duty cycle of 0-100%. Both compressor is not required to have VVVF control.</td><td>Details can be discussed during design stage.</td></tr>
<tr><td>71</td><td>PART 3:
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9 Integrated Testing, Commissioning and Service Trials</td><td><table><tr><td>9.3</td><td>5 Train Sets (TS 4,5,6,7 & 8)</td><td>114</td></tr><tr><td>9.4</td><td>5 Train Sets (TS 9,10,11,12 &13)</td><td>126</td></tr><tr><td>9.5</td><td>3 Train Sets (TS 14 ,15 &. 16)</td><td>140</td></tr></table></td><td><table><tr><th>Key Date</th><th>Description of Stage</th><th>Weeks from Commencement Date</th><th>Remark</th></tr><tr><td>9</td><td>Integrated Testing, Commissioning and Service Trials</td><td></td><td></td></tr><tr><td>9.1</td><td>Prototype Train (including oscillation trials) (Milestone F1)</td><td>124</td><td></td></tr><tr><td>9.2</td><td>2 Train Sets (TS 2&3)</td><td>128</td><td></td></tr><tr><td>9.3</td><td>5 Train Sets (TS 4,5,6,7 & 8)</td><td>140</td><td></td></tr><tr><td>9.4</td><td>5 Train Sets (TS 9,10,11,12 &13)</td><td>152</td><td></td></tr><tr><td>9.5</td><td>3 Train Sets (TS 14 ,15 &. 16)</td><td>160</td><td></td></tr></table></td><td>Tender condition Prevails</td></tr>
<tr><td>72</td><td>Part 2 Works Requirement - Technical Specification</td><td>6.13.15</td><td>The disc and brake pad shall be proven in EMU metro application. The friction characteristics of the brake pad material shall be tested on brake dynamometer, in both dry and wet conditions in the range of 0-100 kmph under various designed brake forces. The test scheme and acceptance criterion shall be submitted for review by the Engineer. The Tenderer shall furnish brief description of the proposed brake system along with the expected life of brake pads as well as disc on the wheels, based upon experience of other Metro Railways.</td><td>Concern: As per clause 3.22.1, table 3.7: Maximum design speed is 90kmph.

Clarification required: Bidder request to modify clause as below:

"The disc and brake pad shall be proven in EMU metro application. The friction characteristics of the brake pad material shall be tested on brake dynamometer, in both dry and wet conditions in the range of 0-90 kmph under various designed brake forces....."</td><td>Tender condition Prevails</td></tr>
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73	Part 2 Works Requirement - Technical Specification	6.20.1	The following maximum brake operating timing shall be achieved on all cars of a train. The maximum time for a brake application from full application to 90% of full Brake Cylinder Pressure (BCP) and for brake release from full Brake Cylinder pressure to 10% shall not exceed the following:	**Concern:** As per EN13452, brake operating timing to be followed with measurement from initiation of brake command and initiation of brake release from BECU(brake electronics control unit). **Clarification required:** Bidder request to modify the clause as below: "The following maximum brake operating timing shall be achieved on all cars of a train. The maximum time for a brake application **from initiation of brake application command from BECU(brake electronics control unit) to 90% of full Brake Cylinder Pressure (BCP) and for brake release from initiation of brake release command from BECU to 10% of BCP** shall not exceed the following: .....".	Tender condition Prevails
74	Part 2 Works Requirement - General Specification	16.8.2	The PREB team shall consist of at least 10 fully trained staff per shift who shall be strategically located throughout the network, so as to always ensure that incidents will be attended by PREB staff within 30mins of receiving a request to attend an incident.	Please clarify: 1. Given such incidents shall be a rare occurence, deployment of 10 personnel per shift shall not be cost efficient, hence the requirement may be modified to 10 personnel per day. 2. If the maintenance staff deployed at depot can double hat requirements of PREB team as they shall be adequately equipped and trained to support any emergencies, so the resources shall be be optimally utilized. Bidder request MAHA METRO to kindly confirm. 3. The deployment location of the PREB team can be done at the depot premises, from where they can launch any response to the incident within 30 mins.	Tender condition Prevails
75		Annual Maintenance Mileage	Annual Maintenance Mileage	Bidder requests Maha Metro to kindly specify the minimum annual maintenance mileage to be considered for CAMC, so as to enable bidder to accordingly plan its maintenance activities. This mileage is usually defined in other tenders in India like BMRCL, DMRC etc. Further we understand, any increase in maintenance mileage beyond the defined kms shall lead to increase in the maintenance fees accordingly. Please confirm.	Tender condition Prevails
76	Part 2 Works Requirement - Technical Specification	16.5.2	Spares and Consumables (herein referred to only as Spares) shall include but shall not be limited to the following subcategories, as applicable to Rolling Stock assets, a) Unit exchange spares b) Mandatory spares c) Recommended spares; d) Consumable spares; e) Special Tools, Jig, Fixtures, Gauges, Testing and Diagnostic Equipment f) Overhauling Spares; g) Any other items required for maintenance (identified by the Contractor / MAHA METRO / OEM). Note: i. The contractor shall provide the complete list of spares as per above for final approval of Maha-Metro / Engineer **separately for DLP and CAMC.** ii. The contractor to ensure that the cost of spares used during DLP period shall not be part of spares used during CAMC	These are the contractual spares that the bidder usually maintains for the execution of CAMC scope. There is no separate list for DLP and CAMC, please clarify the difference between the same.	Tender condition Prevails
77	Part 2 Works Requirement - Technical Specification	15.6.1	Brake system and its components shall be subjected to type tests as per relevant UIC.	In place of UIC, for Brake test EN13452/IEC 61133 shall be mentioned.	Refer Correigendum-2 / S.no-24
78	Part 2 Works Requirement - Technical Specification	16.17	Penalty During Defect Liability & CAMC Period	Bidder requests a ceiling/capping of 10% of the total quarterly payment on all the damages and penalties together for the DLP and CAMC scope of work payable in the quarter.	Tender condition Prevails
79	Part 2 Works Requirement - Technical Specification	2.11.2 Availability Target	The trains supplied shall achieve a minimum average availability of 95.0%.	Bidder requests Maha Metro to revise the availability target in line with recent Indian Metro tenders as follows: The availability of trains shall generally be more than 90% during CAMC period.	Tender condition Prevails
80	Part-1 Section III. Evaluation and Qualification Criteria	Debarrment	Bidder should not have been debarred by the multilateral and bilateral funding agencies/ Government of India.....Government undertakings as on the due date of submission of bid.	Please provide the list of multilateral and bilateral funding agencies being referred here	Funding agencies like World bank, JICA, ADB, EIB, KFW and similar agencies.
81	Part 2 Works Requirement - General Specification	16.16 HANDOVER REQUIREMENTS	(c) All Project Assets including the structure and equipment shall have been cured of all defects and deficiencies as necessary and have a minimum residual life at the lower of 5 (five) years; after CAMC, so that the Project is compliant with the Specifications and Standards as per specifications of this Contract	There might be instances where the residual life of the components is less than 5 years due to natural ageing of the component, hence the status quo those items shall be mutually discussed and agreed upon at the time of handover. Please confirm.	Tender condition Prevails

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82	Part 2 Works Requirement - General Specification	16.14.2	The Contractor shall follow MAHA METRO time to time. The Contractor shall undertake training of their manpower and undertake routine assessment of their staff to ensure their competency is upheld at all times. The Contractor shall submit the deployed staffs CV and competency certificate to MAHA METRO for approval. Evidence of staff training, competency assessment and valid certification shall be periodically submitted to MAHA METRO for endorsement. Only personnel who hold all the requisite approvals shall be allowed to work in the Designated Depot(s) to undertake train maintenance. The Contractor shall deploy a tracking system to ensure that no staff shall undertake any Works once their certified competency has lapsed. The tracking system shall automatically issue reminders / warnings to ensure effective management.	Bidder request to limit the requirement curriculum vitae of only key personnel i.e. Service engineering Manager.	Tender condition Prevails
83	Part 2 Works Requirement - General Specification	9.4.2 (xvi)	Any other area requiring specialist service.	Bidder requests Maha Metro to share the detailed scope of "any other area"	Tender condition Prevails
84	Part 2 Works Requirement - Technical Specification	10.10.4	A minimum of ten notebook computers, together with all associated accessories and software necessary for all diagnostic functions for all train-borne equipment shall be provided. These shall be duly equipped with remote wireless access features with TCMS. Two copies in approved non-volatile memory, of all the software uploaded in the notebook computers shall also be provided, separately. The laptop shall be business version i.e., rugged design, high performance having sufficiently large storage capacity, battery backup, sufficient number of ports required, a DVD reader/writer inbuilt or separate with latest generation processor and OS. Repair of these laptops shall be under contract scope during DLP.	Bidder request Maha metro to clarify Laptops to be provided additional to the clause 16.12.1 Part 2 Works Requirement - General Specification " At the start of the CAMC Period, the Contractor shall supply twenty (20) diagnostic maintenance laptops of the same specification given in contract , which will be handed over to MAHA METRO.	Tender condition Prevails
85	Part 2 Works Requirement - Technical Specification	4.14.8 (Floor)	specification of the floor in Clause No. 4.14.8 (Floor) of the tender. The current specification refers to "Aluminium Honeycomb Sandwich" or ply board with cork inlay, as the floorboard material.	As per the experience of the coach builder's worldwide, Aluminium Honeycomb (Al- Honeycomb) and all the alternatives mentioned in the spec are prone to fail due to delamination caused by moisture over a period of time, which may need to replace 2-3 times during the service life of vehicle, which is a costlier affair. Indian Metro Transit authorities, however, require a more durable solution that can last the entire service life of the vehicle without any replacement. In line with this, Phenolic Composite Floorboards have been already specified and used by Indian Metro authorities such as DMRC, Bangalore Metro, MP Metro, Gujrat Metro, NCRTC, MMRDA etc. Some of the references are attached. Phenolic Composite Floorboards have been successfully used in Indian metro projects since 2009, with the following notable implementations: In view of the above to ensure lowest life cycle cost, we request you to consider Phenolic Composite Floorboards for Clause No. 4.14.8 (Floor) of Part-II in the tender N2-57/RS- 01/2025, as an alternative to the currently specified	Refer Corregendum -2 /S.no- 61
86	Part 2 Works Requirement - Technical Specification	2.2.8	Nagpur Metro car depots are equipped with following M&Ps for train maintenance hence the new train also shall be compatible with these M&Ps.	**Concern:** Mentioned model are hardly having drawings details over mentioned supplier websites. **Clarification required:** Bidder request to share drawings of each M&P such as Under floor pit wheel lathe, under floor pit jack, mobile lifting jack, bogie turn table, bogie testing machine.	you may refer the drawing available in Maha Mero Nagpur Office
87	Part 2 Works Requirement - Technical Specification	3.24.2 & 8.10.7	**3.24.2:** SEC of propulsion system (henceforth mentioned as SECP) shall be calculated for **round trip of complete sections** with schedule speed of AW2 loaded train..... **8.10.7:** Simulations on a typical round trip for each corridor shall be provided by the Contractor in order to calculate the temperature curve of the traction motor in normal and downgraded conditions and in all the conditions of passenger load.	**Concern:** Route profile of required corridor section not shared and mentioned in technical specification for SECp evaluation. **Clarification required:** Bidder request to share route profile of required corridor section to evaluate energy.	Refer Corrigendum-2/S.no-16
88	Part 2 Works Requirement - Technical Specification	1.1.6	The **cars shall be totally interchangeable** for any of the corridors, without modification	**Concern:** Phase-2 corridor supplier may have different design with adaptability to exisitng M&P's as per clause 2.2.8 and existing infrastructure like platform screen door as per Annexure 2/TD. **Clarification required:** Bidder request to clarify the interchangeablity of cars in corridors as Phase-2 corridor OEM supplier may be different from Phase-1 corridor OEM supplier. Please note TCMS architecture, control, communication, electrical signals and connectors may vary from phase-1 supplied trains.	car level Interchangeablity is not required.
89	Part 2 Works Requirement - Technical Specification	2.12(i) (ii)(iii),(iv)	**Note:** 1. The provision for seeking waiver from Maha-Metro or utilizing the provision under **table 3** for making train available with defect or deficiencies shall be used sparingly.....	**Concern:** there is no table 3 and table 2.2: Penalty/Availability damage in clause no. 2.12(i) is conflicting table numbers from clause no. 2.9.2(xi) **Clarification required:** Bidder request to modify clause "1. The provision for seeking waiver from Maha-Metro or utilizing the provision under **table 2.2** for making train available with defect or deficiencies shall be used sparingly"..... please revise table number & its reference in clauses.	Refer Corrigendum-2/S.No-37
90	Part 2 Works Requirement - Technical Specification	Annexure2/TD	Annexure2/TD	**Clarification required:** Bidder request to share phase-1 train latest layouts car level, train level including side views alongwith Platfrom Screen Door layout.	The documents is available and accesible at Maha metro nagpur office.

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91	Part 2 Works Requirement - Technical Specification	7.2.1 (ii)	The Contractor is advised that half height platform screen doors (PSD) will be installed on all platforms under a separate contract. The Contractor shall coordinate with the MAHA-METRO to provide the necessary interface information data for the separate contract including,ATP/ATO signals to coordination the opening and closing of PSD/PSGs, station dwell times,door opening and closing announcements, and all else necessary for the proper design, interface and operation of PSD/PSGs.	Since PSD is not installed in Phase 1 and we believe there are no plans to implement the same in the near future for Phase 2, we respectfully request the removal of the PSD-related clause to allow bidders the flexibility to propose the most competitive rolling stock designs. **Inclusion of this clause favors only the existing Rolling Stock supplier and creates an unfavorable situation for potential new bidders.** Should the need for PSD installation arise in the future, the respective supplier can be required to design a suitable PSD that aligns with the rolling stock specifications.	Tender condition Prevails
92	Part 2 Works Requirement - Technical Specification	3.13.1 & APPENDIX TE	List of Drawings attached	**Concern:** Appendix TE do not contain any drawing **Clarification required:** Bidder request to provide Schedule of Dimension.	Drawing at Appendix TE -Refer Corrigendum-2/S.no-16 -Schedule of dimension is available in part-
93	Part 2 Works Requirement - Technical Specification	3.20.4	(ix) Track tolerances as detailed in **Clause 3.16.**	**Concern:** typo error **Clarification required:** Bidder request to modify clause as below:	Refer Corrigendum-2/S.No-30
94	Part 2 Works Requirement - Technical Specification	4.2.3 & 4.2.10	**4.2.3:** The Contractor shall provide a high-definition Virtual Reality (VR) mock-up..... **4.2.10:** The final mock-up shall be maintained at the Contractor's premises till the inspection of the same by the Employer / Engineer and afterwards shall be handover to Employer.	**Concern:** Clause no. 4.2.3 is asking for digital mock up but clasue no. 4.2.10 is showing ambiguity for physical mock up. **Clarification required:** Bidder request to clarify the mock up required digital only or both digital & physical.	Refer Corrigendum-2/S.N0-31
95	Part 2 Works Requirement - Technical Specification	7.4.1	There shall be a cab side door on both sides of the cab. The doors shall be manually operated doors. It shall be possible to lock, unlock, open and close the cab side doors from track level and platform level.Once closed, door shall get locked and shall be openable only by authorized personnel with the help of key.	The established global practice for GoA4-ready trains, which is also applicable for operation in GoA2 mode, does not necessitate a cab side door, as this design helps to accommodate more passengers. The operator can gain access to the cab through the first saloon door. Consequently, we request the removal of the cab side door requirement clause.	Tender condition Prevails
96	Part-1 Section III. Evaluation and Qualification Criteria	3.3 Profitability	Profit before Tax should be positive in at least 2 (two) year out of the last five audited financial years	We understand that for a newly formed company in India as also followed for various Metro RS tenders in India, this should not be made applicable for Each member , please amend this to be at All parties combined level only ,pls confirm	Tender condition Prevails
97	Part-1 Section III. Evaluation and Qualification Criteria	3.5 Bid Capacity	The available bid capacity shall be more than INR 668 Crores (USD 77 million) Bid capacity will be calculated based on the following formula: Bid Capacity = 2*A*N — B	We understand that for a newly formed company in India as also followed for various Metro RS tenders in India, this should not be made applicable for Each member , please amend this to be at All parties combined level only ,pls confirm	Tender condition Prevails
98	Part 2 Works Requirement - Technical Specification	4.14.8(viii)	**4.14.8(viii):** Floor covering shall have a design life **of not less than 25 years.**	**Concern:** Floor covering available in market maximum with 20years life when maintained properly. **Clarification required:** Bidder request to modify the clasue no. 4.14.8(viii) as below: ".... Floor covering shall have a design life of not less than **20 years."**.....	Refer Corrigendum-2/S.No-32
99	Part 2 Works Requirement - Technical Specification	4.16.3	**4.16.3:** In case, the rubber pipe connections are unavoidable due to tolerance clearance issues, they can be sued only at one location provided the life of rubber used **shall be more than 15 years.**	**Concern:** rubber pipe available in market maximum with 7-8years life when maintained properly. **Clarification required:** Bidder request to modify the clasue no. 4.16.3 as below: ".... In case, the rubber pipe connections are unavoidable due to tolerance clearance issues, they can be sued only at one location provided the life of rubber used **shall be more than 8 years."**.....	Tender condition prevails
100	Part-1 Section III. Evaluation and Qualification Criteria	Part B - Specific Provisions, SL No. 47	Advance Payment	**Interest bearing** advance for mobilization and cashflow support, does not serve any purpose. We request to make the advance payment, **interest free**, as followed by other metro corporations.	Tender condition Prevails
101	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part B - Specific Provisions, SL No. 49	Sub-Clause 14.8 - Delayed Payment: **DELETED**	Deleting the clause is unilateral and not in accordance with fair & balanced contracting principles. We request to retain the clause.	Tender condition Prevails
102		Part B - Specific Provisions, SL No. 44	The Contract Price shall be adjusted to take into account any new taxes or any statutory variation in Custom Duty, GST etc. on finished product/item during the contractual completion period to the Employer's account for which the Contractor shall furnish documentary evidence in support of their claims.	Please confirm that the changes to custom duties on the imported items which goes into manufacture indigenuous metro cars, spares, tools are covered and adjusted as per the clause. If not, we request to modify the clause to incorporate the same.	Tender condition Prevails
103	Part 2 Works Requirement - Technical Specification	4.7.1	All equipment, mountings and fasteners of components shall withstand the forces and impacts as specified in UIC 566/EN 12663 without any part of the equipment becoming detached, and without any permanent deformation to the car-body.	UIC 566 is very old and we request to remove the same as relevant EN 12663 standard is already mentioned. Similarly it shall be deleted from other clause also.	Tender condition Prevails
104	Part 2 Works Requirement - Technical Specification	6.1.3	Wheel spin and slide protection	Spin protection is controlled by propulsion system. The clause shall be corrected accordingly for pneumatic brake system scope.	Tender condition Prevails

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105	Part 2 Works Requirement - Technical Specification	6.13.16	the calculation for emergency braking distances under dry and wet conditions shall be submitted. Braking distances for normal service braking with electric brake blending shall also be submitted.	The braking distances are calculated based on adhesion values that will be provided for the track. Separate calculation for wet conditions are not required as per standard practice	Tender condition Prevails
106	Part 2 Works Requirement - Technical Specification	12.9.1(11)	LED luminaires and control gears shall be sealed to **IP 52 and IP 54**, BS EN 60529:1992, respectively to prevent the ingress of dirt and foreign objects.	**Concern:** Typo error **Clarification required:** Bidder request to modify the clause as below: "LED luminaires and control gears shall be sealed to IP 52 **or** IP 54, BS EN 60529:1992, respectively to prevent the ingress of dirt and foreign objects."	Refer corrigendum-2/S.no-34
107	Part-1 Section I. Instructions to Bidders	20. Format and Signing of Bid	The bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initiated by the person signing the bid.	We kindly request MAHA-METRO to consider use of DSC for signing the Bid documents. Necessary authorization consisting of a written confirmation as specified in the BDS shall be attached to the Bid.	Agreed
108	Part-1 Section II. Bid Data Sheet	ITB 1.6.A (new Para) Land Border , Sr no. (d)	Certificate of Compliance An undertaking shall be taken from bidders as per Appendix-25 and Appendix-25A of FOT, certifying that the bidders fulfil all the requirements contained in the aforesaid clause.	We are unable to locate Appendix 25 and Appendix 25A of the FOT in the tender documents. Kindly provide clarification.	Refer Correigendum-2 /S.no 6
109	Part-1 Section II. Bid Data Sheet	ITB 11.3.1	The pre-qualification documents shall comprise of all information and supporting documents as per Section III: Evaluation and Qualification Criteria: •Letter of Application	We could not locate the Letter of Application within the tender documents. However, we have found the Letter of Bid. Kindly confirm whether the two documents are the same or if the Letter of Application is different,kindly provide the format for the same.	Refer Correigendum-2 /S.no 7
110	Part 2 Works Requirement - Technical Specification	6.26.1	It shall also include trouble shooting and diagnostic details explaining clearly (with coloured illustrations) the logics, transition states, algorithms, signal flow and software parameters etc.	IPR details of OEM's cannot be shared. Accordingly the clause maybe removed.	Tender condition Prevails
111	Part-1 Section III. Evaluation and Qualification Criteria	EQC-4.4 Management team organization and Project Leader	This will be based upon the Qualification and experience of Project Leader and Management team. The minimum requirements to 'Pass' this criterion is: - that the proposed Project Leader should have total experience of minimum 15 years and should have been the Project Head in at least one Project in the last 10 years; and - bidder to submit declaration confirming deployment of Project Management team as defined in the Bidding Documents	We could not find a specific format for the declaration confirming the deployment of the Project Management team, as defined in the Bidding Documents. Kindly provide the required format for the declaration or confirm whether the tenderer can submit the declaration in their own format.	Refer Correigendum-2 / S.No 8
112	Part 2 Works Requirement - Technical Specification	7.3.1	7.3.1 Arrangement for emergency egress of passengers from the front shall be provided on the cab front. Thedoor arrangement shall be aesthetically designed ensuring seamless clear view of the track from cab. The door shall aesthetically harmonize with the lookout glass and cab front and shall not block the front view giving a look of single front glass. The visibility of the joint between the front door and lookout glass shall be bare minimum. The detrainment door system shall be SIL2 compliant and shall be provided with a sealed cover door actuating mechanism. **The clear width (minimum 750mm) of the door way** and ramp when operated shall be with a headroom not less than 1900mm.	The clear width (**minimum 700mm**) of the door way to accommadate cab equipments	Tender condition Prevails
113	Part 2 Works Requirement - Technical Specification	7.4.6	The door shall be positioned such that access to the cab is free from obstructions. The clear dooropening width shall be **650mm ± 50mm.**	The clear door opening width shall be **550mm ± 50mm**.	Tender condition Prevails
114	Part 2 Works Requirement - Technical Specification	7.5.1	Suitably designed temporary door between the saloon and the cab to permit access to the passenger saloon shall be provided. The clear door opening shall be approximately 1000mm wide. In normal operation, opening the door from the saloon shall require the use of a special key.	The clear door opening shall be approximately **700mm wide**. In normal operation, opening the door from the saloon shall require the use of a special key.	Tender condition Prevails

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115	Part 2 Works Requirement - Technical Specification	10.10.3	The Contractor shall provide equipment and install the system to enable remote downloading of all the stored TCMS data, data recordings, environment data and linked files, if any, through wireless / GPRS / radio communication network of Signaling system. The downloading shall be real time / time interval actuated / fault actuated / manual triggered. The data as above shall be downloaded on a central server (in redundant configuration) which then shall be linked to each depot through Employer's intranet. The Contractor shall supply the multiuser software(s) required for analysis of the faults and predict ions / judgments on likely faults / failures. The specification of the software shall be got approved from the Engineer. Depot management tools, issue of work orders etc. shall be linked with this software. **Complete set up for data downloading through wireless at depot including redundant servers, wireless set up equipment etc. to ensure seamless working of whole unit, shall be provided by the Rolling stock Contractor. Any other on-board equipment, wayside equipment required including routers, switches, cabling, antenna, power supply etc. for the purpose of establishing wireless network within depots or otherwise shall also be supplied by the Rolling stock Contractor.** Integrity of the data shall not be affected during remote download and in case of any interruption or otherwise the data shall be suitably secured and retrievable.....	(i) Please provide Depot's final drawing comprising layout, elevation plan and materials used in construction above ground level. (ii) Please provide the maps of limited area where wireless network at depot should be set up by Rolling Stock contractor. (iii) Train to Ground communication is being established through network of Signaling System. Hence, the scope of the architecture should be under Signaling contractor instead of Rolling Stock contractor. Please clarify.	I - Depot drawing is available in Maha Metro Office. ii- To be discussed during design stage iii- Tender condition Prevails
116	Part-3 Section IX: Particular Conditions of Contract (PCC)	Sub-Clause 4.4 Subcontractors	The Contractor shall ensure that their sub-contractors, material / equipment suppliers, consultants and other agencies deployed by them in connection with execution of the Contract do not make any claim or raise any dispute before Employer. For this, necessary provision is to be made in the agreement between Contractor and their Sub- contractors / consultants / other agencies. Similarly, the agreement should also incorporate the provision of dispute resolution. An undertaking in the following format shall be submitted by Contractor in respect of each such agency: Name of work In connection with above work, M/s ,Contractor has/is engaging M/s , as sub contractor (or consultant or material / equipment supplier or service provider). For this, the terms and conditions of agreement include necessary provisions for resolution of dispute if any arising between Contractor and subcontractor. It is confirmed by the subcontractor that any claim/dispute arising out of the above work shall be resolved in terms of agreement and shall not be raised before Employer and also shall not make any claim against Employer before any forum/court.	It is unclear whether the undertaking will be submitted at the time of bid submission or provided during the contract phase. Kindly confirm.	The clause is self explanatory
117	Part 2 Works Requirement - Technical Specification	11.2.1	Table 11.1	Heating requirement to be verified	Tender condition Prevails
118	Part-1 Section III. Evaluation and Qualification Criteria	EQC-4.1.General Railway/Metro System Experience	Experience in the role of prime contractor, JV member, subcontractor, or management contractor[3] for at least the last *10 [Ten]* years[4].	We would request to modify the clause as follows: Experience in the role of prime contractor, JV member, Consortium, subcontractor, or management contractor[3] for at least the last *10 [Ten]* years[4].This addition would increase the competeive participation in the Bid.	Refer Correigendum-2/ s.no- 54
119	Part-1 Section I. Instructions to Bidders	D. Submission and Opening of Bids 21.1	The scanned copy of bid security shall be uploaded along with the bid submission. the original bank guarantee for bid security must be submitted to the ED – Procurement, Maha- Metro within 3 days of bid submission at the following address:	It is unclear from the following statements regarding the number of working days from the date of submission of Bid to be considered for the physical submission of Bank Guarantee.We would request for a clarification on the same.	Refer Response of S.no-120
120	Part-1 Section I. Instructions to Bidders	ITB 19.1(b)	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 MAHAMETRO at address specified in Bidding Documents, within 7 working days from the time and date scheduled for handing over the Bidding Documents (online).	It is unclear from the following statements regarding the number of working days from the date of submission of Bid to be considered for the physical submission of Bank Guarantee.We would request for a clarification on the same.	The clause is self explanatory
121	Part-1 Section I. Instructions to Bidders	ITB 20.1	The Bidder shall prepare and upload scanned copy of the Bid Security (BG part), the documents for Pre-Qualification cum Technical Package of the Bid, and the Financial Package of the Bid, as described in ITB 11. BG component of Bid Security required to be submitted physically by bidders within 3 working days after online submission of bid.	It is unclear from the following statements regarding the number of working days from the date of submission of Bid to be considered for the physical submission of Bank Guarantee.We would request for a clarification on the same.	Refer Response of S.no-120
122	Part 2 Works Requirement - Technical Specification	14.13.6	The Contractor shall furnish the following information in respect of printed circuit boards as a part of the contract: (i) Voltage and/or waveform expected at each critical test point. (ii) Instructions for carrying out testing and troubleshooting and the function of each circuit block. (iii) Component layout of the printed circuit boards and assemblies. (iv) Connection or interfacing diagrams for the printed circuit boards and assemblies.	IPR details of OEM's cannot be shared. Accordingly the clause maybe removed.	Tender condition Prevails
123	Part 2 Works Requirement - Technical Specification	14.14.7	Microprocessor system hardware block diagrams shall be provided.	IPR details of OEM's cannot be shared. Accordingly the clause maybe removed.	Tender condition Prevails

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124	Part-1 Section I. Instructions to Bidders	Date & Time of submission of Tender	Online submission shall start from 11.00 Hrs on 21.04.2025 and up till **16.00** Hrs. on Dt 28.04.2025 on Maha Metro, e-tender portal.	We would like to submit that the period for bid submission is extremely short, given the complexity of the tender. Moreover the pre-bid is happening on 26/03/2025 and it shall take substantial time to evaluate and revert with the responses which as we may anticipate would also exert some revisions in bid documents considering precedences. Based on the anticipated revisions in the pre-bid, the potential bidders shall be requiring some additional time for thorough internal assessment and analysis for the bid preparation for a technically compliant and ccompetitive bid. In view of the aboce, we would request for extension of bid due date by 8 weeks from teh current due date..	Refer Corrigendum-1
125	Part 2 Works Requirement - Technical Specification	15.24.1	Every roof mounted HVAC package unit shall be subjected to routine test at the manufacturer's works as given below: □ Dimensional & Visual inspection □ Conditioned air-delivery test □ Fresh air quantity test □ Measurement of power □ Electrical test.	Every roof mounted HVAC package unit shall be subjected to routine test at the manufacturer's works as given below: □ Dimensional & Visual inspection ~~□ Conditioned air-delivery test~~ ~~□ Fresh air quantity test~~ □ Measurement of power □ Electrical test.	Tender condition Prevails
126	Part-1 Section III. Evaluation and Qualification Criteria	Financial Capabilities (Liquidity / Working Capital)	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, ...member has to meet the financial capability as per their JV/Consortium % share. In Case of JV / Consortium: Requirement of working capital is to be distributed between members ..... of member-2 >= (WN)/100 In case of consortiums .....of the parent company will only be considered.	We understand that for a newly formed company as a consortium member in India, this will be not applicable as it may not have secured these facilities , this point should be applicable to All Parties Combined only and not to Each Member , pls confirm	Tender condition Prevails
127	Part-1 Section III. Evaluation and Qualification Criteria		(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.		Tender condition Prevails
128	Part-1 Section III. Evaluation and Qualification Criteria		(iii) The audited balance sheets for the last 5 (five) Financial years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.		Tender condition Prevails
129	Part-1 Section III. Evaluation and Qualification Criteria	Average Annual Turnover	The Average Annual Turn Over for the last five financial years (in terms of rupee equivalent adjusted to last date of the financial year that ended on or before 31.03.2024 by assuming 5% escalation for Indian Rupee and 2% for foreign currency per year) shall not be less than INR 223 Crores (USD 26 million).	We understand that for a newly formed company in India, this will be not applicable as it will not have secured these facilities , this point should be applicable to All Parties Combined only and not to Each Member , pls confirm	Tender condition Prevails
130	Part 2 Works Requirement - Technical Specification	3.10.3, 12.9.1(8)	The temperature inside of an "inactive" metro train parked in the sun can easily exceed +60°C. Equipment may be designed accordingly.	**Concern:** All electronics/metal component are already designed in railways for Indian market to sustain till 70degC as per clause 3.10.2. Overall clause 3.10.2 supersede 3.10.3. **Clarification required:** Bidder request to specify the equipments to consider for no deterioration during long openly parked in sun. **or** Bidder request to delete Clause no. 3.10.3.	Refer corrigendum-2/S.no-38
131	Part-3 Section IX: Particular Conditions of Contract (PCC)	66 Additional Clause:Local Value added	5. The MOHUA policy letter no: K-14011/09/2014- MRTS-Coord dated 28.11.2019 makes it mandatorythat... a. Minimum 75% of the tendered quantity of cars shall be manufactured indigenously with progressively increased indigenous content either by establishing	Does it mean 12 rakes (36 cars) is mandatorily manufactured in India. And what is the scope of manufacture?	MOHUA circular is self explanatory.
132	Part 2 Works Requirement - Technical Specification	4.4.5	**4.4.5: .....**The car-body shall be manufactured by using modular double skinned hollow Aluminium extrusions with truss cross section. These modular extrusions shall be welded by using friction stir welding technique to give spotless smooth surface finish. The maximum variation from the required profile shall not exceed **1mm over one meter length.....**	**Concern:** flatness over ALU carbody about 1mm per meter but atleast 3mm/m acheived as per industry practices globally. **Clarification required:** Bidder request to modify the clasue no. 4.4.5 as below: "....The car-body shall be manufactured by using modular double skinned hollow Aluminium extrusions with truss cross section. These modular extrusions shall be welded by using friction stir welding technique to give spotless smooth surface finish. The maximum variation from the required profile **shall not exceed 3mm over one meter**	Tender condition Prevails

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133	Part 2 Works Requirement - Technical Specification	9.6.1 & 11.11	**9.6.1:** Adequately sized **DC inverter shall be placed inside HVAC package** to feed the ventilation fans of both the HVACs of each car. **11.11.1:** An inverter of adequate capacity shall be provided in each car to supply 415 Volt power from 110 Volt DC. battery to power the evaporator fan motor during emergency mode, when cooling is off, for supplying emergency fresh air. Inverter shall be IGBT based and tested in accordance with IEC 61287. The current rating of IGBT shall be such that the junction temperature has a minimum margin of 10ºC in the worst loading conditions. **The inverter shall be placed inside HVAC package.**	**Concern:** this requirement may be open to optimal solution due to reduction in quantity, cost effectiveness also with inbuild emergency inverter to Auxilliary converter to provide 110v dc to 415V AC supply to emergency ventilation fan. **Clarification required:** Bidder request to modify the clasue no. 9.6.1 and 11.11.1 as below: **"9.6.1:** Adequately sized DC inverter shall be **considered to feed** the ventilation fans of both the HVACs of each car." **"11.11.1:** An inverter of adequate capacity shall be provided in each car to supply 415 Volt power from 110 Volt DC. battery to power the evaporator fan motor during emergency mode, when cooling is off, for supplying emergency fresh air. Inverter shall be IGBT based and tested in accordance with IEC 61287. The current rating of IGBT shall be such that the junction temperature has a minimum margin of 10ºC in the worst loading conditfons. **The inverter shall be considered for ventilation fan".**	Tender condition Prevails
134	Part-1 Annexure IV A- Pricing Document	A.6 Quantity Variation A.6.1	The Employer at its discretion may advise the Contractor in writing about increase of the total quantity upto 14 complete train-set of 3-car. For any increase in quantity, Employer may exercise the option on any date before six months of the end of DLP	Bidder request Maha-Metro to amend the following clause to maintain continuity in production as "The Employer at its discretion may advise the Contractor in writing about increase of the total quantity upto 14 complete train-set of 3-car. For any increase in quantity, Employer may exercise the option on any date before six months of the ~~end of DLP~~ **last scheduled trainset delivery.**	Refer corrigendum -2 / S No-1
135	Part-1 Section I. Instructions to Bidders	ITB	**Date & Time of submission of Tender** Online submission shall start from 11.00 Hrs on 21.04.2025 and up till 16.00 Hrs. on Dt 28.04.2025 on Maha Metro, e-tender portal.	Bidder would like to highlight that preperation and internal approval process for such kind of critical value bids involving Rolling Stock and CAMC packages requires sufficient time to submit the bid. In this regard, we request Maha-Metro to extend the Bid submission date by minimum of 3 months from the current bid submission date of 28.04.2025 **(i.e. extension up to 28.07.2025),** while also ensuring minimum 1.5 months from the date of issuance of last corrigendum/addendum/clarifications.	Refer Corrigendum-1
136	Part-3 Section VIII. General Contract Conditions	GCC 17.6 917 of 1193	The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Materials], Sub- Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount. The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Materials], Sub- Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.	Bidder request Maha-Metro to consider to make separate The limitation of liability for Supply and Maintenance contract similar to other metro tenders which consists of CAMC. Similar reference is applicable in Bhopal-Indore and CMRL projects Supply - 100% Supply Contract Value Maintenance - 100% Annual Contract value	For the purpose of liability ,supply and maintenance contract will be treated as separate contract.
137	Part-3 Section VIII. General Contract Conditions	SCC SN 30 Sub-Clause number 8.7 & 14.15 (b) 951 of 1193 SCC SN 31	**Delay damages for the Works** (iv) Any imposition of LD on account of delay in accomplishing Minor Key Date (except 1 to 5) will be waived and LD amount if deducted will be returned (without interest) provided Contractor is able to accomplish corresponding Major Key Date (as per Contracted Schedule) (a) There is no maximum limit in levy of LD for delays in individual Key Dates. However, maximum limit for cumulative LD for complete Contract shall not exceed 10% of the total Contract Price. **Maximum amount of delay damages** 10 % of the Lump Sum Contract Price excluding CAMC cost.	Bidder observed their is a ambiquity in the stated clauses. In SCC SN 31 it has been clarified that the LD cap shall be 10% of Lump Sum Contract Price excluding CAMC cost but in the SN 30 (iv)(a) it says 10% of the total Contract Price Bidder request Maha-Metro to amend the clause as per follows: However, maximum limit for cumulative LD for complete Contract shall not exceed 10% of the total Contract Price **excluding CAMC cost**.	Refer Corrigendum-2/ S.No-11
138	Part 2 Works Requirement - Technical Specification	2.26(iv)	Predictive and Condition based Monitoring (PCM) involves integrating sensors **and smart devices into the rolling stock. These devices continuously collect data, providing insights into the operational status of the trains.** Artificial Intelligence (AI) takes the data collected by PCM and uses it to make informed decisions for improving the performance of rolling stock.	**Concern:** what kind of devices & data expected to analyze here? **Clarification required:** Bidder request to explain the data required for what level of maintenance to used for example: webservices for level4. please elaborate.	Tender condition Prevails however this can be discussed during design stage.

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139	Part 2 Works Requirement - Technical Specification	4.15	EN16286 (latest version) or equivalent shall be used for design of the gangways. **Double piece** double skin with interior panel gangway suitably protected from heat and dust (subject to Engineer's approval) with suitable clamping and jointing arrangement on both ends with saloon end walls shall be provided within the unit. In case of separation of cars, the gangways shall have secured arrangement and shall not get damaged or de-shaped. Suitable form of guiding pin / plate etc., shall be provided so that the coupling / uncoupling of gangways can be carried out by one person.	**Concern:** As train configuration of 3car to use in operation, & car arrangement will be required in depot for any maintenance carried out. In view to above, single piece single/double skin gangway with interior panel usability and maintainability will have economically competitive. **Clarification required:** Bidder request to modify the clause as below: "EN16286 (latest version) or equivalent shall be used for design of the gangways. **Single/**Double piece **single/**double skin with interior panel gangway suitably protected from heat and dust (subject to Engineer's approval) with suitable clamping and jointing arrangement on both ends with saloon end walls shall be provided within the unit. In case of separation of cars, the gangways shall have secured arrangement and shall not get damaged or de-shaped. Suitable form of guiding pin / plate etc., shall be provided so that the coupling / uncoupling of gangways can be carried out by one person."	Tender condition Prevails
140	Part-3 General condition of contract	SCC SN 44 Sub-Clause 13.7 Page: 892 and 997 of 1193	**GCC Sub-clause 13.7 — Adjustments for Changes in Legislation** The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract. **SCC Sub-clause 13.7 — Adjustments for Changes in Legislation** The Contract Price shall be adjusted to take into account any new taxes or any statutory variation in Custom Duty, GST etc. on finished product/item during the contractual completion period to the Employer's account for which the Contractor shall furnish documentary evidence in support of their claims	GCC 13.7 covers all laws while the SCC 13.7 is limited to change in tax laws. Importantly, SCC 13.7 is only in addition to GCC 13.7 and not replacing GCC 13.7. Therefore, our understanding is that all change in laws shall be allowed by the Employer. Bidder request Maha-Metro to confirm	Any increase and decrease in cost resulting from a change in law shall be allowed.
141	Part-3 Section X. Contract Forms	Page 1031 of 1193	In consideration of the Employer entering into the Contract with the Contractor, the Parent Company hereby undertakes to the Employer that, without the written consent of the Employer, it will not [and will ensure that none of the companies referred to in Recital (C) will] [see Note 5]: a. Sell, transfer, assign or otherwise dispose of or deal with ownership of the whole or any part of EITHER [the share holding or other interest in the [Contractor] [see Note 3] OR [the share holdings or other interests] [see Note 4] referred to in Recital (C) in any way which will affect the beneficial ownership and control in [the Contractor] [see Note 3] of the Parent Company [and the other companies referred to in Recital (C)] [see Note 5]; and b. take any action which may result in the Contractor being unable to comply with its obligations or perform in any way its duties under the Contract [or take any action which may result in [the Member forming part of the Contractor] [see Note 3] being unable to comply with its obligations or perform in any way its duties under the [Consortium or other relevant] agreement] [see Note 6]	This requirement cannot be complied with. The Parent Company of bidder is a globally listed company and there are no such requirements in any tender which requires prior consent for selling the shareholding interest in the contractor The Parent Company can definitely inform the Employer. Similar provisions have been used by DMRC and all other customers and the clause is requested to be changed as follows: In consideration of the Employer entering into the Contract with the Contractor, the Parent Company hereby undertakes to the Employer that, ~~without the written consent of the Employer, it~~ will ~~not [and will ensure that none of the companies referred to in Recital (C) will] [see Note 5]~~ **inform the Employer in the event that it**: a. Sell, transfer, assign or otherwise dispose of or deal with ownership of the whole or any part of EITHER [the share holding or other interest in the [Contractor] [see Note 3] OR [the share holdings or other interests] [see Note 4] referred to in Recital (C) in any way which will affect the beneficial ownership and control in [the Contractor] [see Note 3] of the Parent Company [and the other companies referred to in Recital (C)] [see Note 5]; and b. take any action which may result in the Contractor being unable to comply with its obligations or perform in any way its duties under the Contract [or take any action which may result in [the Member forming part of the Contractor] [see Note 3] being unable to comply with its obligations or perform in any way its duties under the [Consortium or other relevant] agreement] [see Note 6]	Agreed. Parent company will inform the employer as requested.. Except this there will be no change in the form.
142	Part 2 Works Requirement - Technical Specification	12.4.3	Control equipment Panels shall be with **IP53** or better protection level. Main and auxiliary contacts of contactors and relays shall be with adequate protection against dust ingress. The distribution panels in the underframe shall be with IP65 protection.	**Concern:** To be properly packed equipment in well self/forced ventilated panels/cubcicles in saloon area with passenger restriction can be met with IP 2x levels also resulting economic & weight saving also. **Clarification required:** Bidder request to modify the clause as below: "Control equipment Panels shall be with **IP2x** or better protection level. Main and auxiliary contacts of contactors and relays shall be with adequate protection against dust ingress. The distribution panels in the underframe shall be with IP65 protection."	Tender condition Prevails
143	Part 2 Works Requirement - Technical Specification	4.13.3, 7.3.1	4.13.3: The front-end central emergency door shall be provided. 7.3.1:.....The clear width (minimum **750mm**) of the door way and ramp when operated shall be with a headroom not less than 1900mm.	**Concern:** To utilize cab with 2.9m wide carbody, 750mm(clear width) central detrainment door not proper use of space and restriction to driver visibility too else request to reduce clear width to 650mm with central position. **Clarification required:** Bidder request to modify the clause accordingly in respective clauses 7.3.1: "The clear width (minimum **650mm**) of the door way and ramp when operated shall be with a headroom not less than 1900mm."	Tender condition Prevails
144	Part-1 Section III. Evaluation and Qualification Criteria	EQC-4.3 Specific Experience – Propulsion System	Cumulative experience of minimum seven (07) years in the Design and Manufacturing of Propulsion Equipment (Traction Converter- Inverter or Traction Inverter, Auxiliary Converter-Inverter and Traction Motor) for Metro/Trainset/3- Phase MEMU/3-Phase EMU/RRTS.	We would like to request kindly modify the clause as follows: Cumulative experience of minimum seven (07) to ten (10) years in the Design and Manufacturing of Propulsion . Equipment (Traction Converter- Inverter or Traction Inverter, Auxiliary Converter-Inverter and Traction Motor) for Metro/Trainset/3-Phase MEMU/3-Phase EMU/RRTS.	Tender condition Prevails
145	Part-1 Section IV. Bidding Forms	4.1 Staffing Schedule and Organization Chart Sr no. (4)	Note: Minimum 50% of the above key personnel shall have been regular employees of the Bidder for at least 2 years.	We would like to request to remove the note for better participation from eligible bidders.	Tender condition Prevails

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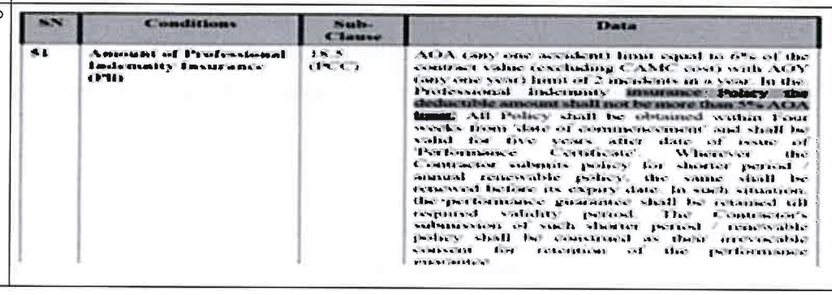
146	Part-1 Section IV. Bidding Forms	4.1 Staffing Schedule and Organization Chart Sr no. (5)	The Bidder shall provide details of the proposed personnel and their experience records using Forms PER-1 and PER-2 included in Section IV, Bidding Forms.	We would like to request that kindly remove this clause and PER-1 and PER-2 Forms. Instead of the above, kindly allow to submit the deployment declaration.	Tender condition Prevails
147	Part-1 Annexure IV A. Pricing Document	A.4.2 Pg 188 and Sub-clause 13.7 Pg 997	**A.4.2** 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/decreasein cost due to new taxes or change in existing taxes introduced during extended contractualperiod due to Contractor's fault shall be to Contractor's account **Sub-clause 13.7– Adjustments for Changes in Legislation.** The following is added to the existing clause: The Contract Price shall be adjusted to take into account any new taxes or any statutory variation in Custom Duty, GST etc. on finished product/item during the contractual completion period to the Employer's account for which the Contractor shall furnish documentary evidence in support of their claims. Similarly any negative changes in the above mentioned taxes in comparison to taxes applicable on base date shall be recovered suitably from the Contractor's account. However, any increase in the cost due to new taxes or changein the existing taxes & GST / Customs Duty Act etc. introduced during the extended contractual completion period due to the Contractor's fault shall be debited to the Contractor's account.	**We understand the following** 1) Change in Legislation / Statutory Variation " includes following. (a)Any new tax imposed (b) Change in the rate of Custom Duty & GST (c) Any change in interpretation of applicability/rate of taxes. Suitable adjustment in the selling price shall be made for above variation during the execution of the project including extended period of completion. The vairiation for Input goods and services shall be ristricted to Non cretiable taxes for e.g Customs duty , non creditable cess/ surcharge etc 2) We understand that the maintenance scope will be covered for changes in any new taxes or any statutory variation in Customs Duty and GST on maintenance services. **Please confirm our Understanding.**	Any increase and decrease in cost resulting from a change in law shall be allowed.
148	Part-1 Section III. Evaluation and Qualification Criteria	EQC-4.2.a Specific Experience – Delivery Record and Operational Performance	Experience of manufacturing, delivery, testing and commissioning (including train integration as well as interface with other systems like signaling, telecom etc.) of minimum 50 cars (Metro, LRT, Suburban EMUs, Train sets) and 25 of these cars should be in satisfactory revenue operations for minimum of 3 years	We would like to request kindly modify the clause as follows: Experience of manufacturing, delivery, testing and commissioning (including train integration as well as interface with other systems like signaling, telecom,etc.) of minimum 50 cars (Metro, LRT, Suburban EMUs,**MEMUs,** Train sets) and 25 of these cars should be in satisfactory revenue operations for **minimum of 2 years**	Tender condition Prevails
149	Part-1 Section III. Evaluation and Qualification Criteria	EQC-4.2.b.1 Specific Experience – Delivery Record and Operational Performance	Experience of design, manufacturing, delivery, testing and commissioning of minimum 25 cars (Metro, LRT, Suburban EMUs, Train sets) with Stainless Steel or Aluminium body and these 25 cars should be in satisfactory revenue operations for minimum of 3 years	We would like to request kindly modify the clause as follows: Experience of design, manufacturing, delivery, testing and commissioning of minimum 25 cars (Metro, LRT, Suburban EMUs,MEMUs, Train sets) with Stainless Steel or Aluminium body or corten steel/steel and these 25 cars should be in satisfactory revenue operations for minimum of 3 years	Tender condition Prevails
150	Part-1 Section III. Evaluation and Qualification Criteria	Important Notes: 8b	Also Applicant in the capacity of a Parent Company as a single entity is not permitted to use the credential of its Subsidiary Company/ Companies unless the Applicant participates in bid as JV/Consortium with its Subsidiary Company/Companies as a member(s) in JV / Consortium with minimum 10% participation each for such member(s).	We would like to request to kindly modify the note as follows: Applicant in the capacity of a Parent Company as a single entity is permitted to use the credential of its Subsidiary Company/ Companies/associates.This would enhance the competetive Bidding.	Tender condition Prevails
151	Part-1 Section I. Instructions to Bidders	-	Estimated Cost of works : N/A	We would request MAHA-METRO to kindly share the estimated cost of works for our evaluation and competitive Bidding	Tender condition Prevails
152	Part-3 Section IX: Particular Conditions of Contract (PCC)	PCC Section IX/ Point No 51	 **SN** / **Conditions** / **Sub-Clause** / **Data** **51** / **Amount of Professional Indemnity Insurance (PII)** / **18.5 (PCC)** / AOA (any one accident) limit equal to 6% of the contract value (excluding CAMC cost) with AOY (any one year) limit of 2 incidents in a year. In the Professional indemnity insurance Policy the deductible amount shall not be more than 5% AOA limit. All Policy shall be obtained within Four weeks from 'date of commencement' and shall be valid for five years after date of issue of 'Performance Certificate'. Wherever the Contractor submits policy for shorter period / annual renewable policy, the same shall be renewal before its expiry date. In such situation, the performance guarantee shall be retained till expired validity period. The Contractor's submission of such shorter period / renewable policy shall be construed as their irrevocable consent for retention of the performance guarantee.	For Rolling stock contracts, Professional Indemnity deductibles couldn't be possible less than 5% of AOA. Based on current Reinsurance market conditions, insurer's not accepting these lower deductibles in PII policies especially for RS & SIG Projects. So we will try our best to comply this clause, **if couldn't able to succeed, Bidder request Maha-Metro to accept the policy with the arranged deductibles**. However as per contractual clauses, any insurance policy deductibles shall be borne by the contractor itself, **so we request to remove the deducitbles capping.**	Tender condition Prevails

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153	Part-3 Section IX: Particular Conditions of Contract (PCC)	PCC Section IX/ Point No 57	57 **Sub-Clause 18.2 Insurance for Works and Contractor's Equipment** **Add the following at the end of this sub-clause:** The Contractor shall take Comprehensive All Risk (CAR)/EAR(Erection all risk) insurance policies duly covering Marine/Transit, Erection cum Storage insurance of cars for value equivalent to the contract value with deductibles not exceeding one (01) percent value. Insurance policy shall be valid till three months after expiry of DLP. The policy shall include insurance for the complete contract value.	**Indian Insurance EAR tariff deductibles itself starts with 5% (as attached). so we as a Bidder couldn't comply this 1% of deductibles clause in EAR/CAR policy clause.** However as per contractual clauses, any insurance policy deductibles shall be borne by the contractor itself, **so we request to remove the deducitbles capping.**	Tender condition Prevails
154	Part-1 Annexure IV A. Pricing Document	A.5 Price Variation	Note: The above PVC clauses shall not be applicable on Cost Center I (CAMC) & Cost Center G.	Considering the long duration of Maintenance, more than 15 years, it is extremely difficult to offer a fixed price for such a long duration. Bidder request to add the price adjustment methodology for Cost Centre I as below: Pn=0.2+0.4*(An/Ao) + 0.4*(Bn/Bo) In which: Pn = adjustment multiplier to be applied to the quoted currency portion. 'An' and 'Bn' are the current cost indices for period 'n' (to which the particular interim payment certificate relates) of the material portion and labour portion respectively for quoted Currency portion applicable to Cost Centre-I. 'A0', and 'B0' are the base cost indices of the material portion and labour portion respectively for quoted Currency applicable to the Cost Centre-I as on 28 days prior to the date of Submission of Bid. Note: i) Labour Index: "All India Consumer Price Index for Industrial Workers (CPI-IW)(Base Year: 2016=100)" published by Labour Bureau of Ministry of Labour & Employment, Government of India. ii) Wholesale Price Indices: Base 2011-12: Published by Economic Adviser, Ministry of Commerce & Industry, Government of India. iii) In case the indices as indicated , changes in composition, it shall be replaced by any index which subsequently substitutes the corresponding indices. The Price Adjustment for each milestone will be made at the time of payments for Milestones under Cost Centre I. **The similar formula is already part of other awarded tenders in India (BMRCL 318 Cars, CMRL, DMRC Ph IV, BHIN etc.)**	Refer Corrigendum-2 / S.no. 17
155	Part-1 Technical submission	Attachment II Design Data of Cars and Equipment Table 1.1	Tare weight of the complete car together with bogies (a)DM Car Max. 43t (b)T Car Max. 42t	We suggest to ignore the requirement of the weight of a single car and only reserve the requirements for axle load and car weight in 456 pages of 3.21.3.	Tender condition Prevails
156	Part-3 Section VIII. General Contract Conditions	Clause 47, Sub-Clause 14.2, Advance Payment	**A) Mobilization Advance:** interest bearing Mobilization advance shall be 20% of original contract value payable in two equal instalments of 10% (Ten Percent) each in the currencies and proportions of the Accepted Contract Amount Rate of interest shall be charged at "SBI Bank Rate+2% (Two percent)" simple interest. Interest will be chargeable and calculated on reducing balance method.	Bidder request Maha-Metro to consider interest free mobilization advance Inline with other recent MMRDA Line 4, Line 5 and Line 6 & Chennai Metro etc.	Tender condition Prevails
157	Part-1 Section IV. Bidding Forms	Financial Forms	Form FIN – 3.1: Financial Situation and Performance Form FIN – 3.2: Average Annual Turnover Form FIN – 3.3: Financial Resources Form FIN – 3.4: 1. Current Contract Commitments / Works in Progress 2. Summary of Information for Works in Hand Form FIN-3.6 Undertaking regarding Bankruptcy / Insolvency/Corporate Debt Restructuring **Above forms details should be certified by statutory auditor**	Bidder request Maha-Metro to ammend requirement of certification for the forms Forms – 3.1, 3.2, 3.3, 3.4 and Form - 3.6 with Statutory Auditor certificate/**Charted Accountant**. In all metro tenders, certification by Charted Accountant allowed in the Financial forms including MMRDA etc.	Tender condition Prevails
158	Part-3 Section IX: Particular Conditions of Contract (PCC)	SCC SN 38 Sub-Clause 8.9 Page: 988 of 1193	**Sub-Clause 8.9 Consequences of Suspension** The Contractor shall not be entitled to extra cost (if any), incurred by him, during the period of suspension of Work, if such suspension is (g) on account of any other reason which is not attributable to the Employer	SCC 8.9(g) states no compensation for suspension for any event which is not attributable to the Employer. This seems to include all events beyond force majeure also, leaving the contractor financially vulnerable. We propose amending SCC 8.9(g) to allow compensation for all events of suspension if it is not attributable to contractor and which is not falling under Force Majeure	Tender condition Prevails

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159	Part-3 Section IX: Particular Conditions of Contract (PCC)	SCC SN 47 Sub-Clause 14.2 Page: 1003 of 1193	b). The repayment amortization rate (%) shall be as under: Recovery of the Advance Payment shall be done in respective currencies and shall commence when 20% of the original contract value of the work has been paid in respective currencies (in addition to the mobilisation advance) and shall be recovered by deduction of 35% of the amount of each interim payment until the total of mobilisation advance is recovered before payment of 80% of Contract price or before the expiry of original contract period (or any extension as approved by the Employer for recovery of advance) whichever is earlier.	The clause for recovery states that it has to be recovered before payment of 80% of Contract Price or before the expiry of original contract period (or any extension as approved by the Employer for recovery of advance), whichever is earlier It is still not clearly granted under the contract that if the contract period is extended then the recover of advance should be automatically extended also. It remains under sole discretion of Employer. This places unreasonable burden on the Contractor. Please amend the clause as follows "..... before payment of 80% of Contract price or before the expiry of original contract period (or any **extended contract period** ~~extension as approved by the Employer for~~	Tender condition Prevails
160	Part-3 Section IX: Particular Conditions of Contract (PCC)	Sub-clause 5A.9, Intellectual Property Rights and Royalties	If any patent, registered design or software is developed by the Contractor specifically for the Works, the title thereto shall vest in the Employer and the Contractor shall grant to the Employer a non-exclusive irrevocable and royalty-free licence (carrying the right to grant sub-license) to use, repair, copy, modify, enhance, adapt and translate in any form such Software for his own use.	For foreground IPR, it is mentioned that the title of such IPR shall vest with the customer, but at the same time it is mentioned that contractor will grant license. Bidder request Maha-Metro to clarify the above requirement. The contractor can only grant non-exclusive license	Tender condition Prevails
161	Part 2 Works Requirement - Technical Specification	Table 1.1. Table 4.1 SOD 3.1	The car length details not same in all three clause Table 1.1 car length over body is 23 m where as in Table 4.1 and SOD 3.1 it is 21940mm	Please confirm correct length of Car	Refer Corrigendum -2/S.no- 44
162	Part 2 Works Requirement - Technical Specification	7.2.1 (iii) (iv)	PSD is separate contract and will be installed all the station	We understand that Nagpur Phase I have no PDS hence Door Pitch of Bidders Rolling Stock will be consider as reference and accordingly door pitch of PSD will be adapted ,if PSD is implemented in future (for Ph1-& Ph2), request your confirmation on this topic.	Tender condition Prevails
163	Part-3 Section IX: Particular Conditions of Contract (PCC)	SCC SN 45 Clause 14.8 Publishing source of commercial interest rates for financial charges in case of delayed payment	Deleted	Bidder request Maha-Metro to include back GCC Clause 14.8 which entitles the contractor interest in case of delayed payment. Reference Tender MMRDA tender Mumbai L4, L5 and L6	Tender condition Prevails
164	Part-3 Section IX: Particular Conditions of Contract (PCC)	Sub-clause 17.1, Indemnities	Employer's indemnification obligation removed	Bidder request Maha-Metro to include back the GCC clause 17.1 pertaining to Employer's indemnity to the Contractor. Reference Tender MMRDA tender Mumbai L4, L5 and L6	Tender condition Prevails
165	Part-1 Section II. Bid Data Sheet	ITB 14.15 (new Para) Page 52	For information of Bidders, the Goods and Service Tax (GST) has become effective with effect from 01.07.2017 and replaced all other Indirect Taxes existing prior to it.The subject contract, except AMC (if any), will be treated as a composite work contract and would attract GST as per prevailing rate. The applicable GST and any other tax / duty would be included in the Bid Price andno tax reimbursement would be provided by MAHA-METRO to the Contractor.	We have following understanding w.r.t to chargability : DESIGN, MANUFACTURE, SUPPLY, TESTING, COMMISSIONING OF PASSENGER ROLLING STOCK (16NOS of TRAIN SETS) AND TRAINING OF PERSONNEL WITH COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT charged under below HSN/SAC codes: - Rolling Stock Supply under Cosmposite supply of Rolling stock as goods HSN - 8603 @ 18% - Comprehensive Maintenance SAC - 9983 @ 18% - Other – Spares based upon respective HSN (ranges from 5 to 28%) **Kindly Note that there is NO terms referred as "Composite Work Contract" under GST law.** **Kindly Confirm the understanding**	Tender condition Prevails
166	Part 2 Works Requirement - Technical Specification	3.22.1 & 6.19.1	There is difference in the Jerk rate in clause 3.22.1and clause 6.19.1 (0.75 m/s/s/s & 0.70 m/s/s/s	Please confirm the correct Value.	Refer Corrigendum -2/S.no- 48
167	Part-3 Section IX: Particular Conditions of Contract (PCC)	Sub-Clause 14.1 (e), The Contract Price Pg 998	Customs: • Certificate from Chartered Accountant with regards to payment of Customs Duty with respect to imports / manufacture of materials for MAHA-METRO. • Copy of challans in regard to deposit of tax and Import Documents to be furnished along with the bills. • Any duty drawback, export / import incentive, concession / exemption available to the Contractor to be passed on to MAHA-METRO. • On behalf of Maha Metro, contractor shall pay custom duty on OBCU Signaling equipment or any signaling equipment received from SIGNALING contractor of Maha Metro. which will be separately reimbursed on actual basis against the documentary proof	We Propose to amend the clause accordingly Customs: • Certificate from Chartered Accountant with regards to payment of Customs Duty with respect to imports / manufacture of materials for MAHA-METRO. • Copy of challans in regard to deposit of tax and Import Documents to be furnished along with the bills. • Any duty drawback, export / import incentive, concession / exemption available to the Contractor to be passed on to MAHA-METRO. • ~~On behalf of Maha Metro, contractor shall pay custom duty on OBCU Signaling equipment or any signaling equipment received from SIGNALING contractor of Maha Metro. which will be separately reimbursed on actual basis~~	Tender condition Prevails

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Sr. No	Volume No./ Part No	Clause No.	Bid Condition	Bidder's Queries	Response/Remarks
168	Part-1 Annexure IV A- Pricing Document	A.4 General requirement	Bidder shall quote lump sum price inclusive of all taxes, duties, levies, insurance, freight, cess and all other incidental charges required to fulfil the contract requirements, including statutorydeduction viz. TDS towards Income tax etc. The Bidder shall be required to give in its Bid offer breakdown of his lump Sum price clearly giving the following: (a) Customs duty on offshore manufactured trains and mock-up, if any along with rate of Custom duty. (b) GST on completely assembled / manufactured trains and mock-up, 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-G along with rate of Custom duty. (d) GST on spares, jigs, fixtures, special tools and diagnostic equipments etc., forming part of Cost Centre-G along with rate of GST. (e) GST and other taxes on CAMC for components forming part of Cost Centre I along with rate of GST. (f) other levies / cess etc. as applicable	We have following understanding 1) Customs duty on offshore components , sub assembly , spares , fixtures , special tools and diagnostic equipments will be under "Cost center B & D" also 2)Customs duty on offshore components , sub assembly , spares , fixtures , special tools and diagnostic equipments for CMC under "Cost center I" Kindly Confirm the understanding	Tender condition Prevails
169	Part-3 Section IX: Particular Conditions of Contract (PCC)	PCC Section IX/ Point No 49	49 | Periods for submission of insurance: | 18.1 a. evidence of insurance. • 14 days from Commencement Date b. relevant policies 28 days from Commencement Date	Considering present Insurance market scenario, **a) For Evidence of insurance submission** - Bidder request to consider the **minimum of 45 days from the date of receipt of Letter of Acceptance.** **b) For Policies submission** Bidder request to consider the **minimum of 60 - 70 days from the date of receipt of Letter of Acceptance.** **In case of Professional Indemnity policy,** Bidder would require **minimum of 90 days from the date of receipt of Letter of Acceptance.**	Tender condition Prevails
170	Part 2 Works Requirement - Technical Specification	7.3.1	Front Emegency Door width should be minmum 750 mm	Bidder understanding that the as per global practice for 2.9 m width train the front end emergency door width is in range of 615+/- 15 mm, in centralized position Bidder request to update the clause .	Tender condition Prevails
171	Part 2 Works Requirement - Technical Specification	7.4.6	Cab side door opening width shall be 650 +/= 50mm	Bidder understanding that the as per global practice for 2.9 m width Train the cab side door width is in range of 600+/- 50 mm, this width is sufficient for all operational purpose ,Bidder request to update the clause	Tender condition Prevails
172	Part 2 Works Requirement - Technical Specification	8.12.3 & 8.13.7	There is difference in the Discharge voltage and drop timing in clause 8.12.3 and clause 8.13.7 (45 v in 2 min & 50 v in 15 min)	Please confirm the correct Value.	Tender condition Prevails
173		KEY DETAILS:Date & Time of Opening of Tender	On Dt 29.04.2025 after 16:30 Hrs in Procurement Department, 'I st Floor, 'Metro Bhawan" East High Court Road (VIP Road), Near Dikshabhoomi, Ramdaspeth, Nagpur - 440010.	1.As Per BDS ITB 1.6A (new para) ,as a bidder from a country which share a land border with india,shall require to be registration with the competent authority,we need time to study and process; 2.This project need to be compatible with existing trains,it will take some time to work on this ; In view of above ,we suggest to change the clause Date & Time of opening of tender to "On Dt 29.07.2025 after 16:30 Hrs in Procurement Department, 'I st Floor, 'Metro Bhawan" East High Court Road (VIP Road), Near Dikshabhoomi, Ramdaspeth, Nagpur - 440010."	Please refer Corrigendum-1
174	Part 2 Works Requirement - Technical Specification	7.6.1; 4.4.1	7.6.1: **All exterior doors shall be of stainless steel** of same finish as sidewall and should have the same durability as the vehicle body. The interior finish of door leaves shall be powder coated / textured unpainted stainless steel and shall be compliant with the visual design and withstand severe wear and tear. ..... 4.4.1: The car body shall be constructed of aluminium or austenitic stainless steel of grade SUS301L to JIS G4305 or equivalent international standard. The Contractor shall bring to the notice of and take prior approval of the Engineer, if any of the components of the car body is intended to be of different material. Intermix of aluminium & stainless steel shall not be permitted.	**Concern:** Clause no. 4.4.1 is asking for aluminium or stainless steel carbody whereas clause no. 7.6.1 is asking for stainless steel exterior door with same finish of sidewall. Exterior door material should be same as of sidewall material either aluminium or stainless steel respectively. **Clarification required:** Bidder request to modify the clause 7.6.1 as below: "All exterior doors shall be of **stainless steel or aluminium** of same finish as sidewall and should have the same durability as the vehicle body....."	Refer Corregendum -2 /S.no-23
175	Part 2 Works Requirement - Technical Specification	11.6.1.	The Contractor shall provide twin hermetic scroll/rotary compressors proven for sufficiently long time in Metro service. Scroll/rotary compressor shall be suitable for operation at high ambient temperatures up to 50ºC. The details of the drive for the compressor shall be provided. Full details of the compressor and its experience in Metro application, particularly in high temperature, dusty and humid environment shall be furnished. Unloading of compressor shall be linked with HP setting. The compressor motor(s) shall be inverter based VVVF drive to optimize the energy efficiency and improved controls in view of the varying passenger loads and complete details of the same shall be provided during design stage. References of the inverter controlled HVAC system shall be submitted with the bid to verify the proven design and supplies to metro trains	**Bidder proposed the clause modified in line with DMRC RS 17** The Contractor shall provide twin hermetic scroll/rotary compressors proven for sufficiently long time in Metro service. Scroll/rotary compressor shall be suitable for operation at high ambient temperatures up to 50ºC. The details of the drive for the compressor shall be provided. Full details of the compressor and its experience in Metro application, particularly in high temperature, dusty and humid environment shall be furnished. Unloading of compressor shall be linked with HP setting. ~~The compressor motor(s) shall be inverter based VVVF drive to optimize the energy efficiency and improved controls in view of the varying passenger loads and complete details of the same shall be provided during design stage.~~References of the inverter controlled HVAC system shall be submitted with the bid to verify the proven design and supplies to metro trains	Tender condition Prevails

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176	Part 2 Works Requirement - Technical Specification	13.9.6	13.9.6: **Each camera shall have recording capacity of at least 120 hrs.** 13.9.7: The **visual images from each camera shall be recorded in non-volatile SSD memory in a redundant video recorder (NVR)** without any limitation of repetitive writing of the data. The records shall be easily downloadable. The Contractor shall provide equipment and means for the same. At least one set of such equipment shall be provided to each depot.	**Concern:** Clause no. 13.9.7 is asking each camera visual images to be recorded in NVR (network video recorder) means camera will not require any inbuild memory but clause no. 13.9.6 expecting that each camera shall have 120hrs recording capacity means inbuild memory. **Clarification required:** Bidder request to clarify the requirement of camera recording to be recorded in NVR or inbuild memory. Please clarify.	Tender Condition Prevails
177	Part 2 Works Requirement - Technical Specification	13.12	NMRCL intends to provide in train wi-fi system for passengers. The wi-fi system will require on-board equipment which will be under the scope of other designated contractors. The RS contractor shall interface with wi-fi contractor and provide appropriate space in the train for wi-fi equipment as well as make **provisions for Ethernet network (through inter car jumpers)** and emergency power supply for this purpose.	**Concern:** Wifi router & its equipment to be cyber secured as clause 13.12 is asking for WiFi integration to train network. **Clarification required:** Bidder request to confirm the cybersecurity to be taken care for WIFI equipment by its designated contactor too. Detail work to be done in design stage. Please confirm.	Refer Corregendum -2 /S.no- 67
178	Part 2 Works Requirement - Technical Specification	13.9.8	Provision shall be made and tested to enable train operator to relay CCTV images to dedicated server at OCC by pressing a pushbutton in case of emergency. The server for this purpose shall be provided by the Employer / other Designated Contractor. As a minimum, the images should be selectable for a time or time interval as required. Final scheme shall be worked out during design. **The Contractor shall provide the on-board equipment** and commission the system based on the communication link provided by the Employer. Full details shall be submitted for Engineer's review.	**Concern:** Bidder understand clause no. 13.9.8 requirement for CCTV images relay to OCC during any emergency by Push button operation or by software in HMI with available PACIS system/network in train and commissioning support. But clause is asking for on board equipment also to be supplied by the contactor. **Clarification required:** Bidder request to confirm **on board equipment** required and whose scope either RS contractor or employer/other designated contactor. Please confirm.	Refer Corregendum -2 /S.no- 66
179	Part 2 Works Requirement - Technical Specification	4.14.8, under sub clause FLOOR, sub sec.(i), PageNo.474/1193.	The non-skid floor structure shall be of floating floor type. Aluminium honeycomb sandwiched type floating floor with suitable noise, vibration and heat insulation, duly supported on rubber cones shall be preferred. Alternatively, the floor may comprise of ply board with cork inlay, rubber cushion, glass wool insulation and floor covering subject to its conformance with EN45545 as a minimum to achieve low noise level inside the cars and less weight. The floor shall be designed to minimize the life cycle cost of the floor over 35 years. Subject to submission of complete details and approval by the Engineer & for better noise attenuation level of the floor and conformance to EN 45545 or better / equivalent international standard as specified in ERTS 2.5.8 any suitable alternate design of floating floor can also be considered.	The non-skid floor structure shall be of floating floor type. Phenolic Composite / Aluminium honeycomb sandwiched type floating floor with suitable noise, vibration and heat insulation, duly supported on rubber cones shall be preferred. Alternatively, the floor may comprise of ply board with cork inlay, rubber cushion, glass wool insulation and floor covering subject to its conformance with EN45545 HL3 as a minimum to achieve low noise level inside the cars and less weight. The floor shall be designed to minimize the life cycle cost of the floor over 35 years. Subject to submission of complete details and approval by the Engineer & for better noise attenuation level of the floor and conformance to EN 45545 HL3 or better / equivalent international standard as specified in ERTS 2.5.8 any suitable alternate design of floating floor can also be considered.	Refer Corregendum -2 /S.no- 61
180	Part 2 Works Requirement - Technical Specification	6.13.24	The speed measurement devices and couplings required for measurement of train speed in a fail-safe manner by the Signalling and Train Control Contractor shall be installed on **one non-powered axle in each 3-car unit (DM+TC+DM)**	**Concern:** For 3car train, at least 1 free axle will be challenging for service brake. it could be review durign design phase for possibility with signalling contractor. **Clarification required:** Bidder request to modify clause as below: "The speed measurement devices and couplings required for measurement of train speed in a fail-safe manner by the Signalling and Train Control Contractor shall be installed on one non-powered axle**(if feasible)** in each 3-car unit (DM+TC+DM)....."	Refer Corregendum -2 /S.no- 65
181	Part 2 Works Requirement - Technical Specification	6.13.3	The EP brake shall so design that its control function can be taken over by the other control elements or units even in the case of failure of individual electronic or electrical control elements or units. Redundancy for WSP is also preferred, details shall be finalized during design stage. **Redundant power supply and processor card for hot standby** in the control unit and spare slots for I/O cards shall be ensured.	**Concern:** Redundancy of Brake control electronics unit(BCE) is ensured but clause 6.13.3 is asking for redundant power supply and processor card for hot standby means BCE hot standby. Bidder need to understand the requirement of redundancy or hot standby for BCE. **Clarification required:** Bidder request to clarify the requirement of hot standby and redundancy of BCE.	The clause is self explanatory
182	Part 2 Works Requirement - Technical Specification	7.3.1	7.3.1 Arrangement for emergency egress of passengers from the front shall be provided on the cab front. Thedoor arrangement shall be aesthetically designed ensuring seamless clear view of the track from cab. The door shall aesthetically harmonize with the lookout glass and cab front and shall not block the front view giving a look of single front glass. The visibility of the joint between the front door and lookout glass shall be bare minimum. The detrainment door system shall be SIL2 compliant and shall be provided with a sealed cover door actuating mechanism. **The clear width (minimum 750mm) of the door way** and ramp when operated shall be with a headroom not less than 1900mm.	Requested to reduce the clear width (**minimum 700mm**) of the door way and ramp , to accommadate cab equipments. .	Tender condition Prevails
183	Part 2 Works Requirement - Technical Specification	7.4.6	The door shall be positioned such that access to the cab is free from obstructions. The clear dooropening width shall be **650mm ± 50mm.**	Requested to reduce the clear door opening width **550mm ± 50mm.** To avoid infringement with Saloon door opening..	Tender condition Prevails
184	Part-1 Annexure IV A. Pricing Document	A.6 Quantity Variation A.6.1	The Employer at its discretion may advise the Contractor in writing about increase of the total quantity upto 14 complete train-set of 3-car. For any increase in quantity, Employer may exercise the option on any date before six months of the end of DLP	A. Please confirm, if Variation of 14 TS (3 car each) is a confirmed procurement by Maha metro in future with necessary funding arrangement and Variation qty will not be less than 14 TS. This will help us consider the total requirement to enable us offer better pricing. B.Also, Bidder request Maha-Metro to amend the following clause to maintain continuity in production as "The Employer at its discretion may advise the Contractor in writing about increase of the total quantity upto 14 complete train-set of 3-car. For any increase in quantity, Employer may exercise the option on any date before six months of the ~~end of DLP~~ **last scheduled trainset delivery.**	A. Teneder Condition Preavails. B.Refer corrigendum-2 S.No.1

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185	Part 2 Works Requirement - Technical Specification	7.5.1	Suitably designed temporary door between the saloon and the cab to permit access to the passenger saloon shall be provided. The clear door opening shall be approximately 1000mm wide. In normal operation, opening the door from the saloon shall require the use of a special key.	The clear door opening shall be approximately **700mm wide**. In normal operation, opening the door from the saloon shall require the use of a special key. Clear door Opening of Saloon to acb door will be same as that of Front Emergency Door	Tender condition Prevails
186	Part-3 Section IX: Particular Conditions of Contract (PCC)	Insurances	General	It is requested to revisit the insurance related clauses and update as per latest developments & IRDAI regulations. Sample Delhi Metro latest tender insurance clause extracts are attached for your kind reference.	Tender condition Prevails
187	Part-1 Annexure IV A. Pricing Document	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract	Bid Currency	Bidder requests to allow quoting for CAMC with multi currency payment provision similar to other cost centers A to H. **The similar provision was there in other awarded tenders in India (BMRCL 318 Cars, DMRC Ph IV, CMRL etc.)**	Tender condition Prevails
188	Part-1 Annexure IV A. Pricing Document	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract, Sl No. 1	Payment of CAMC will be made quarterly...	Bidder requests for monthly payment for CAMC scope of work.	Tender condition Prevails
189	Part 2 Works Requirement - Technical Specification	2.26 Predictive and Condition based Monitoring (PCM):	vi) Contractor shall also provide support during CAMC period for analysing the PCM outputs and establish the predictive maintenance strategy. Suitable training for the Maha-Metro technicians shall also be provided.	A-Bidder understands the scope of the contractor during CAMC shall be limited to analysis of PCM outputs and establishing the predictive maintenance strategy and one time training of the Maha Metro staff only. Any incidental costs related to licenses, software maintenance etc. shall be directly to the account of Maha Metro. Please confirm if our understanding is correct. B- Further, please share the staff count to be trained.	A- Refer Corrigendum-02/Sl. No.-27 B-Staff count for the training shall be finalised during design stage.
190	Part-1 Section II. Bid Data Sheet	ITB 14.16	MAHA-METRO project is covered under Project Import chapter 98.01 of Custom Tariff Act according to which only concessional custom duty is payable. The Bidder should avail this benefit and has to pass on the benefit of the same to MAHAMETRO.	Bidder requests a confirmation if the concessional custom duty shall be applicable to CAMC contract as well and at what rates it would be chargeable?	Tender condition Prevails
191	Part 2 Works Requirement - General Specification	10.2 Site Facilities	10.2.7 All buildings shall be supplied with electricity 240V, 50Hz that shall be distributed to each room in accordance with the Regulations. Lighting and electrical power points shall be provided to each room. Charges of all utilities shall be recovered by Maha-Metro. 10.2.14 The Contractor shall be responsible for making applications or requests to the concerned Authorities for availing of the above facilities. In the event that electricity or water supplies are arranged by another Designated Contractor in the Depot area, the Contractor may avail himself of those supplies from the Designated Contractor, either directly on agreed terms and conditions. The Contractor shall comply with all regulations of the utility companies and Government departments concerned.	Bidder request Maha Metro to provide Electricity, Water and compressed air, adequate lighting in RS Maintenance depot for night shift working free of charge to Contractor, however, Contractor shall ensure measures to avoid any misuse of Electricity & Water. Please modify the clauses accordingly.	Refer Corrigendum-2/S.no 47 & 20
192	Part 2 Works Requirement - General Specification	10.2 Site Facilities	Maha metro will provide appropriate site office and store space to Contractor free of cost. Furnishing shall be done by contractor as per requirements and as agreed.	Bidder understands there will three depots allocated to contractor for CAMC scope of work. Please clarify if the site offices and covered stores facility for CAMC scope shall be provided in all three depots and what will be the area allocation for the same at each depot.	There are 2 existing depot and 3 terminal station where stabling and light mainatainence can be done. Suitable places will be allocated as per requirement.
193	PART 3: Section IX: Particular Conditions of Contract (PCC)	Sl No. 6 Defects Notification Period (Defect Liability Period) and CAMC period	1- Defect Liability period will be 24 months from date of induction in revenue service of individual train set. 2- CAMC for 15 years will start from date of induction in revenue service of individual trainsets. 3- DLP/CAMC period of increased quantity if any shall also be worked out accordingly.	Bidder understands that CAMC duration shall be 15 years for each train from the date of induction in revenue services. If the option for increased quantity is exercised, then the CAMC duration for additional trainsets shall be 15 years for each trainset and costs for the additional scope and duration shall be apportioned accordingly for each train. Please confirm if our understanding is correct.	Bidder Understanding is correct
194	Part-1 Section II. Bid Data Sheet	ITB 14.17	In view of above, the Bidders are advised to quote the price inclusive of all taxes, duties, levies, cess and all other incidental charges required to fulfil the bidding conditions including statutory deduction viz., TDS towards Income Tax etc. after considering ITB 14.7 to 14.16 above.	Bidder requests a clarification, if the quotation needs to be inclusive on output GST as well?	Tender condition Prevails
195	Part 2 Works Requirement - Technical Specification	2.13 RAM Liability	In the event the total Damages recoverable from the Contractor on account of Availability Damage as specified exceeds 10% (ten per cent) of the total quarterly payment otherwise due under Cost Centre I (CAMC), the Damage amount in excess of such 10% (ten per cent) shall be carried forward to the subsequent Quarter of the Maintenance Period. For the avoidance of doubt, if the amount carried forward under this Clause cannot be adjusted in the subsequent quarter, it shall continue to be carried forward to the following quarter of the maintenance period until it is fully adjusted, but only within the ceiling of 10% (ten per cent) specified herein above.	The current regime of penalties for avaiability are very high. Bidder requests to change the penalties as: 1. Passenger De-boarding in mainline ~~Rs 25 Lakhs~~ to Rs 10 Lakhs Trip Delay/Cancellation: 2. > 59 seconds <= 5minutes (Trip Delay) ~~Rs 20,000 / per trip~~ to Rs 10,000/ per trip 3. > 5 minutes (Trip Cancellation) ~~Rs 2 Lakhs / per trip cancellation~~ to Rs 1 Lakhs / per trip cancellation	Tender condition Prevails
196	Part-1 Annexure IV A. Pricing Document	COST CENTRE No. H (iv)	Training and Manuals Any other item considered necessary for the Contractor to comply with the Scope of Works.	Bidder requests Maha Metro to share the detailed explanation of "any other items"	Tender condition Prevails
197	Part 2 Works Requirement - Technical Specification	8.7.1	The main transformer shall have a service life of at least 40 years, demonstrable through design calculations to the satisfaction of the Engineer.	Design life of Train is 35 Years, however in 8.7.1 of ERTS its mentions as Service life of Main Transformer at 40 Years? Bidder requests Maha Metro to please clarify this statement	Tender condition Prevails

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198	Part-1 Annexure IV A- Pricing Document	G. COST CENTERS AND MILESTONES Page 191	Cost Centres and Milestones there under are fixed and shall not be changed by the Bidder	Bidder will require high working capital to manage high developement and peformance tests. Request you to add following additional payment milestones Cost Centres FAT : First Article Inspection, 7% of Total Lumpsum Bid price excluding Cost Center 'I' and 'G' Cost Centres PRT : Ready for dispatch from factory 1st Proto Train, 6% of Total Lumpsum Bid price excluding Cost Center 'I' and 'G'	Tender condition Prevails
199	Part-1 Annexure IV A- Pricing Document	A.1 Page 187	This is a lump sum price Contract for Design, Manufacture, Supply, Testing, Commissioning of Passenger Rolling Stock (Electric Multiple Units) and Training of Personnel with CAMC of 15 year (details of total number of coaches, trainsets including configuration to be supplied are indicated in the Section IX. Particular Conditions, Part A – Contract Data 'Table – Summary of Sections') for Nagpur Metro Rail Project. Bidder shall quote its lumpsum price inclusive of all taxes, levies, duties and other charges, including taxes to be deducted at source, leviable and payable to the authorities.	Bidder requests Customer to consider Total lumpsum price without taxes & duties for evaluation purpose. We shall provide the taxes & duties details as per attachment to bid total provided at page 195 in Annexure IV A- Pricing Document and the total bid price separately(as per BoQ) without taxes and duties to be considered for evaluation purpose.	Tender condition Prevails
200	Part 2 Works Requirement - Technical Specification	2.2.8	M&Ps for Train Maintenance	Bidder understands that the available set of M&Ps with same specifications for train maintenance are available in each of the designated depot(s) and are mutually exclusive. CAMC activities can be carried out at any of the designated depot(s) as per the Contractor's maintenance plan. Further, please share the detailed specifications of the M&Ps for reference.	Tender clause is self explanatory.
201	Part 2 Works Requirement - Technical Specification	2.2.8	Exclusive use of M&P	Please confirm that the M&Ps and other facilities at three depots shall be exclusively used for maintenance of cars under this contract and not shared with cars of any other operator/maintainer including Maha Metro.	Tender clause is self explanatory.
202	Part 2 Works Requirement - Technical Specification	2.2.8	Operation and Maintenance of Depot M&P	Bidder understands that the operation and maintenance (including calibration) of Depot M&Ps shall lie with Maha Metro throughout the CAMC duration. Please confirm if our understanding is correct.	Bidder Understanding is correct
203	Part 2 Works Requirement - General Specification		Additional M&P's	If additional set of M&P's (like EOT, Bogie wash plant, Wheel Press, VTL, Horizontal Lathe, Bogie Manipulator etc.) are being furnished in the depot for maintenance activities, please specify and share the list of M&P's that Maha Metro plans to procure and commission in the depot along with the timelines.	Contractor may visit depot to check the available M&P.
204	General	Revenue Hours, Operating Hours	Revenue Hours, Operating Hours	Bidder requests Maha Metro to share the details for daily service periods, operating hours/revenue hours and timings for daily availability of the trains to the contractor to carry out the maintenance activities. A tentative time table would be requested for the same.	Timetable is availble in Nagpur Metro website.
205	Part-3 Section VIII. General Contract Conditions	14.7 (b) Payment Page 901	the amount certified in each Interim Payment Certificate **within 56 days** after the Engineer receives the Statement and supporting documents	Bidder request to release the payment **within 30 days** from the invoice which enable bidder to fulfil the obligation of high working capital requirement.	Tender condition Prevails
206	Part-3 Section IX: Particular Conditions of Contract (PCC)	Annexure I Page 956	Key Dates	Bidder request to allow delivery of trainsets individually instead of lots so that transportation of the trains can be planned better and at regular intervals.	Tender condition Prevails
207	Part 2 Works Requirement - Technical Specification	16.7.12	Any and all Unscheduled Maintenance shall form part of the Contractor's Maintenance Obligations and shall be performed under the scope of CAMC. The cost and expense for such Unscheduled Maintenance shall be borne as follows: (a) Unscheduled Maintenance due to Fault(s): The Contractor shall bear the cost and expense towards undertaking any and all Unscheduled Maintenance arising on account of Fault(s). (b) Where Unscheduled Maintenance is found to be solely and directly attributable to MAHA METRO; the Contractor shall determine the cost of equipment & time required to carry out the necessary repair works. Maha Metro will pay the amount against the cost of equipment. The basis of that assessment including all calculations used to determine the repair cost & time shall be submitted to MAHA METRO in support of any claim by the Contractor. MAHA METRO can however ask the Contractor to review its assessment of cost or repair time based on its own experience, good industry practices and/or other inputs from third party suppliers / manufacturers. The Contractor shall unconditionally accept its obligation to reveal all internal costing and pricing details in order to substantiate any such claim(s). (c) Unscheduled Maintenance due to the occurrence of a Force Majeure event: the cost shall be borne by the Parties and the Train Operation Plan shall be suitably revised to reflect the reduced number of Trainset(s) due to Unscheduled Maintenance for only such time period as may be decided by MAHA METRO.	Bidder understand that the said clause doesn't allow any claim for damages or additional cost or expenses in case of accident, vandalism, natural calamity, fire, riots, arson or negligence, bidder request that all additional cost or expenses in case of above events not attributable to the Contractor shall be borne by Maha Metro. Please confirm and modify the clause accordingly.	The clause is self explanatory
208	Part 2 Works Requirement - Technical Specification	16.7.14	The Contractor shall attend the fault within 1 (one) hour and the same shall be completed within 08 (eight) hours of the arrival of Rolling Stock, for any Unscheduled Maintenance, furnish to MAHA METRO in reasonable detail the particulars of defects, deficiencies or damages and the estimated time of repair thereof.	Since it is difficult to predict the level of damage and indicate timelines and cost estimation to resolve the issue and fault of the unscheduled maintenance (except for corrective maintenance) especially in cases of Accident and Vandalism, Force Majeure etc. Hence, bidder requests to modify the clause as: "The Contractor shall attend the fault at the earliest possible and shall share a preliminary report within 48 hours in reasonable detail the particulars of defects, deficiencies or damages and the estimated time and cost of repair."	Tender condition Prevails
209	Part-1 Section II. Bid Data Sheet	ITB 1.5 (new Para) Pt 1 Page 32	The Bidder shall be required to provide a self-certificate or a certificate from the statutory auditor or cost auditor giving the percentage only of minimum local content and this self-certificate or certificate from statutory auditor or cost auditor shall be enclosed with the bid uploaded in technical section of e-tender portal	Bidder shall submit the declaration during project phase as these details would not be available at bid submission, Supplier selection during not be matured during bid stage hence the Form Minimum Local Content will be submitted along with first proto train set delivery.	Tender condition Prevails
210	Part-1 Annexure IV A. Pricing Document		BOCW Cess	Bidder request Employer to confirm applicability of BOCW cess on individual Cost Centres including CAMC. If applicable, please also confirm the rates at which BOCW cess would be applied for individual cost centres.	BOCW is not applicable on supply item but applicable on services part.

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211	PART 3: Section IX: Particular Conditions of Contract (PCC)	MINIMUM MANPOWER REQUIREMENTS OF SHE ORGANIZATION BASED ON CONTRACT VALUE, pg 1144	SHE Personnel	The requirement is of seven (7) personnel for the Rolling Stock Package. Bidder understands, the said requirements of personnel is only for the supply scope of work excluding the CAMC duration. The deployment of the safety personnel for the CAMC scope as per the Contractor's standard industrial practise. Please confirm if our understanding is correct.	Bidder Understanding is correct
212	Part-3 Section IX: Particular Conditions of Contract (PCC)	S.No. 46 (e) Sub-Clause 14.1, The Contract Price Page 998	Certificate from Chartered Accountant with regards to payment of Customs Duty with respect to imports / manufacture of materials for MAHA-METRO.	Bidder requests Customer to remove the CA certificate condition.	Tender condition Prevails
213	Part 2 Works Requirement - Technical Specification	2.11 Availability Requirements	Total Time is the time in hours in the assessment period multiplied by the number of trains commissioned under the Contract.	Bidder requests Maha Metro to further elaborate the definition of assessment period.	Please refer Part-2 ERTS Clause 2.9.2 for the details of assessment period.
214	Part 2 Works Requirement - Technical Specification	2.9.2. (vi) and 2.9.2 (viii)	2.9.2 Reliability Targets: 2.9.2 (vi) The AVERAGE MDBF of 80,000 km or more, calculated as per Para (v) above, shall be reached at the end of eighteen (18) months of introduction of first train into revenue service. 2.9.2 (viii) The AVERAGE MDBF of 100,000 km or more, calculated as per Para (vii) above shall be reached at the end of 18 months of introduction of first train into revenue service. If this is not met, for each month after the 18th month where the MDBF calculated as per Para (vii) above is less than the targeted MDBF of 100,000 km, the warranty (DLP) period shall be extended by one (01) month.	The bidder seeks clarification regarding the timeframe required to achieve MDBF targets of 80,000 km and 100,000 km, as two separate clauses specify different objectives to be met within 18 months following the introduction of the first train into revenue service. **The bidder understands the clause is a replica of Table 2.1 Reliability Targets from clause 2.9.2 Reliabiity targets. Please confirm .**	Tender condition Prevails
215	Part 2 Works Requirement - Technical Specification	2.25.8 Cyber Security Assurance	The Contractor shall be fully responsible for compliance with Cybersecurity standards and implementation of their System Safety & Cyber Security Assurance Plan. Any cost associated with implementation of Cybersecurity guidelines shall be deemed to be included in the bid proposal.	Bidder understands the scope of the contractor shall be fully responsible for compliance with Cybersecurity standards and implementation of their System Safety & Cyber Security Assurance Plan. Any incidental costs related to licenses, software maintenance etc. shall be directly to the account of Maha Metro. Please confirm if our understanding is correct.	Refer Corrigendum-02/Sl. No.-09
216	Part 2 Works Requirement - Technical Specification	2.9.1 (xiii) & (xiv) and 2.9.2 and 3.22	CHAPTER 2 2.0 GENERAL REQUIREMENTS 2.9 Reliability Requirements 2.9.1 Definitions: (xiii) Mean Distance Between Failure (MDBF): The MDBF is the ratio of the **total operating distance accumulated by the total available fleet** of the trains to the total number of Service Failures. (xiv) Mean Distance Between Component Failures (MDBCF): The MDBCF of a system is the ratio of **the total operating distance accumulated by the total population** of identical items in the available fleet of the trains to the total number of Relevant Failures occurring within the population identical items. 2.9 Reliability Requirements 2.9.2 Reliability Targets: CHAPTER 3 3.0 DESIGN AND PERFORMANCE REQUIREMENTS 3.22 Performance Requirements As per Table 3.7: Performance Requirements, Annual running distance of one train (for design purpose) is 1,50,000km.	**The bidder is requesting clarification regarding the relationship between anticipated mileage and the reliability targets as specified in the MDBF definition.** The bidder recognizes that the reliability targets are established based on the fleet's projected annual mileage (i.e., 16 x 150,000 km = 2,400,000 km). In the event that the fleet's actual distance covered falls short of these projections, the targets will need to be reconsidered and adjusted to reflect the variance between the actual and anticipated mileage	Tender condition Prevails
217	Part-1 Annexure IV A. Pricing Document	COST CENTRE No. G: Unit Exchange Spares, Mandatory Spares, Recommended Spares	2. Cost centre G will be only considered for price bid evaluation only. Spares will be procured after completion of CAMC. 3. Contractor to furnish current price of the spares in BID. Spares will be procured after completion of CAMC at escalation rate of 05% for Indian rupee and 02% for foreign Currency per annum. 4. Milestone and supply date will be finalised before 6 month of expiry of CAMC period.	Bidder understands the spares in Cost Center G shall be procured by Maha Metro as part of supply which shall be required for carrying out the commissioning and maintenance activities. Maha Metro shall hand over the said spares to Contractor for the CAMC period and Contractor shall handback all the spares back to Maha Metro in as is condition post completion of CAMC period as a part of Handback requirements. Hence, the spares in Cost Center G need to be procured along with the delivery of trains. This shall help in significant optimization in the overall quantity of spares to be procured by Maha Metro to carry out maintenance activities during and post CAMC period. Please modify the clause accordingly.	Refer Corrigendum-2/S.no-10
218	Part-1 Annexure IV A. Pricing Document	cost center-I	List of minimum UES/Emergency spares that will be stocked by the Contractor during CAMC for commissioning and CAMC obligations (not a part of Cost Centre "I":	Bidder understands, Maha Metro is already procuring UES/ Mandatory Spares, which can be used for CAMC period, additional quantity shall increase the costs for additional procurement of UES/ Emergency spares as those are not part of Cost Centre "I". Hence, bidder requests to modify this requirement and allow bidder to use the spares sourced by Maha Metro as per Cost Center "G" in line with the above proposal.	All spares irrespective of category is in scope of supplier. Refer Refer Corrigendum-2/S.no-2&10
219	Part 2 Works Requirement - General Specification	16.1.6 & 16.1.7	Designated Depot(s) refers to (i) Mihan & Hingna, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) at terminal station (mostly for inspection, Preventive Maintenance, cleaning activities and Corrective Maintenance as pe requirements). The Contractor to deploy their maintenance operations at further Satellite Depot facilities. The Contractor shall comply with the deployment request without any cost implications to MAHA METRO.	Bidder requests Maha Metro to confirm if the Special Tools and test benches can be installed and stored at any one of the principal depots to carry out the maintenance activities as per the maintenance plan.	Tender clause is self explanatory.
220	Part 2 Works Requirement - General Specification	16.6.6	Throughout the CAMC Period, the Contractor shall monitor the rate of human error / maintainer error events and provide a KPI within the Monthly Report .	Bidder requests Maha Metro to kindly specify and share more details to provide the type of human error/mainatainer error events to provided as KPI	To be discussed during design stage

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221	Part 2 Works Requirement - General Specification	16.12.1	At the start of the CAMC Period, the Contractor shall supply twenty (20) diagnostic maintenance laptops of the same specification given in contract , which will be handed over to MAHA METRO.	Bidder requests Maha Metro to share specific laptop requirements, if any.	Latest configuration for industrial use purpose at the time of supply.
222	Part 2 Works Requirement - Technical Specification	3.26.1 & 15.5.2	The maximum Sperling Ride Index (R.I.) over a block length of 200m on a straight as well as curved track, both under tare and fully loaded condition, under inflated condition in both the vertical and lateral modes shall not exceed 2.5, with new wheels, coach suspension parts and track, upto 90 kmph, for all vehicles of a train set. In case of worn condition of wheels, coach suspension parts and track the maximum RI shall similarly not exceed 3.0. Similarly, the maximum value of RI upto 90 kmph with deflated suspension shall not exceed 3.0 under new conditions and 3.25 under worn-out conditions of wheels, coach suspension parts and track.	**Justification:** Global method to be used to achieve the target as proposed for Chennai Ph-2 (78 Cars) Ride Index values to be achieved with target track tolerances. For Isolated and threshold track tolerances, ride index to be achieved with speed restrictions as safety has more priority over comfort. Bidder proposes to be compliant to statutory requirement of RDSO comfort tests as per RDSO test procedure/s and acceptance target. Further, values to be modified in line with RDSO manual Annexure-F2 5.1 – "Ride index, as per ORE C-116 using FFT method, shall not be greater than 3.00 in inflated and deflated condition in both vertical and lateral directions." **Amendment Requested:** The maximum Sperling Ride Index (R.I.) over a block length of 200m on a straight as well as curved track, both under tare and fully loaded condition, under inflated condition in both the vertical and lateral modes shall not exceed 2.5, with new wheels, coach suspension parts and track, upto 90 kmph, for all vehicles of a train set. In case of worn condition of wheels, coach suspension parts and track the maximum RI shall similarly not exceed 3.0. Similarly, the maximum value of RI upto ~~**90 kmph**~~ with deflated suspension shall not exceed 3.0 under new conditions and 3.25 under worn-out conditions of wheels, coach suspension parts and track. **Speed restrictions allowed for deflated condition and will be decided from the oscillation trials output.**	Tender condition Prevails
223	Part 2 Works Requirement - General Specification	1.1.5	contractor shall ensure that major overhaul of all the systems of Rolling Stock have been performed at least once during the contract period. The Contractor shall ensure that major overhaul of all the systems of Rolling Stock have been performed at least once during the contract period. The details of minor and major overhaul of all the system and sub system of the Rolling stock shall be submitted in technical bid	All major overhauls which falls between the CAMC will be performed by the bidder as per the maintenance plan, hence bidder requests to change the terminology from overhaul all the systems to planned overhaul of the systems as per maintenance plan.	The clause is self explanatory
224	Part 2 Works Requirement - General Specification	9.2.1	The objective of training of train operating staff is that the batches of drivers and instructors who will operate the trains should be able to run the trains safely under all operating conditions. The training should also enable them to acquire full capability for identification and trouble shooting of the faults in the specified duration. In order to achieve the above objective, the Operating Staff and instructors should be trained on a cab simulator of a mass transit railway or in the Contractor's Works off-shore and on a Test Track. It will be preferred that after classroom instructions, which include mock-ups of cab equipment, the staff are trained in actual operation of cars in a Mass Rapid Transit System or on a test track, having similar cars, to acquire the required confidence.	Please clarify if there is an existing simulator available with Maha metro at either Depots in Nagpur and there are only interface requirements form the RS contractor for the same. Further, we understand for training purpose, the services of the train simulator shall be extended to the contractor as and when required to perform its trainng obligations under the contract. Please confirm	The clause is self explanatory
225	Part 2 Works Requirement - Technical Specification	5.2.7	Vehicle Dynamic Analysis of Bogie: The Contractor shall submit a proposal covering the scope of the analysis and the model for review by the Engineer.	**Clarification:** The Dynamic model is IP of Bidder. **Amendment Requested:** The Contractor shall submit a proposal covering the scope of the analysis and the **Report ~~model~~** for review by the Engineer.	Refer Corrigendum-02/Sl. No.-58
226	Part 2 Works Requirement - Technical Specification	5.4.5	Hydraulic dampers of suitable capacity shall be provided symmetrically to control and limit the vertical and horizontal oscillation of the car body. The damping factors are to satisfy the provisions given in Table 15.1B. The damping factor in vertical mode, by wedge test, when tested using a wedge of 18mm thickness shall be between 0.20 and 0.25. The damping factor in lateral mode when measured by quick release side pull test should be within 0.3 and 0.4. Suspension will not be considered acceptable if maximum acceleration and spring displacements do not decay within 2-3 cycles.	**Justification:** No specific requirement in EN 14363 for the Side Pull Test (To validate the Damping Factor) Intent of the Side Pull Test is already covered in RDSO defined Tests. Acceleration & Ride Comfort Test will cover the Lateral Damping effect. Bidder proposes new range for damping factor requirement for wedge test and to remove the Side Pull test requirement.	Tender condition Prevails
227	Part 2 Works Requirement - Technical Specification	12	Train simulator shall furnish necessary information shall lead information exchanges for Commissioning of Train Simulator	Please share the detailed information required on Driving Simulator for Commissioning of Train Simulator?	Refer Corrigendum-02/Sl. No.-57
228	Part 2 Works Requirement - General Specification	8	SUPPLY OF SPARES, SPECIAL TOOLS AND TESTING EQUIPMENT - Deleted	Bidder observed that no specific special tools list provided by customer, so Tools will be considered based on maintnance requirement. Bidder requests MAHA METRO to kindly confirm.	Refer Chapter 16 of part 2 ERGS

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229	Part 2 Works Requirement - Technical Specification	5.5.4	The car body to bogie connection shall withstand the following loads without permanent deformation: (i) A vertical load of 0.75 times the fully loaded weight of the carbody (excluding bogies). (ii) A lateral load of half fully loaded body weight subjected to an acceleration of **±1.1g.** (iii) A longitudinal load equivalent to the bogie mass subjected to an acceleration of ±3.0g.	**Justification:** The frame complies with the recommendations of UIC 515-4 and UIC 615-4, which is an equivalent standard to EN 13749 a) Complied b) **This load is not practically possible. A roll over force (Force required to overturn the train) can be calculated and applied as per GMRT2100, as after this load vehicle will tilt along the rail. Which will cause a severe damage to the complete infrastructure.** c) Complied As per the design these 3 loads cannot be combined as there is no chances for these load cases to occur, simultaneously. **Amendment Requested**: The car body to bogie connection (Carbody Bolster, centre pivot, bogie frame) shall withstand the following loads without permanent deformation and shall be validated by testing: (i) A vertical load of 0.75 times the fully loaded weight of the carbody (excluding bogies). (ii) A lateral load of half fully loaded body weight subjected to an acceleration of ~~**±1.1g.**~~ **±0.5g to ±0.8g as per GMRT2100.** (iii) A longitudinal load equivalent to the bogie mass subjected to an acceleration of ±3.0g.	Tender condition Prevails
230	Part 2 Works Requirement - General Specification	16.5.3	The cost of all Spares (regardless of category) is deemed to have been included in the CAMC price centres of the quoted Contract Price. Nevertheless, the Contractor shall also provide a Price List for the complete range of spares to allow the parties to administrate any chargeable costs which may arise from the provisions set forth in Clause 16.7.	The price for critical spares shall be shared and those prices shall be subject CPA variation as per the CAMC price variation formula, given the long duration of contract. Please confirm if our understanding is correct.	The clause is self explanatory
231	Part 2 Works Requirement - Technical Specification	2.11.1	Availability shall be assessed by the following measure: $$\% Availability = 1 - \left[\frac{DT(SC) + DT(OPM) + DT(CM)}{Total\ Time}\right] * 100$$	While making calculations, a missout was observed in the formula. We understand, the formula is supposed to be read as: Please confirm that our understanding is correct. $$\% Availability = \left[1 - \left[\frac{DT(SC)+DT(OPM)+DT(CM)}{Total\ Time}\right]\right] * 100\%$$	Refer Corregendum -2 /S.no 36
232	part-1	COST CENTRE NO. I: Comprehensive Annual Maintenance Contract Notes: 4	Discounted cost will be used for financial evaluation of the bid.	Bidder understands any discounts offered shall be part of Price Schedule/Letter of Bid, no separate discounts shall be offered. Hence, bidder requests to deletion this clause.	Refer Corregendum -2 /S.no-2
233	Part 2 Works Requirement - Technical Specification	5.6.1	Bogie Strength: The mechanical strength of the bogie frame shall comply with the requirements of UIC 615-4, UIC 515-4, EN 13749 or JIS E 4207 for static test under exceptional loads and fatigue tests. The maximum stress developed under static load shall not exceed 85% of the yield strength of the material. The dynamic effects due to the inertia of the motors and transmission shall also be simulated along with traction and braking forces.	**Justification**: Bidder will comply to EN 13749 Annex E, Section 4.2.2, where it is permitted to go up to 100% for exceptional load case. Maximum stress developed under static load, which is only vertical load case without any dynamic or external factor will not exceed to 85% of the yield strength of material. **Amendment Requested:** The mechanical strength of the bogie frame shall comply with the requirements of UIC 615-4, UIC 515-4, EN 13749 or JIS E 4207 for static test under exceptional loads and fatigue tests. The maximum stress developed under static **Vertical** load shall not exceed 85% of the yield strength of the material. The dynamic effects due to the inertia of the motors and transmission shall also be simulated along with traction and braking forces.	Tender condition Prevails
234	Part-1 Annexure IV A. Pricing Document	H6, H8, H10, 12.1.2	**Training and Manuals** Operating Manual (Original plus 10 Hard copies) Maintenance Manual (Original plus 10 hard copies) Spare parts Catalogue (Original plus 10 Hard copies) Thirty days before the date of commencement of test running of the first EMU train, the Contractor shall deliver the originals and 6 coloured copies each of the final Operation and Maintenance manuals. These manuals shall have been submitted for proof reading and training purposes prior to delivery. It is accepted that further amendments may subsequently be required."	Bidder request MAHA METRO to kindly confirm on the number of printed copies to be delivered. Whether it is original plus 10 Hard copies or 6 coloured copies each as per the clause 12.1.2.	Refer Corrigendum-2/s.no-35
235	Part 2 Works Requirement - Technical Specification	6.1.4	The Contractor shall provide all tools, Laptop computers or any special device to upload /download the software, TCMS data, equipment, manuals and training necessary for the Employer and Engineer to maintain and re-configure all software provided under this Contract.	Bidder requests further clarification on the requirement "re-configure all software provided under this Contract" Bidder request MAHA METRO to please clarify in detail.	The clause is self explanatory

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236	Part 2 Works Requirement - Technical Specification	10.10.4	A minimum of ten notebook computers, together with all associated accessories and software necessary for all diagnostic functions for all train-borne equipment shall be provided. These shall be duly equipped with remote wireless access features with TCMS. Two copies in approved non-volatile memory, of all the software uploaded in the notebook computers shall also be provided, separately. The laptop shall be business version i.e., rugged design, high performance having sufficiently large storage capacity, battery backup, sufficient number of ports required, a DVD reader/writer inbuilt or separate with latest generation processor and OS. Repair of these laptops shall be under contract scope during DLP.	Does bidder need to provide additional quantity to the laptops specified in clause 16.12.1 ? Bidder request MAHA METRO to kindly confirm.	The clause is self explanatory
237	Part 2 Works Requirement - Technical Specification	2.26	Predictive & Condition Based Monitoring (PCM)	Bidder requests Maha Metro to share specific reasons for putting sensors for predictive and condition based maintenance or Maha Metro may open the specifications for bidder to propose an alternate solution which can meet the Maha Metro requirements for Predictive and Condition Based Monitoring.	The clause is self explanatory
238	Part 2 Works Requirement - General Specification	16.5.3	The cost of all Spares (regardless of category) is deemed to have been included in the CAMC price centres of the quoted Contract Price. Nevertheless, the Contractor shall also provide a Price List for the complete range of spares to allow the parties to administrate any chargeable costs which may arise from the provisions set forth in Clause 16.7.	Given that the bidder is responsible for conducting comprehensive maintenance and providing a quote for the CAMC contract, the bidder requests Maha Metro to eliminate the requirement to provide a price list for the complete range of spare parts. Any further requirements that may emerge during or after the CAMC period can be addressed as necessary. Please confirm.	Tender condition prevails
239	Part 2 Works Requirement - Technical Specification	SoD Appexdix - 4	Platform KE is constraining for underframe equipment	The highlighted region is constraining for underframe equipment clearance. Typically, below platform coping there will not be any structural part. Bidder requests MAHA –Metro to modify the platform KE as indicated in above table. With reference of RDSO SOD	Tender condition Prevails
240	Part-1 Annexure IV A. Pricing Document	A.5 Price Variation Page 188	$P_1 = P_0 * \left[0.7 + 0.1 * \frac{S_1}{S_0} + 0.05 * \frac{C_1}{C_0} + 0.03 * \frac{IA_1}{IA_0} + 0.12 * \frac{L_1}{L_0}\right] - P_0$ Where: P_1 — Price Adjustment (increase / decrease) amount per car in respective currencies. P_0 — Contract value per car (in respective currencies) calculated by total value of the Contract Price Cost Centre B, C, less discount, if any, divided by 48 number of cars ordered (without considering the quantity variation). In case of acceptance of deviation(s), price quoted for withdrawal of deviation(s), conditions etc. shall not be included while computing P_0. S — Stainless Steel Price Index as published by CRUspi C — Price index of Copper per MT as published by LME in USD L — Consumer Price Index for Industrial Workers (with Base2016=100), published in the bulletin Labour Bureau of India, as applicable to place/region of work for the month in which the Original Completion period gets over LA — Wholesale Price index (simple average of below individual indices) for Non-IEEMA items as given below (with base 2011-12=100) as published in the RBI Bulletins for the period of work under consideration. Below Non-IEEMA Items shall be eligible for PVC subject to availability of indices in RBI Bulletin. a. Other Rubber Products b. Glass Products Subscript '0' refers to indices as on 28 days prior to date of submission of Bid Subscript '1' refers to indices as on 120 days prior to date of shipment of last car of a trainset. Note : The above PVC clauses shall not be applicable on Cost Center I (CAMC) & Cost Center G.]	The Referred Price Variation clause is not representative of the overall cost structure of the bid. Also as you would be well aware about the fluctuation dynamics in the commodity prices & indices, it would be hard for the bidder to predict the trend during the course of the contract. Thereby request you to slightly modify the clause as below similar to recent Mumbai Line 4, Line 5 and Line 6 Rolling Stock Tenders. **P1 = P0 x {a + b x (S1/S0) + c x (C1/C0) + d x (F1/F0) + f x (L1/L0) + g x (J1/J0)} -P0** (Actual values of a, b, c, d, f, g & h and abbreviation used in price variation formula are as below). P1: Price Adjustment (increase/ decrease) amount payable or deductible in respective curriencies from the contract against respective milestones number. P0: "P0" is the certified payment against the respective Milestone during the period under consideration. **(a): Fixed element weightage representing profit & overhead in contract price a = 0.15.** **(b): Estimated weightage of stainless-steel components, b = 0.12** **(c): Estimated weightage of Electrical Machines (Motors, Transformer etc. c =0.20** **(d): Estimated weightage of Manufacturer of Fabricated Metal products, d=0.06** **(f): Estimated weightage of a Consumer price index for industrial worker, f=0.27** **(g): Estimated weightage of Wholesale price index h = 0.2** S0, S1: Wholesale price index for Manufacture of Basic metal (Stainless Steel) on the base date and date for adjustment respectively C0, C1: Wholesale price index for Manufacture of Electrical equipment/Machines on the base date and date for adjustment respectively. F0, F1 :Wholesale price index for Manufacture of Fabricated Metal products on the base date and date for adjustment respectively. L0, L1: Consumer price index for industrial worker on the base date and date for adjustment respectively. J0, J1 Wholesale price index on the base date and date for adjustment respectively.	Tender condition Prevails
241	Part 2 Works Requirement - Technical Specification	12.5.5	The minimum cross-sectional area of control cables for connections between equipment shall preferably be 1.5 mm2. Any deviation from this requirement, in exceptional cases, will be subject to review by Engineer in design stage..	Bidder proposed to use following sizes of cables in various zones/ locations:- As per Standard EN 50343, In few zones like cabinets and Inside Equipment, Closed cable trays, usage of 1 sqmm Cable is permitted, giving the advantage of Improved Cable Bundle diameter, Harness Weight optimization, Improved Routing with No functional impact. Hence we propose to go with the Standard. - For Train lines and Power Lines we will be using minimum 1.5 Sqmm or greater than 1.5 Sqmm as per load Calculation - For inside Cubicles 1 Sq.mm Cables are considered sufficient. Kindly accept our proposal/ consideration. Following is proposed wording The minimum cross-sectional area of control cables for connections between equipment shall preferably be ~~1.5~~ **1.0**	Tender condition Prevails
242	Part 2 Works Requirement - Technical Specification	12.7 (i)	All electrical circuits shall be protected by fast acting, 10kA fault current rated MCB's. The Contractor shall propose a protection scheme for review. The Contractor shall submit a detailed protection scheme including calculations to demonstrate proper segregation and discrimination between the cables, fuses and the traction substation circuit breakers. Calculations shall be submitted to verify proper discrimination between different levels of the protection system.	At battery level, since MCBs are backed up by fast acting fuses we do not foresee 10kA MCBs for battery circuits. Hence 10kA MCBs are not proposed. Further for secondary level circuits wherever the load current is less than 100A, we propose to go with 5kA MCBs. However for circuits where load current is greater than 100A, we will be proposing to use 10kA MCBs Please accept our proposal.Following is proposed wording All electrical circuits shall be protected by fast acting, ~~10kA~~ **5kA** fault current rated MCB's. The Contractor shall propose a protection scheme for review. The Contractor shall submit a detailed protection scheme including calculations to demonstrate proper segregation and discrimination between the cables, fuses and the traction substation circuit breakers. Calculations shall be submitted to verify proper discrimination between different levels of the protection system.	Tender condition Prevails
243	Part-1 Annexure IV A. Pricing Document		Payment for Price Variation (PVC)	Bidder understands that payment corresponding to price adjustment shall be done with each invoice. Please confirm	The clause is self explanatory

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244	Part 2 Works Requirement - Technical Specification	14.11.5	Grounding connections shall be made through copper or bronze pads of adequate area, to the carbody. Any deviation from this requirement in exceptional cases will be subject to review by Engineer at the design stage	No copper or bronze pads used for grounding connection, only on stainless steel plate or direct conact as per EN 150269 Please accept our proposal.Following is proposed wording Grounding connections shall be made through copper or bronze pads or **stainless steel plate** of adequate area, to	Tender condition Prevails
245	Part-3 Section IX: Particular Conditions of Contract (PCC)	S. No. 40 & 41, Sub Clause 14.3 Page No. 953 5. Retention Money Security	Percentage of Retention - 0% (Zero percentage) Limit of Retention Money - Deleted	Bidder understand that there will be no retention money deductable against each invoices. Retention money security form is not applicable for this tender.	The clause is self explanatory
246	Part-1 Annexure IV A. Pricing Document	COST CENTRE No. F Page 210 Clause B.5	Note: The Minimum amount that shall be apportioned in this cost centre shall not be less than 12% of the amount apportioned in Cost Centres 'A', 'B', 'C', 'D', 'E' and 'F' together	There is contractory statements between Clause B.5 (Annexure IV A Pricing Document) and Cost Centre no. F (Page 210) on apportioned amount for a Cost Centers 'F' . Request you to review and retain apportioned amount in Cost Centres 'F' not less than 10%	Refer Corrigendum-2/s.no-12
247	Part 2 Works Requirement - Technical Specification	6.15.2	Brake blending logic shall ensure priority of electric regenerative braking over pneumatic braking. If the demanded brake effort is not achievable solely by the electric regenerative brakes, the pneumatic brake system on the T-car shall provide supplementary brake effort. The Contractor shall submit full proposal for review. Electric regenerative brake fades out shall not occur above 10 kmph and the system should meet the blending requirements as per EN 13452-2 standard and also as per the agreed signalling interfaces. For the given brake demand signal, the brake effort achieved shall be same during the transition from ED to friction Brake. After the speed is reduced to a very low speed, holding brakes/full-service brakes shall be applied to prevent the train from rolling backwards at station stops and gradient.	Brake blending will be done across all cars & not just T car, this ensures equal wearout of brakes. Hence bidder requests this constraint of T car to be removedPlease accept our proposal.Following is proposed wording Brake blending logic shall ensure priority of electric regenerative braking over pneumatic braking. If the demanded brake effort is not achievable solely by the electric regenerative brakes, the pneumatic brake system ~~on the T-car~~ shall provide supplementary brake effort. The Contractor shall submit full proposal for review. Electric regenerative brake fades out shall not occur above 10 kmph and the system should meet the blending requirements as per EN 13452-2 standard and also as per the agreed signalling interfaces. For the given brake demand signal, the brake effort achieved shall be same during the transition from ED to friction Brake. After the speed is reduced to a very low speed, holding brakes/full-service brakes shall be applied to prevent the train from rolling backwards at station stops and gradient.	Tender condition Prevails
248	Part 2 Works Requirement - Technical Specification	9.4.4	Suitable interconnection shall be provided so that topping up of all the cells can be carried out using a single point on battery box. The design shall be submitted for review of the Engineer.	Deionization water topping up frequency depends on discharge cycles, opertaing temp etc. For the 1st year of revenue cycle, It is recommended for Top up in 6 months. Based on the consumption of Deionization-water, the frequency of the topping up can be arrived. Instead of single point topping up, 2 or 3 step topping up facility of cells with Deionization water is more effective. It takes less down time & topping up circulation is more uniform. **Accordingly, Bidder requests to amend the clause as follows:** Battery electrolyte capacity shall be such that the batteries will not require topping up more than ~~once~~ twice in a year. Complete calculation of loss of water and float/boost charging shall be submitted. The boost charging shall be restricted to 4 hrs. or as per the battery manufacture recommendations. Batteries shall be designed with integrated topping up provisions. Batteries shall be designed with integrated topping up provisions. Suitable interconnection shall be provided so that topping up of all the cells can be carried out using from a single/two/three point on battery box. The design shall be submitted for review of the Engineer. While rolling out the battery box it shall be possible to inspect all the batteries.	Tender condition Prevails
249	Part 2 Works Requirement - Technical Specification	11.7.2	The condenser and evaporator fan motor shall work at 415V, 3 phase, 50Hz. However, in case of auxiliary supply failure, the evaporator fan motor shall be fed from the inverter. Dual speed condenser fan motor may be used. The fan motors shall have IP 56 protection as per IEC. Inbuilt temperature sensors shall be provided in these motors linked to the TCMS.	**Justification**: Evaporator fan will be located in controlled environment as comapred to condenser fan. In order to use efficient fans with highest IP55 rating avaialble in the industry. **Hence, bidder proposes to amend the clause as follows:** The condenser and evaporator fan motor shall work at 415V, 3 phase, 50Hz. However, in case of auxiliary supply failure, the evaporator fan motor shall be fed from the inverter. Dual speed condenser fan motor may be used. The **evaporator fan motors** shall have **IP 55** and **condenser fan motors** shall have IP 56 protection as per IEC. Inbuilt temperature sensors shall be provided in these motors linked to the TCMS.	Tender condition Prevails
250	Part 2 Works Requirement - Technical Specification	9.4.8	Battery box shall be fitted with the flame arrester to arrest the fire in case of battery bursting	Bidder understands the intention is to have Flame arrestor to arrest the fumes. **For better clarity, Bidder requests to amend the clause as follows:** Battery box shall be fitted with the flame arrester to arrest the **fumes** ~~fire in case of battery bursting.~~	Tender condition Prevails
251	Part 2 Works Requirement - Technical Specification	3.21.7	**Command Response Time** (i) Command Response Time includes response to modulation within a mode (power, coast & brake) and transition from one mode to another, including emergency brake. (ii) Mode change dead time for transition from one to adjacent mode (motoring to coast, coast to brake, brake to coast and coast to motoring) shall not exceed 500 ms, exclusive of jerk limiting.	Bidder assumes that *mode change dead time* is defined as the time taken from effort demand by the train operator the time it takes the traction to start producing the requested change in effort. i.e: start of effort ramp up, in case of coasting to motoring/braing; or start of effort ramp down, in case of motoring/braking to coasting. Based on REX, bidder would like to point out that the dead time limit of 500ms is too small, due to the following reasons: * Motor fluxing time : To reduce losses, inverters are switched off during coasting. Motors are consequently defluxed. To start production of the effort, motors will have to be fluxed. * TCMS network delay : there will be inherently a delay between the actuation command provided by the driver using the mastercontroller, and the receipt of effort demand at the traction through TCMS. The addition of these two delays leads to a dead-time above 500ms for coasting to motoring and coasting to braking transitions. **Bidder requests to amend the clause as follows:** (ii) Mode change dead time for transition from one to adjacent mode (motoring to coast, coast to brake, brake to coast and coast to motoring) shall not exceed ~~500ms~~ **800 ms,** exclusive of jerk limiting.	Tender condition Prevails

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252	Part 2 Works Requirement - Technical Specification	2.5.8	The Contractor shall prepare a Fire Safety Design Report for review and acceptance by the Engineer.This shall be submitted within 2 months of Commencement Date and revised and updated for the completion of the preliminary, pre-final and final design stages. Materials used in the cars shall conform to fire safety requirements of EN 45545: 2013 or the latest edition or other equivalent international standards, subject to the acceptance of the Engineer. **N.B.** Whichever Standard is selected for meeting the Fire Safety Criteria, then that standard shall be declared, and once accepted by the Employer's Representative its requirements shall be met consistently by the Contractor throughout the Works.	Justification: Bidder would like to inform that the fire safety design report requires the final designs to be frozen which will be difficult to accomplish within 2 months of NTP. Hence, Alternatively, Bidder can provide Fire management plan, that list out details of fire safety requirements will be integrated. **Amendment Requested:** The Contractor shall prepare a ~~Fire Safety Design Report~~ **Fire Management Plan** for review and acceptance by the Engineer.This shall be submitted within 2 months of Commencement Date and revised and updated for the completion of the preliminary, pre-final and final design stages. Materials used in the cars shall conform to fire safety requirements of EN 45545: 2013 or the latest edition or other equivalent international standards, subject to the acceptance of the Engineer. N.B. Whichever Standard is selected for meeting the Fire Safety Criteria, then that standard shall be declared, and once accepted by the Employer's Representative its requirements shall be met consistently by the Contractor throughout the Works.	Tender condition Prevails
253	Part-3 Section IX: Particular Conditions of Contract (PCC)	S. No. 43 Minimum Amount of Interim Payment Certificates	Gross Bill Amount: 1% of the Accepted Contract Price	Bidder requests to remove any limitation on Invoice amount to manage the cashflow during project execution	Refer Corrigendum-2/s.no-13
254	Part 2 Works Requirement - Technical Specification	4.15.4	Gangway Strength (i) The gangway floor shall be designed to meet the same strength requirements as the rest of the car floor. (ii) The gangway shall withstand without permanent deformation the following loads: a. A differential pressure between inside and outside of the gangway of ± 2.5kN/m2.	Justification: Amendment Requested in line with ongoing CMRL project: Since, Gangway is provided with drain Hole at the bottom, differential pressure test between inside and outside cannot be performed. Requesting to delete this clause. **Amendment Requested:** Gangway Strength: The gangway floor shall be designed to meet the same strength requirements as the rest of car floor. The gangway shall withstand without permanent deformation the following loads: ~~a) A differential pressure between inside and outside of the gangway of ± 2.5 kN/m2.~~	Tender condition Prevails
255	Part 2 Works Requirement - Technical Specification	6.7.2	Brake valves shall be designed and validated for heavy duty cycles required for intensive brake blending. No change of valves or components except rubber items shall be required for at least 15 years beyond DLP.	Bidder submits that the rubber items to be checked for replacement every 8 years. **Accordingly, Bidder requests to amend the clause as follows:** Brake valves shall be designed and validated for heavy duty cycles required for intensive brake blending. No change of valves or components except rubber items shall be required for at least ~~15~~ **8** years beyond DLP.	Tender condition Prevails
256	Part 2 Works Requirement - Technical Specification	1.8.4	The repair and/or replacement of failed components and equipment and installation of repaired / replaced components / equipment shall be undertaken by the Contractor free of charge at Site. The Contractor shall bear custom duty, freight charges and all other expenses involved in collection of defective components and equipment from the Site, and transportation to the manufacturer's works in India or abroad for repairs / updation / modification etc. as the case may be and its return to Site after making it good for use. Further, should any design modification be required to any component or equipment as a consequence of failure analysis, the minimum period of warranty i.e. 24 months shall recommence from the date when the modified part is commissioned into service and modification shall be carried out free of charge. In all such cases, warranty will be applicable on complete sub-assembly; even when only component has been modified / replaced / repaired due to design change / series manufacturing defect.	The modifications are proposed based on not only failures seen but also for improvements required and are formally submitted to the employer before their implementations. 1. The bidder suggests evaluating the reasons for modifications during the modification proposal process and excluding any proposals related to continuous improvement from triggering the warranty extension. 2. Additionally, the bidder believes that the clause for extending the warranty applies solely within the 24-month defect liability period. Once this warranty period concludes, any modifications will not extend the warranty for an additional 24 months. ***Thus, bidder proposes following modifications to the clause:*** The repair and/or replacement of failed components and equipment and installation of repaired / replaced components / equipment shall be undertaken by the Contractor free of charge at Site. The Contractor shall bear custom duty, freight charges and all other expenses involved in collection of defective components and equipment from the Site, and transportation to the manufacturer's works in India or abroad for repairs / updation / modification etc. as the case may be and its return to Site after making it good for use. Further, should any design modification be required to any component or equipment as a consequence of failure analysis due to repetative failures seen during revenue service (and not for continuous improvement), the minimum period of warranty i.e. 24 months shall recommence from the date when the modified part is commissioned into service and modification shall be carried out free of charge. In all such cases, warranty will be applicable on complete sub-assembly; even when only component has been modified / replaced / repaired due to design change / series manufacturing defect. Such warranty restart shall only be applicable to repetative failures seen in first 24 months of revenue service or warranty period.	Tender condition Prevails

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257	Part 2 Works Requirement - Technical Specification	1.8.5	All replacement and repairs under the warranty shall be carried out by the Contractor promptly and to the complete satisfaction of the Engineer on notification of the defect by the Engineer /Employer so that no car is unfit for revenue service for more than 48 hours, which shall exclude time taken for withdrawal / induction of trains from / to revenue services. In case of any train remains out of revenue operation beyond specified duration above due to reasons attributable to Contractor, Engineer/Employer may at its sole discretion impose a penalty on the Contractor, commensurate with the revenue and opportunity loss to the Employer. Decision of Employer shall be final and binding.	The bidder requests clarification regarding the penalty amount if the train is out of service for more than 48 hours due to issues attributable to contractor. The Bidder also seeks to understand any exceptions to this clause, such as predefined replacements, obsolescence in technology or component and supply chain issues that have been officially communicated to the employer within a specified timeframe. ***Thus, bidder proposes following modifications to the clause:*** *All replacement and repairs under the warranty shall be carried out by the Contractor promptly and to the complete satisfaction of the Engineer on notification of the defect by the Engineer /Employer so that no car is unfit for revenue service for more than 48 hours, which shall exclude time taken for withdrawal / induction of trains from / to revenue services.* *In case of any train remains out of revenue operation beyond specified duration above due to reasons attributable to Contractor, Engineer/Employer may at its sole discretion impose a penalty of xxx amount on the Contractor, commensurate with the revenue and opportunity loss to the Employer. Decision of Employer shall be final and binding.* ***However, exceptions such as predefined replacements, obsolescence in technology or component and supply chain issues apply to the clause in case of communicated officially to employer 1 week earlier.***	Tender condition Prevails
258	Part 2 Works Requirement - Technical Specification	1.8.6	For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs 2,000,000 (Rupees two million). Decision of Employer shall be final and binding.	***The bidder requests to consider the modification below*** For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs 2,000,000 (Rupees two million). Decision of Employer shall be final and binding ***upon review with Failure Review Board (FRB) consisting of Employer, Engineer and contractor to assign responsibility.***	Tender condition Prevails
259	Part 2 Works Requirement - Technical Specification	7.2.1 (xiii)	Door windows shall be replaceable without removal of the door leaf.	Bidder recommends removal door leaf from car body and replace the window. **Justification** In general door windows are bonded to the door leaf for better flush and curing time for the bonding of window to door is higher. It is recommended to remove door leaf from car body and replace the window.	Tender condition Prevails
260	Part 2 Works Requirement - Technical Specification	8.3.1	A roof-mounted vacuum circuit breaker (VCB) of proven design shall be provided for the 25kV ac system vehicles, located one each, close to the pantograph. The VCB shall be of the single bottle type having a short circuit rating of 400 MVA, and conforming to, IEC 62271-100 latest standard in conjunction with C3 category, type tested with 300,000 operations and IEC 60077-4. Protection class for the external portion and internal portion shall be IP67 and IP20 respectively. The creepage distance of the insulator shall not be less than 900mm for the highly polluted environment in accordance with IEC 60815. The auxiliary contacts and control equipment shall be located beneath the base plate so as to be accessible from within the vehicle. The control cable shall be compliant to the requirements of EN 45545 or equivalent in respect of fire, smoke and toxicity characteristics. A 110V dc connector or proven design shall be provided. The VCB baseplate along with bottom cover shall be suitably protected to prevent corrosion in adverse environment of Nagpur. The mounting plate of VCB shall be provided with a proper sealing to avoid ingress of water from roof. The past three year's record of proposed VCB shall establish NIL failure of vacuum tube and not more than two component failures in last three years. The VCB shall be suitable for repeated switchings within short time comparable with the short (6m) neutral sections. Type test reports shall be submitted. Adequate Spare auxiliary interlocks duly cabled up to terminal block in the electrical cubicle shall be provided.	Bidder would like to point out that IEC 62271-100 is not applicable for circuit breakers used on rolling stock traction chains. Bidder shall use HV circuit breakers complying to IEC 60077-4. Bidder requests the below amedment to the clause. The VCB shall be of the single bottle type having a short circuit rating of 400 MVA, and conforming to, ~~IEC 62271-100~~ latest standard in conjunction with C3 category, type tested with 300,000 operations and IEC 60077-4.	Tender condition Prevails
261	Part 2 Works Requirement - Technical Specification	6.26.1	Contractor shall supply exhaustive documentation on complete pneumatic system, its sub systems and components, Brake electronics (hardware and software), project software details, explanation and functionality at component and system level, coloured schemes of pneumatic system, brake system, valves with coloured cut sections under different operational states. It shall also include trouble shooting and diagnostic details explaining clearly (with coloured illustrations) the logics, transition states, algorithms, signal flow and software parameters etc.	Bidder submits that software details from sub-suppliers is subject to Intellectual property constraints. The sub supplier are generally deny to provide these sensitive documents. Accordingly, Bidder requests to amend the clause as follows: Contractor shall supply exhaustive documentation on complete pneumatic system, its sub systems and components, Brake electronics (hardware and software), ~~project software details,~~ explanation and functionality at component and system level, coloured schemes of pneumatic system, brake system, valves with ~~coloured cut sections under~~ different operational states. It shall also include trouble shooting and diagnostic details explaining clearly (with coloured illustrations) the logics, transition states, ~~algorithms~~, ~~signal flow and software parameters~~ etc.	Tender condition Prevails
262	Part 2 Works Requirement - Technical Specification	6.8.1	All driving cabs shall be fitted with analogue pressure gauge with life of more than 15 years which indicates: □ The pressure in the main reservoir pipe and brake pipe. □ The pressure in the brake reservoir and brake cylinder pipe. □ Pressure in the parking brake unit.	Bidder requests relaxation on the life of analogue gauges as no sub supplier can comply to this requirement. This deviation is accepted in other Indian Metro rpojects. **Bidder requests to amend the Clause as follows:** All driving cabs shall be fitted with analogue pressure gauge with life of **atleast 8** ~~more than 15~~ years which indicates: □ The pressure in the main reservoir pipe and brake pipe. □ The pressure in the brake reservoir and brake cylinder pipe. □ Pressure in the parking brake unit.	Tender condition Prevails

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263	Part 2 Works Requirement - Technical Specification	6.23.4	Engineer shall be able to adjust / change Brake cylinder pressure and other output parameters of Brake System. Any hardware / software tool required for this purpose shall also be provided. The documentation including but not restricted to flow charts (for complete software), signal flows, and interpretation of signal etc. shall be provided. Engineer shall be fully trained and made fully conversant by the Contractor for this purpose.	Bidder submits that the Brake cylinder pressure shall be tuned for performance as per contract during validation. Due to safety reasons affecting brake performance, bidder does not reccommend ability to adjust pressures directly and shall be in scope of brake system. **Bidder requests modification as follows:** Engineer shall be able to request for adjustment / change Brake cylinder pressure and other output parameters of Brake System. ~~Any hardware / software tool required for this purpose shall also be provided. The documentation including but not restricted to flow charts (for complete software), signal flows, and interpretation of signal etc. shall be provided.~~ Engineer shall be informed on procedure ~~fully trained~~ and made fully conversant by the Contractor for this purpose.	Tender condition Prevails
264	Part 2 Works Requirement - Technical Specification	5.4.9	The design life of secondary suspension air bags (all inclusive) shall not be less than **12 years**. The air bags and its components shall not crack/shear/balloon/ burst or deteriorate in its performance during its design life.	**Justification:** No specific requirement in EN 14363 for the Side Pull Test (To validate the Damping Factor) Intent of the Side Pull Test is already covered in RDSO defined Tests. Acceleration & Ride Comfort Test will cover the Lateral Damping effect. Bidder proposes new range for damping factor requirement for wedge test and to remove the Side Pull test requirement. **Amendment Requested:** Hydraulic dampers of suitable capacity shall be provided symmetrically to control and limit the vertical and horizontal oscillation of the car body. The damping factors are to satisfy the provisions given in Table 15.1B. The damping factor in vertical mode, by wedge test, when tested using a wedge of 18mm thickness shall be between **0.10 and 0.35**. ~~**The damping factor in lateral mode when measured by quick release side pull test should be within 0.3 and 0.4.**~~ Suspension will not be considered acceptable if maximum acceleration and spring displacements do not decay within 2-3 cycles.	Query not relevant to 5.4.9. However Tender condition prevails
265	Part 2 Works Requirement - Technical Specification	6.22.3	3-car train shall be subjected to complete type test as per UIC 541-05 and may have to be validated on more than two trains. Slide protection scheme shall include suitable measures for condition involving simultaneous slide in all 4 axles of any car. The type test protocol shall be agreed with the engineer and shall be in line with ERTS 15.16.4.	Bidder submits that as per global REX and standards, validation on one train is sufficient to prove performance as the WSP SYSTEM is homologated per UIC541-05. **Bidder requests modification as follows:** 3-car train shall be subjected to complete type test as per UIC 541-05 ~~and may have to be validated on more than two trains~~. Slide protection scheme shall include suitable measures for condition involving simultaneous slide in all 4 axles of any car. The type test protocol shall be agreed with the engineer and shall be in line with ERTS 15.16.4.	Tender condition Prevails
266	Part 2 Works Requirement - Technical Specification	15.16.4	WSP test Complete train (AW0 & AW3) shall be subjected to Wheel slip-slide Protection (WSP) type test as per UIC 541-05 ED.03 / EN 15595:2009. The detail type test specification shall be got agreed from the Engineer. Followings shall be included in the type test: (i) Braking Modes as EB (Emergency Brake), FSB (Full Service Brake with ED Dynamic Brake), FSB (Full Service Brake without ED Dynamic Brake) and EB (Emergency Brake) with both 1 M car isolated & 3 bogies isolated for Evaluation with at least 4 valid runs each. (ii) Braking Modes including FSB (Full Service Brake with ED Dynamic Brake) followed by Failure of ED Dynamic Brake, FSB (Full Service Brake with ED Dynamic Brake) followed by EB (Emergency Brake) for reference with at least 3 valid runs each. (iii) Low Speed and Low Adhesion WSP Tests will be done for reference at speeds of 25kmph and initial adhesion < 5% (iv) WSP Tests will be done on Randomly selected 3 trains in Tare Load in speed range 60-30kmph for Braking Modes as EB (Emergency Brake), FSB (Full Service Brake with ED Dynamic Brake), FSB (Full Service Brake without ED Dynamic Brake) for evaluation as and when directed by Engineer (v) Initial Adhesion will be evaluated as per UIC i.e. when First axle starts sliding irrespective of location on train. In case of Full Service Brake with Dynamic Brake First axle to slide is expected from Motor car due to Dynamic Brake applied on Motor Car. (vi) An Axle will be considered Sliding if its speed is at least 10% lesser than Reference Speed. (vii) Minimum Slide Criteria will be fulfilled on the basis of Braked Axles of complete Train Set i.e. At least 50% of braked axles, of train. Axle will be considered Sliding if it is sliding for more than 35% of the time (Actual time taken from 85-45 or 60-30). (viii) Extension of Stopping Distance in Wet Condition over Dry Condition, for Adhesion Level of 6-8% will be 15% and 25% for adhesion level of 5% upto 6%. Braking Distance under Dry and WSP condition shall be within the distances specified in the Table 15.2. WSP software shall be fine tuned to ensure minimum reduction of brake distance due to low adhesion and shall be state of art being used in metros worldwide by the contractor.	Bidder submits that as per global REX and standards, validation on one train is sufficient to prove performance as the WSP SYSTEM is homologated per UIC541-05. **Bidder requests modification as follows:** Followings shall be included in the type test: (i) Braking Modes as EB (Emergency Brake), FSB (Full Service Brake with ED Dynamic Brake), FSB (Full Service Brake without ED Dynamic Brake) and EB (Emergency Brake) with both 1 M car isolated & 3 bogies isolated for Evaluation with at least 4 valid runs each. (ii) Braking Modes including FSB (Full Service Brake with ED Dynamic Brake) followed by Failure of ED Dynamic Brake, FSB (Full Service Brake with ED Dynamic Brake) followed by EB (Emergency Brake) for reference with at least 3 valid runs each. (iii) Low Speed and Low Adhesion WSP Tests will be done for reference at speeds of 25kmph and initial adhesion < 5% (iv) WSP Tests will be done ~~on Randomly selected 3 trains~~ in Tare Load in speed range 60-30kmph for Braking Modes as EB (Emergency Brake), FSB (Full Service Brake with ED Dynamic Brake), FSB (Full Service Brake without ED Dynamic Brake) for evaluation as and when directed by Engineer. (v) Initial Adhesion will be evaluated as per UIC i.e. when First axle starts sliding irrespective of location on train. In case of Full Service Brake with Dynamic Brake First axle to slide is expected from Motor car due to Dynamic Brake applied on Motor Car. (vi) An Axle will be considered Sliding if its speed is at least 10% lesser than Reference Speed. (vii) Minimum Slide Criteria will be fulfilled on the basis of Braked Axles of complete Train Set i.e. At least 50% of braked axles, of train. Axle will be considered Sliding if it is sliding for more than 35% of the time (Actual time taken from 85-45 or 60-30). (viii) Extension of Stopping Distance in Wet Condition over Dry Condition, for Adhesion Level of 6-8% will be 15% and 25% for adhesion level of 5% upto 6%. Braking Distance under Dry and WSP condition shall be within the distances specified in the Table 15.2. WSP software shall be fine tuned to ensure minimum reduction of brake distance due to low adhesion and shall be state of art being used in metros worldwide by the contractor.	Tender condition Prevails
267	Part 2 Works Requirement - Technical Specification	5.6.2	The bogie frames shall be able to withstand a longitudinal shock load of **5g** without failure. This shall be taken as occurring simultaneously with the fully laden vertical load.	**Justification:** AT follows EN13749 for loads on attachments. UIC 615-1 primarily implies loads on Bogie Frames for structural strength. As per EN13749, Longitudinal Shock load of 3g for Motor Bogie & 5g for Trailer Bogie **Amendment Requested:** The bogie frames shall be able to withstand a longitudinal shock load of **3g for Motor Bogie & 5g for Trailer Bogie 5g** without failure. This shall be taken as occurring simultaneously with the fully laden vertical load.	Tender condition Prevails

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268	Part 2 Works Requirement - Technical Specification	5.9.3	Calculations indicating the natural frequency of the motor suspension system shall be submitted and shall clearly indicate that resonance with the bogie frame is avoided.	**Justification:**proposed motor mounting design is considered as rigid mounting. **Amendment Requested:** **Applicable** calculations indicating the natural frequency of the motor suspension system shall be submitted and shall clearly indicate that resonance with the bogie frame is avoided.	Tender condition Prevails
269	Part 2 Works Requirement - Technical Specification	5.10.4	The gearbox shall be got subjected to a test based on the **actual duty cycle on a specified Corridor** with the specified torque and speed conditions. Test shall commence with gearbox oil at temperature at **30°C** and temperature shall either be continuously monitored. The oil temperature shall not exceed the manufacturers recommendation consistent with life between oil changes. Tests shall be carried out in both the directions. Noise and vibration tests shall also be performed along with this test. The Contractor shall submit the Test Procedure based on Good Industry Practice / international practice for approval by the Engineer.	**Justification:** It is an internationally accepted practice to substitute the actual duty cycle with accelerated rig duty cycle. Performance on this rig duty cycle ensures the performance on specified corridor, as rig duty cycle shall be selected with worst conditions of loads on gearbox Gearbox is also tested, separately, for high temperature operation test. Test report shall include high temperature operation test results also. With the combination of high temperature operation test & fatigue test at an ambient temperature can confirm the suitability of gearbox for the application. Noise and vibration test requires separate setup so these testes shall also be performed on a suitable test setup **Amendment Requested:** The gearbox shall be got subjected **to a test equivalent to or more severe than ~~based on the~~** actual duty cycle on a specified Corridor with the specified torque and speed conditions. **Also additionally a test shall be done on gearbox to ensure performance at an ambeint of 45°C. ~~Test shall commence with gearbox oil at temperature at 30°C and~~** Temperature shall **~~either~~** be continuously monitored. The oil temperature shall not exceed the manufacturers recommendation consistent with life between oil changes. Tests shall be carried out in both the directions. Noise and vibration tests shall also be performed-**~~along with this test~~ on a suitable test setup in a separate test.** The Contractor shall submit the Test Procedure based on Good Industry Practice / international practice for approval by the Engineer.	Refer Corregendum -2 /S.no-63
270	Part 2 Works Requirement - Technical Specification	10.5.9	Single point uploading of software and down loading of faults shall be possible from TCMS nodes in each car. In-case of sub supplier's equipment like doors, PIS, HVAC etc. also, single point uploading of software and down loading of faults on unit and train basis shall be ensured. Single point uploading of all software of all subsystems / systems shall be possible in less than 10 minutes	**Justification:** AT understand that upload time of software depends on number of similar type of equipment connected in a car **Amendment Requested:** Single point uploading of software and down loading of faults shall be possible from TCMS nodes in each car. In-case of sub supplier's equipment like doors, PIS, HVAC etc. also, single point uploading of software and down loading of faults on unit and train basis shall be ensured. Single point uploading of all software of all subsystems / systems shall be possible in less than 45 ~~10~~ minutes	Refer Corrigendum -2/ S.no- 64
271	Part 2 Works Requirement - Technical Specification	~~12.10.4~~ 12.10.6	PWM Generator (i) Robust design fail-safe PWM generator shall be used to convert the analogue signal from the Master Controller to a PWM signal for powering and braking control. The design shall ensure no shifting of calibration once done during commissioning. The outgoing PWM signals shall be hardwired. Provision of PWM generator shall be as per the interface design with signaling contractor. (ii) The Contractor shall interface with Signalling Contractors for ATO operation interface. (iii) The equipment shall confirm to IEC 60571, IEC 60077 and IEC 61373 standards (latest version). (iv) Alternative design for the same functionality may also be considered	**Justification:** Digital signals is also a alternative option for powering and braking controls **Amendment Requested:** PWM Generator (i) Robust design fail-safe ~~PWM generator~~/ **digital signals** shall be used to convert the analogue signal from the Master Controller to a PWM signal for powering and braking control. The design shall ensure no shifting of calibration once done during commissioning. The outgoing PWM signals shall be hardwired. Provision of PWM generator shall be as per the interface design with signaling contractor. (ii) The Contractor shall interface with Signalling Contractors for ATO operation interface. (iii) The equipment shall confirm to IEC 60571, IEC 60077 and IEC 61373 standards (latest version). (iv) Alternative design for the same functionality may also be considered	Refer Corregendum -2 /S.no-52
272	Part 2 Works Requirement - Technical Specification	6.2.7	TCMS shall control cut in and cut out of compressor based on feedback of pressure transducer/governor fitted in MR pipe. The pressure transducer/ switch/ governor of established reliability in EMU metro operations shall be used. Contractor shall furnish the reliability figures during the design stage. A Pressure switch shall control the cutting in and out of the compressor. A time relay shall be provided to monitor the state of health of the compressor and air delivery system which shall also be logged in TCMS.	Bidder submits that the operation anf logging of compressor hours is done by TCMS itself as done in various other active INDIAN Metros. the use of a timer relay card is not required. Bidder requests modification as follows: TCMS shall control cut in and cut out of compressor based on feedback of pressure transducer/governor fitted in MR pipe. The pressure transducer/ switch/ governor of established reliability in EMU metro operations shall be used. Contractor shall furnish the reliability figures during the design stage. A Pressure switch shall control the cutting in and out of the compressor. ~~A time relay shall be provided to monitor the state of health of the compressor and air delivery system which shall also be logged in TCMS.~~ **The health and state of the compressor and air delivery system shall be monitored by the TCMS.**	Tender condition Prevails
273	Part 2 Works Requirement - Technical Specification	4.11.5	The cars shall be completely watertight, without using any external sealing compound, and be able to withstand rain water protection test, as approved by the Engineer, simulating a train traveling at speed under severe climatic conditions of Nagpur as well as passage through automatic wash plants. If considered necessary, only weld-through sealants shall be provided. The external sealants shall not be exposed to direct sunlight. The sealants life shall match with the life of the car body and detailed literature / catalogues shall be submitted to the Engineer and approval obtained prior to undertaking manufacture of car body.	**Amendment Requested:** The cars shall be completely watertight, without using any external sealing compound, and be able to withstand rain water protection test, as approved by the Engineer, simulating a train traveling at speed under severe climatic conditions of Nagpur as well as passage through automatic wash plants. If considered necessary, only weld-through sealants shall be provided. The external sealants shall not be exposed to direct sunlight. **The sealants life shall** ~~with the life of the car body~~ **be a minimum of 12 years** and detailed literature / catalogues be , shall be submitted to the Engineer and approval obtained prior to undertaking manufacture of car body.	Tender condition Prevails

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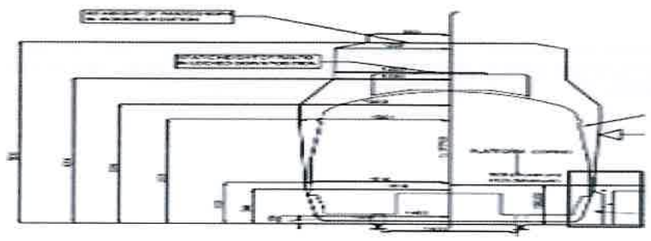
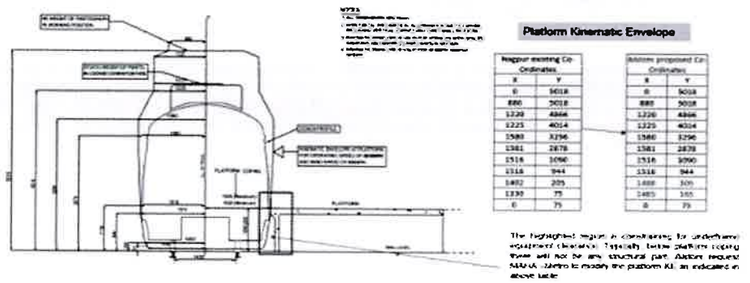
274	Part 2 Works Requirement - Technical Specification	SoD Appexdix - 4			Tender condition Prevails
275	Part 2 Works Requirement - Technical Specification	3.13,3.24.2	3.13 Line Profile 3.13.1 The drawings showing the line profiles of all lines are enclosed in Appendix TE SEC of propulsion system (henceforth mentioned as SECP) shall be calculated for round trip of complete sections with schedule speed of AW2 loaded train. For calculation of SECP, full auxiliary load with 100% duty cycle BUT excluding HVAC, shall be considered along with the propulsion load. The Committed Energy values (SEC) are at pantograph level. SECP, as above, shall not be more than 34 Wh/tonne/km.	Line profile Missing. **Bidder request for** The route profile and corrider to be provided for SEC Evaluation,and other simulation	Refer Corrigendum-2/S.no-16
276	Part 2 Works Requirement - Technical Specification	4.14.6 (iv)	The grab poles and rails shall suffer no permanent deformation when subject to loading conditions arising in service, in accordance with UIC 566 / EN 12663. The mounting of grab poles consider the movement of floating floor for passenger load of 10 passenger/m2 and shall ensure free movement in the worst possible scenario.	**Amendment Requested:** The grab poles and rails shall ~~**suffer**~~ **have** no **significant** permanent deformation when subject to loading conditions arising in service, in accordance with UIC 566/EN 12663. The mounting of grab poles shall consider the movement of floating floor for passenger load of 10 passenger/m2 and shall ensure free movement in the worst possible scenario.	Tender condition Prevails
277	Part 2 Works Requirement - Technical Specification	4.4.8	All welds including spots welds marks shall be passivated with acceptable procedure to protect against any visible rusting/chemical deposits/blackening etc.	**Justification:** All the welds on interior shall be cleaned with mechanical cleaning ex. wire brush to protect against any visible rusting/chemical deposits / blackening etc. However Passivation will be applied on exterior. **Amendment Requested:** All **arc** welds and ~~including spot weld marks~~ **only spots weld marks with blackening on car exterior** shall be passivated **and interior arc welds shall be mechanically cleaned** with an acceptable procedure to protect against any visible rusting/chemical deposits / blackening etc.	Tender condition Prevails
278	Part 2 Works Requirement - Technical Specification	6.7.6	Flexible hoses shall be kept to a minimum, and be proven in EMU metro service. The Contractor shall submit proposals to increase the integrity of the air supply system against rupturing of inter-car flexible hoses. Burst hose protection shall be provided for hoses. Armored hoses shall be provided in the flexible connections in the parking brake piping.	**Justification:** Conventionally burst hose protection will be provided for inter-car fliexible hose for MR line only. "Burst hose protection shall be provided for hoses" may be rephrased as "Burst hose protection shall be provided for inter-car flexible hoses" to provide more clarity. **Amendment Requested:** Flexible hoses shall be kept to a minimum, and be proven in EMU metro service. The Contractor shall submit proposals to increase the integrity of the air supply system against rupturing of inter-car flexible hoses. Burst hose protection shall be provided for **inter-car flexible** hoses. Armored hoses shall be provided in the flexible connections in the parking brake piping.	Tender condition Prevails
279	Part 2 Works Requirement - Technical Specification	11.2.6	The air discharge velocities at any outlet grille shall not exceed 4m/s. The air velocities at specified points in the car, as proposed by Contractor and reviewed by Engineer, shall not exceed those set out in EN13129 / EN14750. The air velocity at any point in the car shall exceed 0.75m/s. The air velocity within ducts shall not exceed 8m/s, shall not cause noise or air movement discomfort to passengers, and shall generally follow internationally accepted practice. The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. Details of the Contractor's proposals shall be submitted.	**Justification :** In order achieve desired thermal comfort according to EN14750, velocities will be higher near the outlet gillres. High velocites near outlet grilles aids in acheving optimum flow near passenger seats and head position leading to better thermal comfort. **Amendment:** The air discharge velocities at any outlet grille shall not exceed **4-6 m/s.** The air velocities at specified points in the car, as proposed by Contractor and reviewed by Engineer, shall not exceed those set out in EN13129 / EN14750. The air velocity ~~at any point in the car~~ **measured at locations precribed by EN14750 shall not** exceed 0.75m/s. The air velocity within ducts shall not exceed 8m/s, shall not cause noise or air movement discomfort to passengers, and shall generally follow internationally accepted practice. The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. Details of the Contractor's proposals shall be submitted.	Tender condition Prevails
280	Part-1 Section III. Evaluation and Qualification Criteria	4.2 Specific Experience — Delivery Record and Operational Performance	Experience of satisfactory/substantial5 completion of similar works during last 10 years as on date of Bid submission. Note: Bidders may note that experience of trams is not considered as qualifying experience	We would like to kindly inform that historically for Metro Rolling Stock tenders in India ,this technical criteria is never asked for each member ,as under Make In India ,Localization etc. obligations a new member/company would always needs to be part of the consortium to manage manf/investments in India ,therefore this should only be asked at All Parties combined level. Thanks to confirm and amendment pls	Tender condition Prevails

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281	Part-1 Section III. Evaluation and Qualification Criteria	4.3 Specific Experience — Propulsion System	Cumulative experience of minimum seven (07) years in the Design and Manufacturing of Propulsion Equipment (Traction Converter- Inverter or Traction Inverter, Auxiliary Converter-Inverter and Traction Motor) for Metro/Trainset/3- Phase MEMU/3-Phase EMU/RRTS. Propulsion equipment (Traction Converter-Inverter or Traction Inverter, Auxiliary Converter-Inverter and Traction Motor) supplied shall have been in satisfactory revenue operation for at least three (3) years in minimum aggregate 300 cars comprising of both powered and non-powered cars in the Metro/Trainset/3- Phase MEMU/3-Phase EMU/RRTS which should include cumulative supply of minimum 100 cars (powered & non-powered) outside the country of origin/manufacture or in India.	We would request to kindly treat Design/manufacturing for **Auxiliary Converter-Inverter** as also applicable for outsourced item like Traction Motor. We know that this product is basically a commodity like Traction Motor and out sourced item for many existing players in India including their global ref projects generally. Therefore , kindly amend to add note for **Auxiliary Converter-Inverter** similar to Note 2 , with qualifications required could be same i.e. aggregate 300 cars comprising of both powered and non-powered cars. Pls confirm and amendment pls	Tender condition Prevails
282	Part 2 Works Requirement - General Specification	16.1.10	The Contractor's Engineering Change and Configuration Management processes that are established for the DLP shall remain in place throughout the CAMC Period as well. The processes shall identify any impact to maintenance procedures or documentation.	Otherthan those agreed during DLP period, it is our understanding that there shall be no new Engineering Change and Configuration Management processes required to be carried out duirng CAMC period. If some change is necessated due to operational requirements, it shall be at additional cost. Pelase confirm our understanding.	The clause is self explanatory
283	Part 2 Works Requirement - Technical Specification	12.9.1(3)	The colour of the LEDs shall be **warm white (temperature 4000K-5000K)** and CRI shall not be less than 80. It shall be ensured that all LEDs are selected from same bin to avoid any difference in colour and performance.	**Concern:** Warm white temperature acheivable at 3000K, at 4000K -5000K color temperature will lead to daylight color and white(cool color). As in other metro project also provided warm white color range was 3000K-3300 K CCT. **Clarification required:** Bidder request to modify the clause as below: "The colour of the LEDs shall be warm white (temperature **3000K and above**) and CRI shall not be less than 80. It shall be ensured that all LEDs are selected from same bin to avoid any difference in colour and performance."	Tender condition Prevails
284	Part 2 Works Requirement - Technical Specification	6.2.13	The compressor shall be designed to achieve a minimum of 12000 hours of running time between overhauls. Routine maintenance shall not be required at a frequency more than once per year.	Running time is a derivative of the mileage accrued over the service time, and this is dependent on the train oprations/schedule. Hence a limit of time period shall also be defined (for e.g rubber components shelf life), if the mileage accrued is less than the corresponding number of hours. **Bidder requests to amend the Clause as follows:** The compressor shall be designed to achieve a minimum of 12000 hours of running time **or 8 years whichever is earlier** between overhauls. Routine maintenance shall not be required at a frequency more than once per year.	Tender condition Prevails
285	Part-3 Section IX: Particular Conditions of Contract (PCC)	Part A - Contract Data, SL No. 44	44 **Payment** 14.7 The Employer shall pay to the Contractor the amount certified in each Interim Payment Certificate. Each interim payment certificate will have two components; (a)Value of the work/goods/services (without taxes/ duties levies/cess etc.). (b)Taxes/ duties levies/cess etc.	As per BDS, ITB 14.15 (new para), it is our understanding that The applicable GST and any other tax / duty would be included in the Bid Price and no tax reimbursement would be provided by MAHA-METRO to the Contractor. In light of the above, we understand that the component of interim payment certificate (b) Taxes/duties levies/cess etc. is only for reference purpose and not for reimursement. Please confirm our understanding.	The clause is self explanatory
286	Part 2 Works Requirement - Technical Specification	3.21.1 3.21.4	3.21.1 Weight / loading definitions are as under: (i) AW0: The weight of the vehicle with all seats occupied and one passenger in a wheelchair, the weight of passenger is 65 kg, (ii) AW1: Fully loaded vehicle weight. This weight is the sum AW0 plus the weight of standees at 65 kg each and 4 standee/m², (iii) AW2: Crush loaded vehicle weight. This weight is the sum of AW0, plus weight of standees at 65 kg each and 6 standee/m². (iv) AW3: Exceptional Crush loaded vehicle weight. This weight is the sum of AW0, plus weight of standees at 65 kg each and 8 standees/m². 3.21.4 Fully Loaded / Dense Crush Loaded (AW3): The minimum number of passengers required to be carried per car will be as follows: Driving Motor Car : 315 (minimum seated: 43) Trailer Car : 340 (minimum seated: 50)	**Bidder request clarification** on loading definition of "fully loaded". Requirement 3.21.1 mentions AW1 as fully loaded while 3.21.4 mentions fully loade d as AW3, both these requirement are conflicting and bidder requests clarifcation on the same.	Refer Corregendum -2 /S.no-39

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287	Part 2 Works Requirement - Technical Specification	3.22.1 table 3.1 15.6.1(viii)	3.22. 1 Table 3.7: Performance requirements 15.6.1 (viii) Train Performance test (IEC 1133): Compete train shall be subjected to the tests specified in IEC 1133 or any other tests required to be incorporated by the engineer. Detail test protocol shall be drawn and got approved from the engineer. The train performance specified in ERTS 3.22 shall also be get validated along with the final simulated performance parameters after design. The run time performance shall meet the following parameters.	Train Load (1) / Achieved Speed (KMPH) (2) / Maximum Distance Moved (m) in time at Column (4) (3) / Maximum Time taken to achieve the speed (sec) (4) Dense Crush load @ 8 passengers / m2 and All-out run: 0 to 40; 0 to 60; 0 to 80 Crush load @ 6 passengers / m2 and All-out run: 0 to 40; 0 to 60; 0 to 80	For 3.22.1 Refer Corregendum -2 /S.no-40. For 15.6.1 (viii) Refer Corregendum -2 /S.no- 55
288	Part 2 Works Requirement - Technical Specification	8.11.5	Deleted Reliability of APC coils, if used, is of paramount importance for safe operation. The coils shall be tested for EMC/EMI compatibility as per international standards.	**Bidder needs clarity o**n whether this requirement has been deleted or is it still applicable.	Refer Corregendum -2 /S.no 51
289	Part 2 Works Requirement - Technical Specification	4.14.1(xvi)	Each saloon shall have at least one 15A & 5A socket along with USB slots (A and C type) at both ends with suitable protection and secured from passenger access to be used for saloon cleaning machines etc.	As per cl.no 4.14.1(xvi & xvii) of tender, in total, 8 nos of 5A sockets with USB ports in each saloon distributed within saloon area shall be considered. This will include the sockets on both ends near the last row of seats, for Mobile / PC charging. **Please confirm on the considerations.**	Can be discussed during design stage.
290	Part 2 Works Requirement - Technical Specification	4.14.1(xvii)	Each saloon shall have at least 8 nos. laptop charging socket outlets (5A) and 8 nos. USB ports (both type A and type C) for mobile phone / handheld device charging for the use by the passengers. These shall be suitably located and necessary design shall be furnished to Engineer for approval.		Can be discussed during design stage.
291	Part 2 Works Requirement - Technical Specification	Table 3.7 Table 15.2 Annexure 1/TD	Service braking rate from 85kmph to stand still and emergency braking rate from 85kmph to stand still	The service braking rate and emergency braking rate as given in Table 3.7 and table 15.2 is from **85kmph** to stand still whereas in Annexure 1/TD rolling stock characteristics the requirement is given as **80kmph** to stand still. **Bidder request to provide** clarity on the contradiction in requirements.	Refer Corregendum -2 /S.no- 56 & 40
292	Part 2 Works Requirement - Technical Specification	4.13.2	The windscreen shall be constructed of toughened, laminated safety glass, and shall comply with the requirements of UIC 651, EN 50152, EN15152 and UIC 566 / EN 12663. The inner and outer surfaces of the windscreens shall be scratch resistant.	Justification: Windscreen is designed as per IS 2553 part1&2 and UIC 651 standard is followed for Impact test EN 15152 standard is more applicable for European markets, against to the EN 15152 we propose IS 2553 standard UIC 566 : static load only applicable **Amendment Requested:** The windscreen shall be constructed of toughened, laminated safety glass, and shall comply with the requirements of ~~UIC 651, EN 50152, EN15152 and UIC 566 / EN 12663~~. **IS 2553 or any International Standard.** The inner and outer surfaces of the windscreens shall be scratch resistant.	Refer Corregendum -2 /S.no-41
293	Part-3 Section IX: Particular Conditions of Contract (PCC)	S. No. 38, Sub- Clause 14.2 Page No. 953 S. NO. 47 Sub-Clause 14.2, Advance Payment Page 1002	The Employer shall make an advance payment, **as an interest bearing loan** for mobilization and cash flow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies, proportions and amortization procedure are detailed in PCC s.no 47, sub clause 14.2 A) Mobilization Advance: interest bearing Mobilization advance shall be 20% of original contract value payable in two equal instalments of 10% (Ten Percent) each in the currencies and proportions of the Accepted **Contract Amount Rate of interest shall be charged at "SBI Bank Rate+2% (Two percent)" simple interest. Interest will be chargeable and calculated on reducing balance method.**	You will appreciate that Bidder will incurr cost towards development efforts, interest free supplier advance and manage working capital need. "Pls note that in recent tenders of Rolling Stocks (Mumbai Metro L4-5-6) **Govt of Maharashtra / MMRDA** have also removed Interest bearing Adance and made Interest free Advance payment as per various bidder's request, to be in line with other Rolling stock metro tenders in India. (eg recent Chennai Metro). We sincerely request you make **Mobilization advance as interest free, to enable us to Participate in this tender"**	Tender condition Prevails
294	Part 2 Works Requirement - Technical Specification	4.16.3	The Contractor shall ensure adequate water drainage from the roof, such that no water shall be discharged into the vicinity of the passenger doorways or over any underframe equipment / bogie mounted equipment. The water shall not accumulate in the rain gutters and shall be easily discharged through adequately sized pipes at levels below the floor level and sufficiently away from the track. Hose / Rubber fittings are not preferred in the discharge and steel pipe fitting shall be preferred. In case, the rubber pipe connections are unavoidable due to tolerance clearance issues, they can be sued only at one location provided the life of rubber used shall be more than 15 years and suitable window arrangement on the car body for its replacement shall be available.	**Justification:** Design will ensure ease of feasibility to remove the flexible hose from outside the car. There is no need of any specific window arrange on end wall. Also, all supplier gives commitment for only 10 years for rubber life. Accordingly, bidder request to amend this requirement. **Amendment Requested:** The Contractor shall ensure adequate water drainage from the roof, such that no water shall be discharged into the vicinity of the passenger doorways. The water shall not accumulate in the rain gutters and shall be easily discharged through adequate sized pipes at levels below the floor level and sufficiently away from the track. Hose/Rubber fittings are not preferred in the discharge pipe and Stainless steel pipe fittings shall be preferred. In case, rubber pipe connections are unavoidable due to tolerance clearance issues, they can be used only at one location provided the life of rubber used shall be more than ~~15~~ **10** years and ~~suitable window arrangement on the carbody~~ **sufficient accessibility** for its replacement shall be available.	Refer Corregendum -2 /S.no-33

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295	Part-1 Section II. Bid Data Sheet	ITB 34.4.1 (New Clause)	For sub–contracting, Clause 4.4 of GC and Clause 4 of PC shall apply. For subcontracts and vendors for supply of major items, it will be obligatory for the Contractor to obtain a "Notice of No Objection" from the Engineer, to the identity of the sub-contractor and Vendor. The list of items, for which Engineer's approval of vendors is contemplated by the Contractor shall be submitted by the Bidder during the very initial stages of contract execution (well before finalizing the vendors), which will be reviewed for approval by the Engineer, whose decision shall be final and binding. The Engineer may at his sole discretion include / delete the items in this proposed list for which approval of Engineer shall be mandatory. Any proposals by the Bidder in their offer shall not be construed as an approval of the vendor.	Bidder reserves the right to select subcontractor for smooth execution of project. Bidder shall submit the list of proposed suppliers for customer approval	Tender condition Prevails
296	Part 2 Works Requirement - Technical Specification	6.15.2	Brake blending logic shall ensure priority of electric regenerative braking over pneumatic braking. If the demanded brake effort is not achievable solely by the electric regenerative brakes, the pneumatic brake system on the T-car shall provide supplementary brake effort. The Contractor shall submit full proposal for review. Electric regenerative brake fades out shall not occur above 10 kmph and the system should meet the blending requirements as per EN 13452-2 standard and also as per the agreed signalling interfaces. For the given brake demand signal, the brake effort achieved shall be same during the transition from ED to friction Brake. After the speed is reduced to a very low speed, holding brakes/full-service brakes shall be applied to prevent the train from rolling backwards at station stops and gradient.	Bidder recommends that pneumatic compensation in blended brake shall take place on all cars to support deceleration to have equi wear on all pads on train (M & T CARS) rather than just T car. This also ensures that the pads in M-car have a good coefficient of friction with a good usage rate. **Bidder requests to amend the Clause as follows:** Brake blending logic shall ensure priority of electric regenerative braking over pneumatic braking. If the demanded brake effort is not achievable solely by the electric regenerative brakes, the pneumatic brake system ~~on the T-car~~ shall provide supplementary brake effort. The Contractor shall submit full proposal for review. Electric regenerative brake fades out shall not occur above 10 kmph and the system should meet the blending requirements as per EN 13452-2 standard and also as per the agreed signalling interfaces. For the given brake demand signal, the brake effort achieved shall be same during the transition from ED to friction Brake. After the speed is reduced to a very low speed, holding brakes/full-service brakes shall be applied to prevent the train from rolling backwards at station stops and gradient.	Tender condition Prevails
297	Part 2 Works Requirement - Technical Specification	6.13.1	The brake system and components shall be proven, state of art and widely used in modern metro rolling stock. The brake components, valves etc. shall have been in use and have established their satisfactory performance and reliability on at least three mass rapid transit systems in revenue service over a period of last three years or more out of which one should have been outside the country of origin or in India. The options for brake system have been specified in Clause 5.12.1. The braking performance shall be as specified in Chapter 3, Clause 3.22.1 and shall be designed for 90 kmph. The operational speed shall be 80 kmph. The system shall generally conform to EN13452-1&2. Brake valves shall be designed and validated for heavy duty cycles required for intensive brake blending. No change of valves or components except rubber items shall be required for at least 18 years from start of operations. Contractor shall assess the cyclic load under worst service conditions appearing together and validate the same on a test bench.	Bidder submits that some valves (safety critical valves like EP magnet valves, gauges with high duty cycle) and wearable components (like rubber, gaskets etc) will be required to be replaced prior to 18 years. **Bidder requests modification as follows:** The brake system and components shall be proven, state of art and widely used in modern metro rolling stock. The brake components, valves etc. shall have been in use and have established their satisfactory performance and reliability on at least three mass rapid transit systems in revenue service over a period of last three years or more out of which one should have been outside the country of origin or in India. The options for brake system have been specified in Clause 5.12.1. The braking performance shall be as specified in Chapter 3, Clause 3.22.1 and shall be designed for 90 kmph. The operational speed shall be 80 kmph. The system shall generally conform to EN13452-1&2. Brake valves shall be designed and validated for heavy duty cycles required for intensive brake blending. No change of valves or components except rubber items shall be required for at least ~~18~~ 8 years from start of operations. Contractor shall assess the cyclic load under worst service conditions appearing together and validate the same on a test bench.	Tender condition Prevails
298	Part 2 Works Requirement - Technical Specification	5.4.5	Hydraulic dampers of suitable capacity shall be provided symmetrically to control and limit the vertical and horizontal oscillation of the car body. The damping factors are to satisfy the provisions given in Table 15.1B. The damping factor in vertical mode, by wedge test, when tested using a wedge of 18mm thickness shall be between 0.20 and 0.25. The damping factor in lateral mode when measured by "quick release side pull test" should be between 0.30 and 0.40. Suspension will not be considered acceptable if maximum acceleration and spring displacements do not decay within 2-3 cycles.	**Justification:** No specific requirement in EN 14363 for the Side Pull Test (To validate the Damping Factor). Moreover, intent of the Side Pull Test is already covered in RDSO defined Tests. Acceleration & Ride Comfort Test will cover the Lateral Damping effect. Accordingly, bidder proposes to remove the Side Pull test requirement. **Amendment Requested:** Hydraulic dampers of suitable capacity shall be provided symmetrically to control and limit the vertical and horizontal oscillation of the car body. The damping factors are to satisfy the provisions given in Table 15.1B. The damping factor in vertical mode, by wedge test, when tested using a wedge of 18mm thickness shall be between 0.20 and 0.25. ~~The damping factor in lateral mode when measured by quick release side pull test should be between 0.30 and 0.40.~~ Suspension will not be considered acceptable if maximum acceleration and spring displacements do not decay within 2-3 cycles.	Tender condition Prevails
299	Part 2 Works Requirement - Technical Specification	5.6.2	The bogie frames shall be able to withstand a longitudinal shock load of 5g without failure. This shallmbe taken as occurring simultaneously with the fully laden vertical load.	**Justification:** Bidder would like to inform that our design follows EN13749 for loads on attachments. As per EN13749, Longitudinal Shock load of 3g for Motor Bogie & 5g for Trailer Bogie. UIC 615-1 primarily implies to loads on Bogie Frames for structural strength. **Amendment Requested:** The bogie frames shall be able to withstand a longitudinal shock load of ~~5g~~ **3g for motor bogie & 5g for the trailer bogie as per EN13749** without failure**, implies ultimate strength as acceptance criteria.** This shall be taken as occurring simultaneously with the fully laden vertical load.	Repeated. Refer S.no-267

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300	Part 2 Works Requirement - Technical Specification	6.13.3	The EP brake shall so design that its control function can be taken over by the other control elements or units even in the case of failure of individual electronic or electrical control elements or units. Redundancy for WSP is also preferred, details shall be finalized during design stage. Redundant power supply and processor card for hot standby in the control unit and spare slots for I/O cards shall be ensured.	Redundancy is taken care of by the electronic brake control unit at car level. Each bogie shall be controlled by a specific set of power supply and control cards. In case of failure of one of them, the other shall take over control of the service brake on other bogie. Further WSP control is also provided at a bogie level. Speed sensors and dump valve are provided at an axle level. There is sufficient redundancy through numbers. **Bidder requests to amend the Clause as follows (The same clause is active in other Indian Metros):** The EP brake shall so design that its control function can be taken over by the other control elements or units even in the case of failure of individual electronic or electrical control elements or units. ~~Redundancy for WSP is also preferred~~, details shall be finalized during design stage. Redundant power supply and processor card for hot standby in the control unit and spare slots for I/O cards shall be ensured. **However, any other suitable design for redundancy of bogie based EP Brake control function may be proposed by the Contractor subject to approval of the Engineer.**	Refer Corregendum -2 /S.no-46
301	Part 2 Works Requirement - Technical Specification	8.10.8	The RMS current of Traction Motor shall be calculated for all out run in the specified sections from end-to-end.	As train is required to run with 30 second dwell time and turnaround time and also emergency operating condition are considered, thermal design and maximum RMS current for motor for continuos rating shall be cosnidered with 30 sec of dwell time. So this clause shall be suitably modified.	Tender condition Prevails
302	Part-3 Section IX: Particular Conditions of Contract (PCC)		Advance Payment for CAMC Scope	Bidder requests a 10% mobilization advance for the CAMC scope of work to cater the upfront costs for inventory buildup (spares et. al.) and resources deployment.	Tender condition Prevails
303	Part-3 Section IX: Particular Conditions of Contract (PCC)	SI No. 22 Performance Security	B. CAMC (Comprehensive Annual Maintenance Contract) Sepearate performance security for CAMC work will be in the form of a demand guarantee i.e. Bank Guarantee issued from a scheduled commercial bank of Indian or foreign origin having business office in India in the amount(s) of 10% (ten percent) of the Accepted CAMC Amount and in the same currency(ies) of the Accepted CAMC Amount (Refer cost center I) and same shall be submitted within one month of induction of 1st train set in revenue service. This PBG shall be released after completion of CAMC period of last train set and issuance of satisfactory performance certificate.	Bidder should be allowed to submit the Performance Security with initial validity of 1 (one) year of the annual CAMC value, subject to submission of new Performance Security valid for a further period of one year, 2 months prior to expiry of such performance Security and so on till the required validity of Performance Security. **Reference CMRL clause attached for reference.**	Tender condition Prevails
304	Part 2 Works Requirement - Technical Specification	2.26 Predictive and Condition based Monitoring (PCM) Page: 446 4.2 Mock-ups - General Page 462	2.26 Predictive and Condition based Monitoring (PCM) Page: 446 4.2 Mock-ups - General Page 462	Bidder requests Customer to remove the requirements of PCM, Mock-ups, small scale models, Simulator for the RS Contractor Scope.	Tender condition Prevails
305		Simulator		Bidder requests Customer to remove the requirements of PCM, Mock-ups, small scale models, Simulator for the RS Contractor Scope.	Refer Corregendum -2 /S.no-57
306	Part-1 Section II. Bid Data Sheet	ITB 14.16 (new Para) Pg 52 and Sub-Clause 14.1, The Contract Price	MAHA-METRO project is covered under Project Import chapter 98.01 of Custom Tariff Act according to which only concessional custom duty is payable. The Bidder should avail this benefit and has to pass on the benefit of the same to MAHAMETRO. As regards registration under Project Import, after the award of the contract, MAHAMETRO at the written request of Contractor shall facilitate the Contractor for obtaining sponsoring / recommendation letter from the Ministry of Housing and Urban Affairs (MOHUA) / Government of Maharashtra for getting the registration done for availing Project Import benefits. The responsibility to avail the concessional benefits under Project Import scheme shall solely rest with the Contractor. (b) The Contractor shall be solely responsible to find out and ascertain whether their supplies for NAGPUR METRO RAIL PROJECT PHASE-II will qualify and be eligible for the concession duty benefits under Chapter 98.01 of custom Tariff Act for project Imports & shall manage the Custom Duty applicability and inclusion in their quoted price accordingly. After award of the Contract, Employer at the written request of a contractor shall facilitate the contractor for obtaining sponsoring / recommendation letter from the Ministry of Urban Development (MoUD) / GOM for getting themselves registered for availing Project Import benefits. However, the responsibility to avail the concessional benefits under Project Import or otherwise as extended in accordance with the law of the land shall solely rest with the Contractor.	**Kindly Confirm the following:** 1) We need to understand this project will be covered under Project Import registration benefit wherein , Contractors and Sub Contractors can procure the imported goods used for the project under concessional rate of import duty. 2) We are seeking clarification, w.r.t to whether required document i.e Sponsorship letter or any other necessary documents, will be issued from employer to claim the Project Import Registration benefit in the name of Contractor and sub-contractors for imported goods	Tender condition prevails. Contractor should check the available provision in law and decide suitably.
307	Part 2 Works Requirement - Technical Specification	~~6.13.7~~ 6.13.17	All the pneumatic control equipment, safety valves, governors, switches, sensors etc. in the underframe shall be provided in IP53 or higher compliant lockable boxes for dust control. These boxes shall be made of stainless steel / aluminium (anodized).	Bidder submits that all critical brake control components shall be available within a lockable box of atlest IP53. Other auxiliary components shall be pipe mounted. **Bidder requests modification as follows:** All the major pneumatic brake control equipment, ~~safety valves, governors, switches, sensors etc.~~ in the underframe shall be provided in IP53 or higher compliant lockable boxes for dust control. These boxes shall be made of stainless steel / aluminium (anodized).	Refer Corregendum -2 /S.no-28

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308	Part-3 Section IX: Particular Conditions of Contract (PCC)	S.No. 46 (b) Sub-Clause 14.1, The Contract Price Page 998	The Contractor shall be solely responsible to find out and ascertain whether their supplies for NAGPUR METRO RAIL PROJECT PHASE-II will qualify and be eligible for the concession duty benefits under Chapter 98.01 of custom Tariff Act for project Imports & shall manage the Custom Duty applicability and inclusion in their quoted price accordingly. After award of the Contract, Employer at the written request of a contractor shall facilitate the contractor for obtaining sponsoring / recommendation letter from the Ministry of Urban Development (MoUD) / GOM for getting themselves registered for availing Project Import benefits. However, the responsibility to avail the concessional benefits under Project Import or otherwise as extended in accordance with the law of the land shall solely rest with the Contractor.	Bidder request Customer to confirm if concessional customs duty is available for Contractor as well as sub-contractor for this project.	Tender condition Prevails
309	Part 2 Works Requirement - General Specification	16.14	PERSONNEL	Bidder requests Maha Metro to dilute the qualifications requirement to Electrical/Mechanical Diploma and Total Work Experience duration to 3-5 years for all staff. Further, given the size of fleet please modify minimum headcount requirements for maintenance manager and maintenance engineer to one (1) and five (5) respectively for full fleet, instead of each depot.	Tender condition prevails. Manpower headcount is mentioned as minimum. Contractor to deploy sufficient staff of Maintainece activity during ITC,DLP & CAMC period
310	Part-3 Section X. Contract Forms	Section X. Contract Forms Page 203-208/374	3. Performance Security 4. Advance Payment Security 5. Retention Money Security	Bidder request Maha-Metro to include the standard NWC clause in the BG forms Notwithstanding anything contained here in above: 1.The liability of the Guarantor under this Guarantee shall not exceed RS. ____/- (In Words). 2.This Guarantee shall be valid up to ___(Expiry Date). 3.Unless a demand or claim under this guarantee is made on us in writing on or before (Expiry Date) , we shall be discharged from all the liabilities under this guarantee, thereafter irrespective of original guarantee received or not.	Tender condition Prevails
311	Part 2 Works Requirement - Technical Specification	4.14.2 (vi)	Each window, including glazing shall have sufficient strength to resist penetration of solid steel ball when tested as per Annexure A of IS 2553 Part II. All glazing shall be of toughened glass and shall comply with DIN 52306 (impact strength) and EN1288 (bending strength).	Amendment Requested: Each window, including glazing shall have sufficient strength to resist penetration of solid steel ball when tested as per Annexure A of IS 2553 Part II. ~~All glazing shall be of toughened glass and shall comply with DIN 52306 (impact strength) and EN1288 (bending strength).~~ **Justification:** Bidder recommends to have Impact test for toughened glass as per IS 2553 Part II – Instead of DIN 52306 because of the below listed reasons: 1) IS 2553 standard being an Indian standard for glazing which is used in majority of the Indian Metro Projects like DMRC RS 17 Metro, Mumbai Line 3, AK, RRTS 2) DIN 52306 is German standard and Indian suppliers are not aware of this. With reference to other projects such as DMRC, Pune L3, ML3 and AK, Bending Strength test was not requested by Customers and not been conducted in any projects. Moreover, there were no breakages or cracks reported. EN 1288 – No Indian supplier can comply to this requirement. They are following IS 2553 Part I Structural requirements will be complied at carbody level as per ERTS 3.2.10.	Refer Corregendum -2 /S.no-42
312	Part 2 Works Requirement - Technical Specification	2.25.1	2.25.1 Notwithstanding, the cyber security requirement defined elsewhere, the design of RS system shall fully comply with cyber security requirements of the following standards. □ ISO 27001, ISO 27002, ISO 27005, ISO 27017, ISO 27018 □ NIST SP 800-53, NIST SP 800-82 □ ISA 99 / IEC 62443 □ TS50701	Based on the traceability matrix between IEC and NIST, particularly for NIST 800-53, developed by official organizations, The Bidder understands that NIST recommendations are encompassed within IEC. As AS7770 Clause No. 5.2.2(b) calls for the mapping of Cyber Security Management Systems to the NIST Framework, **The bidder recommends that the mapping shall be based on the either IEC 62443 or NIST Framework.Please confirm "**	Refer Corregendum -2 /S.no-62
313	Part 2 Works Requirement - Technical Specification	7.2.3 (viii)	viii) Anti-drag function shall be provided for protection against dragging of a person or any kind of object in passenger saloon doors. The Push back feature shall be operative after the door leaves have been closed and locked. It shall be possible to manually push back each closed door leaf to enable entrapped objects such as clothing and other articles, to be withdrawn, even after the mechanical lock has engaged. the force required to push back each door leaf shall not be less than 80 N nor more than 120 N. However final value shall be decided during design. Expected door gap to be created by push back during intentinal operation should not exceeded 15 mm (the final gap shall be decided during detail design of door). Every operation of push back shall be recorded with time stamp and massage shall pop up in cab HMI. the complete scheme shall be proven type in worldwide metros.	It is not possible to integrate both the push-back and anti-drag features into the same door. Furthermore, they assert that the anti-drag feature is superior to the push-back feature.**Bidder request to amend the clause as follow** Anti-drag function shall be provided for protection against dragging of a person or any kind of object in passenger saloon doors.**Alternatively** The Push back feature shall be operative after the door leaves have been closed and locked. It shall be possible to manually push back each closed door leaf to enable entrapped objects such as clothing and other articles, to be withdrawn,even after the mechanical lock has engaged. the force required to push back each door leaf shall not be less than 80 N nor more than ~~120~~ **150** N. However final value shall be decided during design. Expected door gap to be created by push back during intentinal operation should not exceeded 15 mm (the final gap shall be decided during detail design of door). Every operation of push back shall be recorded with time stamp and massage shall pop up in cab HMI. the complete scheme shall be proven type in worldwide metros.	Refer Corregendum -2 /S.no-50
314	Part 2 Works Requirement - General Specification	16.1.6	Designated Depot(s) refers to (i) Mihan & Hingna, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) at terminal station (mostly for inspection, Preventive Maintenance, cleaning activities and Corrective Maintenance as per requirements).	Given the small size of fleet (16 Trainsets), carrying out the maintenance activities at multiple depots will have a high cost impact to Maha Metro as there will costs related to inventory keep up, personnel deployment, upkeep of facilities etc. Bidder suggests to limit the cleaning and maintenance activities (including but not limited to preventive, corrective, overhauls) for the fleet in one principal depot only with all the maintenance facilities and other depots to be utilized for inspection activities only on as required basis without any mandatory deployment of dedicated staff for maintenance.	Tender condition prevails. there are 2 existing depot and 3 terminal station where stabling and light mainatainence can be done if needed .

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315	Part 2 Works Requirement - Technical Specification	13.9.1	The Passenger Saloon Surveillance System (PSSS) shall comprise of a close circuit television (CCTV) network using surveillance cameras, routers and cables, monitors and other accessories. The fully expanded system shall be designed for minimum 25fps. The minimum angle of view shall not be less than 80° (horizontal) & 50° (vertical). The picture quality will be level E as minimum at 100% Rotakin measured according to EN50132-7, BS EN 62676-4 standard (latest). Suitable provision of video analytics for cameras in saloon, cab and outside for platform view like Crowd Management (like Quarrel, Passenger Eating etc), Camera tempering detection, image recognition, passenger counting during emergency evacuation (front end evacuation), alarm to detect suspicious object along with recording etc., shall be provided, the complete details shall be finalized during design stage.	**Justification:** Bidder is interested to understand etc of video analytic uses cases **Amendment Requested:** The Passenger Saloon Surveillance System (PSSS) shall comprise of a close circuit television (CCTV) network using surveillance cameras, routers and cables, monitors and other accessories. The fully expanded system shall be designed for minimum 25fps. The minimum angle of view shall not be less than 80° (horizontal) & 50° (vertical). The picture quality will be level E as minimum at 100% Rotakin measured according to EN50132-7, BS EN 62676-4 standard (latest). Suitable provision of video analytics for cameras in saloon, cab and outside for platform view like Crowd Management (like Quarrel, Passenger Eating etc), Camera tempering detection, image recognition, passenger counting during emergency evacuation (front end evacuation), alarm to detect suspicious object along with recording ~~etc.~~, shall be provided, the complete details shall be finalized during design stage.	Refer Corregendum -2 /S.no-25
316	Part 2 Works Requirement - General Specification	10.2 Site Facilities	10.2.7 All buildings shall be supplied with electricity 240V, 50Hz that shall be distributed to each room in accordance with the Regulations. Lighting and electrical power points shall be provided to each room. Charges of all utilities shall be recovered by Maha-Metro.	For reference purpose, please share the unit rates and historic annual consumption rate of the utilities (electricity, water,etc.), for the existing depots. We understand that the recovery shall be at actuals.	Refer Corrigendum-2/S.no-20 & 47
317	Part 2 Works Requirement - General Specification	16.6.14/ 16.5.15	Cleaning Activities	In continuation to above, bidder requests to limit the cleaning activities for the fleet to be performed in one principal depot only for optimized planning and execution. Further we would request if a principal contractor is already engaged for cleaning activities, the same contractor can extend the services for the new fleet as well, hence avoiding redundancy of resources.	Tender condition Prevails
318	Part 2 Works Requirement - General Specification	16.1.7	The Contractor to deploy their maintenance operations at further Satellite Depot facilities. The Contractor shall comply with the deployment request without any cost implications to MAHA METRO.	Given the small size of fleet (16 Trainsets), carrying out the maintenance activities at multiple depots will have a high cost impact to Maha Metro as there will costs related to inventory keep up, personnel deployment, upkeep of facilities etc. Bidder suggests to limit the cleaning and maintenance activities (including but not limited to preventive, corrective, overhauls) for the fleet in one principal depot only with all the maintenance facilities and other depots to be utilized for inspection activities only on as required basis without any mandatory deployment of dedicated staff for maintenance.	Tender condition Prevails
319	Part 2 Works Requirement - Technical Specification	11.7.1	The condenser and evaporator coils shall be of copper with copper fins and having minimum 5 years service proven experience in metro applications. Fins spacing shall be no closer than 3mm to prevent dirt/dust build up. The coil assembly shall be mounted in a stainless steel / copper alloy frame. Cleaning of condenser and evaporator coils should not be required earlier than 1.5 lakh-km running. The frequency of cleaning of coils in Nagpur climate shall be furnished.	**Justification:** Fin spacing and thickness of the condenser and evaporator will be considered to meet the required cooling capacity and COP. So it is to consider to keep this requirement as an optional to contractor. **Hence, bidder proposes to amend the clause as follows:** The condenser and evaporator coils shall be of copper with copper fins and having minimum 5 years service proven experience in metro applications.Condenser fins spacing shall not be closer than ~~3mm~~ **2.5mm and evaporator fins shall be 2mm or more apart,** in order to prevent dirt/dust build up.. The coil assembly shall be mounted in a stainless steel / copper alloy frame. Cleaning of condenser and evaporator coils should not be required earlier than 1.5 lakh-km running. The frequency of cleaning of coils in Nagpur climate shall be furnished.	It can be finalised during design stage. Tender condition Prevails.
320	Part 2 Works Requirement - Technical Specification	3.1.5 SoD/ Page 811	3.1.5 Minimum clearance above rail level under dynamic condition of fully loaded vehicle under worst condition*** for body mounted equipment. 102 mm 	As per SoD Clause 3.1.5, requirement is to meet 102mm clearance under dynamic condition from ToR for body mounted equipment, however, as per KE drawings the value is 75mm above ToR. **Bidder request for correct Value confirmation**	The clause is self explanatory
321	Part 2 Works Requirement - Technical Specification	11.2.4	The system shall automatically control the temperature and relative humidity throughout the passenger area up to 25°C and relative humidity of 60% RH respectively, for ambient temperatures of 33°C 75% RH and 47°C 33% RH. The system shall be designed in such a way that, inside saloon temperature shall not vary beyond +/- 1°C of inside target temperature.	The system shall automatically control the temperature and relative humidity throughout the passenger area up to 25°C and relative humidity of 60% RH respectively, for ambient temperatures of 33°C 75% RH and 47°C 33% RH. The system shall be designed in such a way that, inside saloon temperature is **maintained as per the standard EN 14750**	Tender condition Prevails
322	Part 2 Works Requirement - Technical Specification	11.2.16	Each HVAC unit shall be able to measure the energy consumption and provide the data with TCMS for calculating the HVAC energy consumption. Interface with TCMS regarding this shall be done by car builder.	Clause reuquirment may be deleted Energy measurement by HVAC may be deleted as the HVAC being the major load of Auxiliary Power Supply (SIV) and Energy consumption measurements are measured at SIV ((Powering, Coasting & Braking).	Tender condition Prevails
323	Part 2 Works Requirement - Technical Specification	12.5.5	The minimum cross-sectional area of control cables for connections between equipment shall preferably be 1.5 mm2. Any deviation from this requirement, in exceptional cases, will be subject to review by Engineer in design stage.	For core cable and for wiring within cabinet, cable size of 1 sqmm shall be allowed for control wiring. Control cable carry current less than 1 A whereas cable of 1 sqmm cable can carry current of around 15 A safely. Even if we conside all deration, 1 sqmm wire is very safe for current upto 10 A.	Tender condition Prevails
324	Part 2 Works Requirement - Technical Specification	12.10.3 (v)	At least 10% spare contacts in master controller for each position and type shall be provided and wired up to the terminal block in the main electrical cubicles.	Redundancy are already considered in master controller contact but spare contact for master controller position is not required. So this clause may be deleted.	Tender condition Prevails
325	Part 2 Works Requirement - Technical Specification	14.22.3	Tech Details of EPDM Modular System	As EN45545 is already mentioned for fire safety, reference of NFF can be removed as EN45545 is latest and followed in India and Europe.	Tender condition Prevails

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326	Section VIII. General Contract Conditions General Contract Conditions	Clause 7.7 Page no 872	Except as otherwise provided in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances: (a) when it is incorporated in the Works; (b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].	Kindly replace proposed clause with the following Except as otherwise provided in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances: (a) when it is delivered at Site; (b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].	Tender condition Prevails
327	Part 3 Section IX: Particular Conditions of Contract (PCC)	Page: 131 of 374	SL No. 28, Commencement of Works, Sub-Clause 8.1 The Commencement Date shall be: Date of issue of LOA or Letter to proceed.	Bidder request Maha-Metro to amend the following clause as Date of Commencement/NTP shall be effective from the date of contract signature or receipt of Advance payment by contractor "whichever is later"	Tender condition Prevails
328	Part-1 Section II. Bid Data Sheet	ITB 1.6 (new Para) ii. Page: 33 of 1193	To facilitate ease in maintenance and easy availability of spares during post warranty period, an identified list of critical equipment/subsystems in included in tender as Cost centre G/spares of "Pricing Document". **25% quantity of these items must be indigenously manufactured in India** either by OEM themselves by establishing a wholly owned subsidiary in India or through a suitable Indian reputed manufacturer.	We understand that this indigenously manufactured 25% quantity limit is for the items mentioned under both "Mandatory Items for Indigenization" list and the Spares list. Please confirm our understanding.	The clause is self explanatory
329	Part-1 Annexure IV A. Pricing Document	COST CENTRE No. H: Training and Manuals Page: 226 of 1193	**Notes:** a. The Bidder shall not complete the column "Weeks for completion of Milestone from commencement date" for above activities. b. The dates of operation of the Milestone Activities will be at the discretion of the Employer.	Weeks for Comletion of Milestones are already mentioned by the Customer in the Cost Centre table. However the notes above the table indicates that these dates shall be agreed upon later. Please clarify whether these dates mentioned by Customer are to be considered or not.	Refer Corrigendum-2/S.no- 35
330	Part-3 Section IX: Particular Conditions of Contract (PCC)	Sub-Clause 14.1, (b) The Contract PricePage: 999 of 1193	**The Contractor shall be solely responsible to find out and ascertain whether their supplies for NAGPUR METRO RAIL PROJECT PHASE-II will qualify and be eligible for the concession duty** benefits under Chapter 98.01 of custom Tariff Act for project Imports & shall manage the Custom Duty applicability and inclusion in their quoted price accordingly. After award of the Contract, Employer at the written request of a contractor shall facilitate the contractor for obtaining sponsoring / recommendation letter from the Ministry of Urban Development (MoUD) / GOM for getting themselves registered for availing Project Import benefits. However, the responsibility to avail the concessional benefits under Project Import or otherwise as extended in accordance with the law of the land shall solely rest with the Contractor. **MAHA-METRO project is covered under Project Import chapter 98.01 of Custom Tariff Act according to which only**	Please clarify the ambiguity regarding Concessional Customs duty applicability as tender documents is not clear. Bidder requests Customer to clarify whether Concessional Custom Duty is available for this project for Contractor and its Sub-contractor both.	The clause is self explanatory
331	Part-1 Annexure IV A. Pricing Document	A.5.5 Page: 188 of 1193	Total admissible price variation amount shall be subject to a **ceiling of ± 10% (Ten only)** of the Contract Price excluding CAMC cost but including variation awarded as per clause A.5 of this document Contract price for the proposed ceiling will stand modified to accommodate cost of variation awarded as per this clause.	Bidder requests Customer to remove the ceiling on price variation to eliminate impact of fluctuations in commodity price movement.	Tender condition Prevails
332	Part I Section II - Bid Data Sheet	ITB 1.11 (new Para)	The successful Bidder, within 30 days of Commencement of Work, has to establish its office at Nagpur. The site office/infrastructure or space for Office and store will be provided by Maha-Metro . as per ERGS clause 10.2	We request Maha-Metro to provide Office in Nagpur. Maha-Metro has establish infrastructure in Nagpur will help the Bidder / Contractor in-case office is provided by employer. Also this will help bidder to offer competitive price	The clause is self explanatory
333	Part I Annexure XI Part II ERGS Part I Annexure I Cost Centers	 4.2.8 payment milestone A19	5 D BIM Digital Project Management Platform BIM Process Requirement IT requirements of MAHA-METRO (online project management platform, documentation management system, enterprise work program platform, 5D BIM modelling etc.) – Refer Para 4.2 under Employer's Requirements (General Specifications) for details. Notes: 1. 30% of the apportioned payment under this Milestone shall be released after Contractor put in place the necessary hardware, IT center and software licenses. This should be accomplished not later than 3 months from commencement date. 2. 50% of the apportioned payment under this Milestone shall be equally spread over a period from 4th month till scheduled completion time and deployment of requisite IT staff in full as per requirement. Shortfall of staff shall attract penalty in similar manner as for SHE staff as per A18 above. Balance 20% will be released on completion of work, subject to continued deployment of IT staff in the period beyond scheduled completion period.	We request Maha-Metro to provide clear details for deliverables during Project execution, against these Clauses	Refer Part-2 ERGS 4.2 IT Requirement of Employer
334	**PART 1: BIDDING PROCEDURE Annexure - IV A: Pricing Document**	**A.5.1**	Note: The above PVC clauses shall not be applicable on Cost Center I (CAMC) & Cost Center G.	We kindly request MAHA-METRO to incorporate PVC clause for Cost Centre I – RS Comprehensive Annual Maintenance Contract (CAMC) & Cost Centre G considering a lengthy period of 15 years. Given that the CAMC for the rolling stock spans 15 years, the PVC clause allows for adjustments to the contract price over the long term, making it a more viable option for long-term maintenance agreements and protects the Contractor from potential losses due to unexpected cost fluctuations, allowing them to better plan and manage the operations. This incorporation of PVC clause would be beneficial for both Maha-Metro and the Contractor. For reference we are enclosing the PVC clause and schedule of adjustment data of recent Chennai Metro tender ARE04A which may be considered in this contract also.	Refer Corrigendum-2/ S.no- 17

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Sr. No	Volume No./ Part No	Clause No.	Bid Condition	Bidder's Queries	Response/Remarks
335	Part 1 / Section IV Bidding Forms	Form FIN - 3.4: 1. Current Contract Commitments / Works in Progress 2. Summary of Information for Works in Hand	Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.	Since the requirement of Maha Metro is for metro rolling stock, we request to amend the clause as below: Bidders and each member to a JV should provide information on their current commitments on all rolling stock (Metro, LRT, Suburban EMUs) contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.	Tender condition Prevails
336	Part III Works Requirement - General Specification	16.16.1 e Page: 388 of 1193	Deliver and transfer relevant records, reports and Intellectual Property pertaining to the Trainsets and all software (including asset managemet system software) and manuals pertaining thereto, and complete "as built" Drawings as on the Termination Date so as to enable Maha Metro to operate and maintain the Trainsets and execute such deeds of conveyance, documents and other writings as Maha Metro may reasonably require in connection therewith. For avoidance of doubt, the Contractor represents and warrants that the Intellectual Property shall be adequate and complete for the operation and maintenance of the Trainsets and shall be assigned or licensed to Maha Metro free of any Encumbrance	"Please clarify what is the meaning and extent of Intellectual Property as it is not defined. Customer will be granted necessary documentation as required in this clause however, no source codes can be provided"	Tender condition Prevails
337	PART 2: WORKS REQUIREMENTS – TECHNICAL SPECIFICATION	2.12 (page 433 of 1193)	2.12 Availability and Availability Damages (iv) Detailed list of different conditions and corresponding penalty/damage shall be levied on the contractor is as mentioned below.... Note: 1. Penalty/Damage figures as indicated above are for first year of train operation. From 2nd Year onwards these figures shall be escalated as per Price Adjustment stipulated for CAMC.	Table 2.2. Penalty scenarios 1, description of Note 1 clarification: Is this penalty applicable solely during the reliability demonstration period, or will it extend throughout the maintenance period? Please confirm.	The clause is self explanatory
338	SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION	1.8.4		The modifications are proposed based on not only failures seen but also for improvements required and are formally submitted to the employer before their implementations. 1) The bidder suggests evaluating the reasons for modifications during the modification proposal process and excluding any proposals related to continuous improvement from triggering the warranty extension. 2) Additionally, the bidder believes that the clause for extending the warranty applies solely within the 24-month defect liability period. Once this warranty period concludes, any modifications will not extend the warranty for an additional 24 months.	Tender condition Prevails
339	SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION	1.8.5	All replacement and repairs under the warranty shall be carried out by the Contractor promptly and to the complete satisfaction of the Engineer on notification of the defect by the Engineer /Employer so that no car is unfit for revenue service for more than 48 hours, which shall exclude time taken for withdrawal / induction of trains from / to revenue services. In case of any train remains out of revenue operation beyond specified duration above due to reasons attributable to Contractor, Engineer/Employer may at its sole discretion impose a penalty on the Contractor, commensurate with the revenue and opportunity loss to the Employer. Decision of Employer shall be final and binding.	The bidder requests clarification regarding the penalty amount if the train is out of service for more than 48 hours. They also seek to understand any exceptions to this clause, such as predefined replacements and supply chain issues that have been officially communicated to the employer within a specified timeframe.	Tender condition Prevails
340	SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION	1.8.6	For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs 2,000,000 (Rupees two million). Decision of Employer shall be final and binding.	The bidder requests to consider the modification below\For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs 2,000,000 (Rupees two million). Decision of Employer shall be final and binding upon review with Failure Review Board (FRB) from respective contractor.	Tender condition Prevails
341	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 9 : 9.1.3	Facilities such as classrooms, LED projectors and video monitors will be made available for imparting training in Employer's depots in India free of cost to the Contractor. However, for training in the Contractor's works, such facilities shall be arranged by the Contractor at its own cost. The Contractor is however, required to provide at its own cost all other necessary training aids such as written and printed notes, video programmes, transparencies, slides, films, models and drawings, CDs and other training aids etc.	1. Bidder understand that facilities for class room training at maintenance offce (IBL/RBL) will be provided by customer in full furnished condition (Civil , E&M & Furnitures). Please confirm if our understanding is correct.	The clause is self explanatory
342	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 10 : 10.2.1	Maha metro will provide appropriate site office and store space to Contractor free of cost. furnishing shall be done by contractor as per requirements and as agreed	Bidder requests Maha Metro to share the details for size of site office & Store space.	The clause is self explanatory
343	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 10 : 10.2.6	The Contractor shall also arrange for the constant and hygienic disposal of all effluent, sewage and rubbish from the buildings	Bidder understands that hygienic disposal of all effluent, sewage and rubbish from the buildings shall be for Contractor occupied area only and not for the entire Depot for the duration of CAMC period. All the rubbish will be placed in designated place provided by customer. Please confirm if our understanding is correct.	The clause is self explanatory
344	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 10 : 10.2.8	Fire-fighting equipment shall be provided in accordance with the recommendations of the Maharashtra Fire Service	Bidder understands that the fire fighting system shall be provided by Maha Metro .	The clause is self explanatory
345	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 10 : 10.2.10	Traction power at 25kV ac will be made available to Contractor free of charge for testing and commissioning. The Contractor shall liaise with Designated Contractors for availing of the power and assuring compliance of all safety procedures. The Contractor shall provide his own EMU train drivers for Testing, Commissioning and Service Trials. **A test track is installed in each of the depots. It will be available for the testing of first prototype train.** The Contractor will be allowed use of the test track free of charge.	In chapter 1/ Cl. 1.1.3, iy os mentioned that **"Mihan depot of North-South Corridor has test track while there is no test track at Hingna depot of East-west Corridor."** However in this Cl (10.2.110) it is is mentiond that " **A test track is installed in each of the depots. It will be available for the testing of first prototype train**". Please confirm which clause shall be considered.	Refer corrigendum 02/Sl. No-20

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346	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 13 : 13.1.2	The Contractor shall prepare, protect and store in a manner to be accepted by the Engineer, all equipment and materials so as to safeguard them against loss or damage from repeated handling, from climatic influences and from all other hazards arising during shipment or storage on or off the Site. Secure and covered storage shall be provided for all equipment and materials other than those accepted by the Engineer as suitable for open storage.	Bidder understands that the storage facility shall be equiped with storage rack, Material handeling equipment (MHE's) and shall be provided by Maha Metro . Maintenance and upkeep shall be in bidder's scope. Please confirm if our understanding is correct.	The clause is self explanatory
347	PART 2: WORKS REQUIREMENTS SECTION VII-A	Chapter 16 : 16.1.6	Designated Depot(s) refers to (i) Mihan & Hingna, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) at terminal station (mostly for inspection, Preventive Maintenance, cleaning activities and Corrective Maintenance as per requirements).	Since there already trains are available for the maintenace , bidder requests a clarification on how the area & machineries bifurcation/planning will done for the new train sets? What will be the methodology for the use of facility & tools avaialable at these depot? Who shall be responsble for the operations of M&P? Please clarify.	To be discussed durng Execution stage
348	Part II ERGS	1.8.6	For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs 2,000,000 (Rupees two million). Decision of Employer shall be final and binding.	Request to reduced penalty of deboarding in line with other Tenders in India, seek following ammendment: For each case of deboarding of commuters on account of reasons attributable to the Contractor, Employer may at his sole discretion impose a penalty of Rs ~~2,000,000 (Rupees two million)~~. 1,500,000 (Rupees Fifteen Lakhs) Decision of Employer shall be final and binding.	Tender condition Prevails
349	Part II ERGS	2.2.2 (xiii) 10.2.10	The contractor shall appoint Train operator for Testing & commissioning Period. Train operator shall be deployed 1 months before the Train delivered at site. Traction power at 25kV ac will be made available to Contractor free of charge for testing and commissioning. The Contractor shall liaise with Designated Contractors for availing of the power and assuring compliance of all safety procedures. The Contractor shall provide his own EMU train drivers for Testing, Commissioning and Service Trials. A test track is installed in each of the depots. It will be available for the testing of first prototype train. The Contractor will be allowed use of the test track free of charge.	We request Maha Metro to provide Train operator for Testing & Commissioning of Trains as Maha Metro is already having the established operational Metro Network in Nagpur, this will help in achieveing Testing & Commissioning activities in efficient manner. Request following change: The ~~contractor~~ Employer shall appoint Train operator for Testing & commissioning Period. ~~Train operator shall be deployed 1 months before the Train delivered at site.~~ Traction power at 25kV ac will be made available to Contractor free of charge for testing and commissioning. The Contractor shall liaise with Designated Contractors for availing of the power and assuring compliance of all safety procedures. The ~~Contractor shall provide his own~~ Employer shall provide EMU train drivers for Testing, Commissioning and Service Trials. A test track is installed in each of the depots. It will be available for the testing of first prototype train. The Contractor will be allowed use of the test track free of charge.	Tender condition Prevails
350	Part II ERGS	4.2.8.2	5D BIM training – Training to nominated person will be provided for various platforms and processes as per the requirement of Maha Metro, below is indicative list of trainings	Maha Metro will provide Training to Contractor? Request clarificaiton	The clause is self explanatory
351	Part II ERGS	12.4.3	The Documents Management System The Documents Management System (DMS) shall be PC based, menu driven and user friendly with extensive linkages between OEM"s documents, spare parts catalogues, test certificates, HECPs, SECPs etc. The DMS to be used shall be demonstrated and approval of the Engineer obtained. After Taking Over Certificate, one copy of the DMS, fully functional shall be handed over. The Contractor shall however keep another set updated & handover the second set to MAHA-METRO six month before the expiry of CAMC. Language used shall be subject toEngineer's review.	5D BIM is being used, we believe Documents will be available on 5D BIM, hence request to remove this requirement	Tender condition Prevails
352	Part II ERGS	15.3	Road Transport	Considering the prevaling Industry Compliance Norms, Transportation cost of personnels from other organisation is not recommended hence requesting to delete clause and its sub-clause	Tender condition Prevails
353	Part II ERGS	TD 4 Scope of Interface Table TD.2: Physical Interface Schedule (Telecom-RS)	Table TD.2: Physical Interface Schedule (Telecom-RS) 12 -Train simulator -	From the Tender documents we understand that requirement of Train Simulator is not there, we request to remove the requirement of Simulator from these clauses	Refer Corrigendum 02/Sl.No.- 57
354	Part II ERGS	9.2.1	The objective of training of train operating staff is that the batches of drivers and instructors who will operate the trains should be able to run the trains safely under all operating conditions. The training should also enable them to acquire full capability for identification and trouble shooting of the faults in the specified duration. In order to achieve the above objective, the Operating Staff and instructors should be trained on a cab **simulator** of a mass transit railway or in the Contractor's Works off-shore and on a Test Track. It will be preferred that after classroom instructions, which include mock-ups of cab equipment, the staff are trained in actual operation of cars in a Mass Rapid Transit System or on a test track, having similar cars, to acquire the required confidence.	From the Tender documents we understand that requirement of Train Simulator is not there, we request to remove the requirement of Simulator from these clauses	The clause is self explanatory
355	Part II ERGS	6.5.4	**Scope of Interface** Train Simulator	From the Tender documents we understand that requirement of Train Simulator is not there, we request to remove the requirement of Simulator from these clauses	No simulator in scope of supply
356	Part II ERGS	1.2.3	Table 1-4: Mandatory Items for Indigenization Details as per Annexue I	**Table 1-4: Mandatory Items for Indigenization** As per the current availablity of Supplier base in India we request change in Table 1-4, as per **Annexure I** **We also request to add Table 1-5:** Recommended Items for Indigenization, for which Bidder can put efforts for localisation. Propose Table 1-5 is given in **Annexure I**	Tender condition Prevails

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357	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 2	2.20.1(Vii) / pg no: 28	2.20.1 (vii) Contractor shall consider the pad stiffness used in ballast-less track and the same shall be used for design. **This is specified as 35 kN/mm (Max) – EN 13146-4-2012**. The noise tests during running condition shall be done in the section after six months of train operation. The Contractor may suggest change in pad stiffness if it can help in further reducing the noise level.	**Justification** : As per the clause, the pad stiffness is mentioned as 35 KN/mm. However, to meet the track decay rate according to ISO 3381 and ISO 3095, a recommended pad stiffness of 500 KN/mm should be considered for noise calculations. With a pad stiffness of 35 KN/mm, the ISO-specified track decay rate (TDR) levels will influence dynamic noise levels.However, If a pad stiffness of 35 KN/mm is considered, an equivalent noise correction factor shall be calculated and included during the final validation. **Amendment Requested:** (vii) Contractor shall consider the pad stiffness used in ballast-less track and the same shall be used for design **other than noise calculation** This is specified as 35 kN/mm (Max) – EN 13146-4-2012. and **The track should meet track dynamic propertis and rail roughfness as per ISO 3095:2013/3381:2021** The noise tests during running condition shall be done in the section after six months of train operation. The Contractor may suggest change in pad stiffness if it can help in further reducing the noise level.	Tender condition Prevails
358	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 2	2.20.3(i)/pg no: 29 & 2.20.5(i)/pg no: 29	2.20.3 (i) During Stationary condition the specified limits shall be met with all auxiliary equipment operating simultaneously **at maximum capacity**.	**Justification** As per ISO 3381, The Equipment should be working at 50% of the capacity during noise measurements. **Amendment Requested**: During Stationary condition, the specified limits shall be met with all auxiliary equipment operating simultaneously ~~maximum capacity~~ **at normal operating conditions as prescribed in ISO 3381 (DS/EN ISO 3381:2021) .**	Tender condition Prevails
359	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 12	12.8 12.8.1 (iv)	(iv) **Individual power LED clusters** used as exterior lights shall be able to be replaced easily from track level. Replacement of **individual cluster** shall be possible in depot without disturbing the functioning of the light. In case, the change of cluster requires readjustment of complete light or component, facility for the same shall be provided in each depot.	**Justification** The multifunctional light serves as an exterior lighting solution by integrating head, tail, and marker lights into a single unit. In the event of a failure, the entire light unit must be replaced, as product manufacturers do not provide the option to replace individual LED clusters. Additionally, considering ingress protection requirements as per clause 12.8.2 (ii) , internal circuitry, and overall product reliability, the use of individual cluster replacements for exterior lights is not advisable. This is because replacing the LED cards could disrupt the beam adjustment mechanism, leading to re-validation tests. Globally, multifunctional lights are the preferred solution, and Bidder has gained valuable insights from their implementation. Notable reference projects include DMRC, Mumbai Metro. **Ammendment Requested:** (iv) **Complete Light unit** ~~Individual power LED clusters~~ used as exterior lights shall be able to be replaced easily from track level.**Complete Light unit** replacement ~~of individual cluster~~ shall be possible in depot without disturbing the functioning of the light. ~~In case, the change of cluster requires readjustment of complete light or component, facility for the same shall be provided in each depot.~~	Tender condition Prevails
360	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 12	12.8.2 (i)	(i) Power LED based Head- and tail-lights in watertight sealed, vermin-and-insect proof integrated housings placed at approximately 2.7m centres and 1.5m above top of rail datum,beneath the windscreens. The units shall be "handed", left and right, so that the taillights are outboard of the headlights. The two power LED based white light, with provision for dipper shall be mounted at the front of the driving end of the DM Car, to provide even illumination of the track bed and track side signal posts. It shall be possible to read the various track side signages provided. The illumination level of the head light shall be as per the international norms. Replacement of individual cluster shall be possible in depot without disturbing the functioning of the light. In case, the change of cluster requires readjustment of complete light or component, facility for the same shall be provided in each depot.	**Justification** The multifunctional light is utilized for exterior lighting by integrating head, tail, and marker lights into a single unit. If a failure occurs, the entire light unit must be replaced, as product manufacturers do not offer the option to replace individual LED clusters. Additionally, taking into account ingress protection requirements, internal circuitry, and overall product reliability, replacing individual clusters for exterior lights is not advisable. Such replacements may disrupt the beam adjustment mechanism, leading to potential safety concerns. Globally, multifunctional lights are the preferred solution, backed by positive feedback from Bidder. Reference projects include DMRC, CMRL, PML3 and ML3. **Ammendment:** (i) Power LED based Head ,marker and tail-lights in watertight sealed, vermin-and-insect proof integrated housings placed at approximately 2.7m centres and 1.5m above top of rail datum,beneath the windscreens. The units shall be "handed", left and right. so that the taillights areb outboard of the headlights. The two power LED based white light, with provision for dipper shall be mounted at the front of the driving end of the DM Car, to provide even illumination of the track bed and track side signal posts. It shall be possible to read the various track side signages provided. The illumination level of the head light shall be as per the international norms. replacement of individual cluster Complete Light unit shall be possible in depot without disturbing the functioning of the light. In case, the change of cluster requires readjustment of complete light or component, facility for the same shall be provided in each depot.	Tender condition Prevails
361	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 4	4.14.1 (xv)	The Contractor shall provide all interior and exterior signages required by the Engineer for approval. The signages shall provide service life of 10 years minimum. All interior /exterior stickers/ signages strips / logo etc. used in any location shall conform to international norms and must be in use in more than 3 different metros worldwide. The safety related signages shall be fluorescent. The signage used for marking wheel chair shall be placed on floor as per the standard signage. Contractor shall prepare detail plan for signages and stickers as followed in the metros worldwide for Engineer's approval. The signages for emergencies shall be fluorescent types.	**Justification: the life** As per reference project of CMRL DMRC etc and other metro projects in India, the typical service life is around 3 to 4 years with digital printing due to the weakening of the adhesive over time because of environmental condition and the cleaning agents used. **Ammendment Request :** The Contractor shall provide all interior and exterior signages required by the Engineer for approval. The signages shall provide service life of 3-4 years ~~10 years~~ minimum. All interior /exterior stickers/ signages strips / logo etc. used in any location shall conform to international norms and must be in use in more than 3 different metros worldwide. The safety related signages shall be fluorescent. The signage used for marking wheel chair shall be placed on floor as per the standard signage. Contractor shall prepare detail plan for signages and stickers as followed in the metros worldwide for Engineer's approval. The signages for emergencies shall be fluorescent types.	Tender condition Prevails

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362	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 4	4.14.8 (vii)	The sub-floor shall be insulated for anti-drumming and noise suppression.	**Justification:** Noise reduction value for interior is achieved with insulation provided and hence without the anti-drumming solution.Bidder will use its Innovative solutions/technology to meet the Saloon Interior Noise. So no separate Anti Drumming Material or sound deadening insulation will be provided. The Insulation provided will act as both Thermal and Acoustic Insulation. **Amendment Request:** The sub-floor shall be insulated for ~~anti-drumming and~~ noise suppression.	Tender condition Prevails
363	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 15	15.9.8	One shell out of every 4 bare shells, to be randomly selected by the Engineer, shall be subjected to water tightness test as per an agreed procedure based on IEC 61133	**Justification:** Water tightness test on bare carbody is applicable for classic way of "Shell manufaturing ",However carbodies manufatured with with statre of art modular assembly procedure, will only allow water tightness test on fully assembled cars as per IEC 61133, and the same is applicable in DMRC ,ML3,ML4, CMRL etc **Amendment Request:** One shell out of every 4 bare shells, to be randomly selected by the engineer, shall be subjected to water tightness test as per an agreed procedure. **in case of modular assemblies ,the water tightness protocol shall be finalized during design discussion All the fully assembled cars shall be tested as per IEC 61133.**	Refer Corrigendum 02/Sl.No.- 53
364	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 4	4.8.8 (466)	Suitable acoustic insulation shall be provided on the body side and roof sheet to minimise the affect of reflected noise into the saloon. The car-body shall be designed to have high thermal insulation to reduce the heat loss and heat transfer coefficient (K value) of the car-body excluding glazing/windows shall be kept within **1.6W/(mK).**	**Justification** :Unit for heat transfer coefficient mentioned is incorrect. **Amendment requested :** Suitable acoustic insulation shall be provided on the body side and roof sheet to minimise the affect of reflected noise into the saloon. The car-body shall be designed to have high thermal insulation to reduce the heat loss and heat transfer coefficient (K value) of the car-body excluding glazing/windows shall be kept within **~~1.6 W/(mK).~~/ 1.6 W/(m2-K).**	Refer Corrigendum 02/Sl.No.-49
365	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 11	11.2.6 (530)	The air discharge velocities at any outlet grille **shall not exceed 4m/s**. The air velocities at specified points in the car, as proposed by Contractor and reviewed by Engineer, shall not exceed those set out in EN13129 / EN14750. The air velocity at any point in the car shall exceed 0.75m/s. The air velocity within ducts shall not exceed 8m/s, shall not cause noise or air movement discomfort to passengers, and shall generally follow internationally accepted practice. The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. Details of the Contractor's proposals shall be submitted.	**Justification** : To attain the desired thermal comfort in accordance with EN14750, it is recommended that air velocities near the outlet grilles fall within the range of 4-6 m/s. This will facilitate optimal airflow at passenger head and foot levels. Therefore, Bidder suggests amending the clause as outlined below. **Amendment Requested:** The air discharge velocities at any outlet grille shall be within the range of **4-6 m/s**. The air velocities at specified points in the car, as proposed by Contractor and reviewed by Engineer, shall not exceed those set out in EN13129 / EN14750. The air velocity at any point in the car shall shall not exceed 0.75m/s. The air velocity within ducts shall not exceed 8m/s, shall not cause noise or air movement discomfort to passengers, and shall generally follow internationally accepted practice. The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. Details of the Contractor's proposals shall be submitted.	Tender condition Prevails
366	Design Criteria – Cooling Capacity of the Unit Chapter 11	11.2.1	**11.2.1 Passenger comfort conditions shall generally be defined according to ASHRAE 55.The HVAC unit shall be designed to achieve internal conditions as listed in Table 11.1 for the indicated external conditions** **Table 11.1:** External / Internal conditions for HVAC Weather Conditions / External temperatures / Internal Conditions Summer / 47°C Dry Bulb 33% RH / 25°C Dry Bulb 60% RH Monsoon / 33°C Dry Bulb 75% RH / 25°C Dry Bulb 60% RH Winter / 4°C / 18°C	**Justification** :-As per ASHRAE data for Nagpur city (internationally accepted), for summer condition, maximum observed RH is 14% at 44°C ambient for Summer condition and same for Monsoon condition (80% RH is impractical). As high RH will not be practically possible to experience in Nagpur at Summer and Monsoon ambient conditions, It is requested to consider below external conditions for HVAC sizing. Summer: 44 °C & RH 14% Monsoon: 33.9 °C& RH 60% P.S.: Maximum of Ambient Temperature and Relative Humidity do not occur together. High temperature will reduce the relative humidity and vice versa. **Ammendment Requested:** ~~Weather Conditions / External temperatures / Internal Conditions~~ ~~Summer / 47°C Dry Bulb 33% RH/44°C Dry Bulb 14% RH / 25°C Dry Bulb 60% RH~~ ~~Monsoon / 33°C Dry Bulb 75% RH /33.9°C Dry Bulb 60% RH / 25°C Dry Bulb 60% RH~~ ~~Winter / 4°C / 18°C~~	Tender condition Prevails

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367	Design Criteria – Cooling Capacity of the Unit Chapter 11	11.2.4	The system shall automatically control the temperature and relative humidity throughout the passenger area up to 25°C and relative humidity of 60% RH respectively, for ambient temperatures of 33°C 75% RH and 47°C 33% RH. The system shall be designed in such a way that, inside saloon temperature shall not vary beyond +/- 1°C of inside target temperature.	**Justifications** :-As per EN 14750 the internal temperature may vary 25 +/-2°C during Door cycling (openings/closing). With frequent opening and closing of the Door the average internal temperature will be changing but it will be within 25 +/-2°C especially at the wayside and terminal stations where the dwell time is more than that of normal stations for round trip. Request to consider these practical overloading and update the acceptance criterion in clause 11.2.4 as 25 +/-2°C. Please note that extra constraints on temperature/humidity/round trip set point, etc., will lead to oversizing of HVAC & Aux converter with adverse impact on SECH.As per EN 14750 The Temperature Difference should be+/- 2 deg in Same is also ammendet **Amendment requested** The system shall automatically control the temperature and relative humidity throughout the passenger area up to 25°C and relative humidity of 60% RH respectively, for ambient temperatures of 33°C 75% RH and 47°C 33% RH. The system shall be designed in such a way that, inside saloon temperature shall not vary beyond ~~+/- 1°C~~ /+/- 2°Cof inside target temperature	tender condition prevails
368	Design Criteria – Cooling Capacity of the Unit Chapter 11	11.2.8	Fresh air should be filtered for human comfort and safety, in accordance with internationally accepted norms. The filter element shall be provided before the fresh air damper and fixed in a metallic frame and shall be easily replaceable from inside the car. Even with extremely dusty and humid environment prevailing in Nagpur, the cleaning of the filters shall not be required before 5000 kms of train run. The filter shall have sufficient efficiency to ensure that dust deposition in the air duct is bare minimum and cleaning of duct is not required in between major overhaul. Cleaning of the duct shall be simple and Contractor shall suggest necessary equipment required for dust removal and sanitization against fungal growth etc. The method for cleaning the filters and expected life of filter shall be furnished during detail design stage. Minimum expected life of filter provided shall be 100,000 kms. Differential pressure measurement across fresh air/return air filter shall be used to send alert to clean/change the filters. Better alternatives may be suggested during design.Tenderers shall indicate the type of filters proposed to be used by them in the bid. The expected pressure drop across the filter shall be furnished. Details of suitable tools, used for measurement of pressure drop shall be provided in the bid. Two sets of such tools shall be supplied by the Contractor in each depot. Each type/ size of filter shall be interchangeable with the fleet.	**Justification:** In reference to the existing data available, Filters can meet 3 washes before replacement which is about 3 months / 50k Kms (Considering 300 Kms/Day operation) **Bidder proposes to amend the clause as follows:** Fresh air should be filtered for human comfort and safety, in accordance with internationally accepted norms. The filter element shall be provided before the fresh air damper and fixed in a metallic frame and shall be easily replaceable from inside the car. Even with extremely dusty and humid environment prevailing in Nagpur, the cleaning of the filters shall not be required before 5000 kms of train run. The filter shall have sufficient efficiency to ensure that dust deposition in the air duct is bare minimum and cleaning of duct is not required in between major overhaul. Cleaning of the duct shall be simple and Contractor shall suggest necessary equipment required for dust removal and sanitization against fungal growth etc. The method for cleaning the filters and expected life of filter shall be furnished during detail design stage. Minimum expected life of filter provided shall be 100,000 kms **/3 months.** Differential pressure measurement across fresh air/return air filter shall be used to send alert to clean/change the filters. Better alternatives may be suggested during design. Tenderers shall indicate the type of filters proposed to be used by them in the bid. The expected pressure drop across the filter shall be furnished. Details of suitable tools, used for measurement of pressure drop shall be provided in the bid. Two sets of such tools shall be supplied by the Contractor in each depot. Each type/ size of filter shall be interchangeable with the fleet.	Tender condition Prevails
369	Design Criteria – Cooling Capacity of the Unit Chapter 11	11.2.13	Employer expects that an energy efficient system comparable with the best available in the market shall be provided. Good energy efficiency shall be achieved in cooling and de- humidification operations of the HVAC. Contractor shall furnish Energy Efficiency Ratio (EER) for the offered system. In cooling mode, the Coefficient of Performance (COP) of HVAC shall be at least 2.5 in summer ambient conditions under **AW3 loading conditions** which **may be** achieved by utilizing variable frequency control of compressors. The COP shall be validated as per IS 8148, ASHRAE 37 or any other relevant standard, as agreed by the Engineer. The Contractor shall submit the record of proven system already functional in any metros with the specified COP. The Contractor shall furnish expected COP, cooling capacity and power consumption of the HVACs per car for peak Summer, Monsoon and Winter ambient conditions for AW0, AW1, AW2 & AW3 passenger loads.	**Justification:** As per Clause 11.2.3 heat gains to be considered as per AW2 loading condition, therefore COP shall also be demonstrated under AW2 loading condition to be inline with the mentioned clause . **Bidder proposes to amend the clause as follows:** Employer expects that an energy efficient system comparable with the best available in the market shall be provided. Good energy efficiency shall be achieved in cooling and de- humidification operations of the HVAC. Contractor shall furnish Energy Efficiency Ratio (EER) for the offered system. In cooling mode, the Coefficient of Performance (COP) of HVAC shall be at least 2.5 in summer ambient conditions under ~~AW3 loading conditions~~ **AW2 loading conditions** which may be achieved by utilizing variable frequency control of compressors. The COP shall be validated as per IS 8148, ASHRAE 37 or any other relevant standard, as agreed by the Engineer. The Contractor shall submit the record of proven system already functional in any metros with the specified COP. The Contractor shall furnish expected COP, cooling capacity and power consumption of the HVACs per car for peak Summer, Monsoon and Winter ambient conditions for AW0, AW1, AW2 & AW3 passenger loads.	Tender condition Prevails
370	"PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION" Chapter 11	11.5.8	Adequate sized duct from adjacent AC to the cab shall be routed to the driving cab, control cabinets and driving console. Air turbulator shall be provided in the driving console, signalling cubicles and electrical cabinets to achieve uniform cooling.	**Justification**: As Gangway full height cubicles are IP 53 enclosed, we propose to go for axial fans suitable for IP 53 cabinets instead of AC turbulators. Hence we are considering IP-53 electrical cabinets with fan cooling. Further in case of signaling cubicles, if signaling contractor is providing the cabinets for signaling, provision of AC turbulators/ fans will be complied by signaling contractor. **Amendment requested:** Adequate sized duct from adjacent AC to the cab shall be routed to the driving cab, control cabinets and driving console. Air turbulator/ **Fans** shall be provided in the driving console, signalling cubicles and electrical cabinets to achieve uniform cooling.	Refer Corrigendum 02/Sl.No.- 68
371	Part 2 Works Requirement - Technical Specification Chapter 14	14.6.12	All steel fasteners used in electrical equipment and/or exterior applications shall be of stainless steel.	**Justification:** Stainless steel fasteners will be used as far as possible. Based on FEA calculation, Carbon Steel fasteners will be used wherever high tensile forces are applicable. **Amedment Requested:** All ~~steel~~ fasteners used in electrical equipment and/or exterior applications shall be of stainless steel/**Carbon steel.**	Tender condition Prevails

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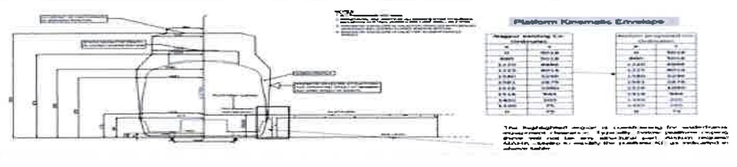
372	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 13	13.9.1	The Passenger Saloon Surveillance System (PSSS) shall comprise of a close circuit television (CCTV) network using surveillance cameras, routers and cables, monitors and other accessories. The fully expanded system shall be designed for minimum 25fps. The minimum angle of view shall not be less than 80º (horizontal) & 50º (vertical). The picture quality will be level E as minimum at 100% Rotakin measured according to EN50132-7, BS EN 62676-4 standard (latest). Suitable provision of video analytics for cameras in saloon, cab and outside for platform view like Crowd Management (like Quarrel, Passenger Eating etc), Camera tempering detection, image recognition, passenger counting during emergency evacuation (front end evacuation), alarm to detect suspicious object along with recording etc., shall be provided, the complete details shall be finalized during design stage.	**Justification:** In global practice crowd magment (like Quarrel ,passenger eating etc) is not practicle possible to identify accurately ,because it is diifficult to differntiate between talking and shouting in fully crowded car , **Amendment Requested:** The Passenger Saloon Surveillance System (PSSS) shall comprise of a close circuit television (CCTV) network using surveillance cameras, routers and cables, monitors and other accessories. The fully expanded system shall be designed for minimum 25fps. The minimum angle of view shall not be less than 80º (horizontal) & 50º (vertical). The picture quality will be level E as minimum at 100% Rotakin measured according to EN50132-7, BS EN 62676-4 standard (latest). Suitable provision of video analytics for cameras in saloon, cab and outside for platform view like ~~Crowd Management (like Quarrel, Passenger Eating etc~~), Camera tempering detection, image recognition, passenger counting during emergency evacuation (front end evacuation), alarm to detect suspicious object along with recording ~~etc.~~,**Empty Train Detection, Seat occupancy in percentage,Clear door detection,Weapon detection (Gun & Knife)** shall be provided, the complete details shall be finalized during design stage.	Repeted Refer S.no 315
373	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION Chapter 7	7.4.6	7.4.6. The door shall be positioned such that access to the cab is free from obstructions. The clear door opening width shall be 650mm ± 50mm.	**Justification** As per EN16186 - Railway applications - Driver's cab - Part 4: Layout and access. Minimum 500 mm isallowed in the standard. As per global practice for 2.9 m width Train the cab side door width is in range of 600+/- 50 mm, this width is sufficient for all operational purpose, Bidder request to update the clause. **Amendment requested:** The door shall be positioned such that access to the cab is free from obstructions. The clear door opening width shall be ~~650mm ± 50mm.~~ 600mm ± 50mm.	Tender condition Prevails
374	PART 2: WORKS REQUIREMENTS SECTION VII-B: EMPLOYER'S REQUIREMENT – TECHNICAL SPECIFICATION	SOD	Gauge SOD /KE	 **Justification The highlighted region below is constraining for underframe equipment clearance. Typically, below platform coping there will not be any structural part.** **Bidder request MAHA-Metro to modify the platform KE as indicated in below table.As discussed the lower coordinate value (below the platform level) of SOD /KE to be updated as requested below**	Tender condition Prevails
375	PART 2: WORKS REQUIREMENTS SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION Chapter 1	1.1.1	This Specification is for Rolling Stock for Phase II of Nagpur Metro Rail Project (NMRP). The phase I of the NMRP has already been commissioned and operational. The phase II of Nagpur Metro Project is basically extension of both lines at each ends. Therefore, the trains are required to be able to run in the whole section of phase 1 and phase 2. The bidders shall note that the **design parameters of trains for Phase II shall be compatible with existing trains of phase 1, for example coupler, bogie base, lifting positions, PA PIS, Signalling Interface Parameters, braking charecteristics etc.** The detail discussion shall be held during design stage.	This clause requires that the "the design parameters of trains for phase II shall be compatible with existing trains of phase 1". However, the necessary requisite design details of the existing phase I Trains have not been shared in the tender specifications. This leads to ambiguity and needs to be a modified to include all the design parameters that need to be compatible with existing trains, and the values be specified, as required. The bidder understands that compatibility does not require replication of or copying the same design parameters of Phase I so far as the train provided by the bidder complies with safety requirements and other normative references given in the tender documents. **Therefore, it is requested to remove this requirement.** ~~This Specification is for Rolling Stock for Phase II of Nagpur Metro Rail Project (NMRP). The phase I of the NMRP has already been commissioned and operational. The phase II of Nagpur Metro Project is basically extension of both lines at each ends. Therefore, the trains are required to be able to run in the whole section of phase 1 and phase 2. The bidders shall note that the design parameters of trains for Phase II shall be compatible with existing trains of phase 1, for example coupler, bogie base, lifting positions, PA PIS, Signalling Interface Parameters, braking charecteristics etc. The detail discussion shall be held during design stage.~~	Refer Corrigendum-2/S.no-15
376	PART 2: WORKS REQUIREMENTS SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION Chapter 1	1.1.3	Two depots are available for the above corridors; one near Khapari Metro Station to cater to the needs of North-South Corridor and the other near Lokmanya Nagar station to cater to the needs of East-West Corridor & elevated stabling line for light maintenance at three terminal stations. The depots are developed with full / light / heavy repair facilities, stabling and light inspection facilities. Since all the major machinery and plants are commissioned and functional, bidders are advised to design the trains to be compatible with existing M&Ps like Automatic Train Wash Plant, Lifting Pit Jack, Mobile Jack, Battery Operated Shunter, Pit Wheel Lathe, Bogie Turn Table, Multifunctional Platform, RRE etc. The brief details of major M&Ps are available at clause no 2.2.9 of ERTS. The bidders are advised to visit the depots & terminal stations to understand the facilities in detail. Mihan depot of North-South Corridor has test track while there is no test track at Hingna depot of East-west Corridor	The Product solution of different bidders may vary and therefore employer is requested to provide alternate arrangement for the selected Contractor to perform maintenance obligation, **Therefore, it is requested to remove this requirement.** ~~Two depots are available for the above corridors; one near Khapari Metro Station to cater to the needs of North-South Corridor and the other near Lokmanya Nagar station to cater to the needs of East-West Corridor & elevated stabling line for light maintenance at three terminal stations. The depots are developed with full / light / heavy repair facilities, stabling and light inspection facilities. Since all the major machinery and plants are commissioned and functional, bidders are advised to design the trains to be compatible with existing M&Ps like Automatic Train Wash Plant, Lifting Pit Jack, Mobile Jack, Battery Operated Shunter, Pit Wheel Lathe, Bogie Turn Table, Multifunctional Platform, RRE etc. The brief details of major M&Ps are available at clause no 2.2.9 of ERTS. The bidders are advised to visit the depots & terminal stations to understand the facilities in detail. Mihan depot of North-South Corridor has test track while there is no test track at Hingna depot of East-west Corridor~~	Tender condition Prevails MAHARASHTRA METRO RAIL CORPORATION LIMITED NAGPUR METRO

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377	PART 2: WORKS REQUIREMENTS SECTION VII-A: EMPLOYER'S REQUIREMENT – GENERAL SPECIFICATION	Annexure 2/TD:	Some of the RS-parameters as per Phase-I are listed out for ready reference but not limited to:	The Product solution of different bidders may vary and therefore employer is requested to provide alternate arrangement for the selected Contractor to perform maintenance obligation, Therefore, it is requested to ammend as below Some of the RS-parameters as per Phase-I are listed out for ready reference only but not limited to.	Tender condition Prevails

The other conditions shall remain same. Further modifications/amendments (if any) regarding aforesaid tender will be uploaded as and when required.

Executive Director (Procurement)
Maha Metro

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