	Part/		CP26 / AREUZA Contract -	- Reply to Blader Queries		
SI no	Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
1	Part-1, Section - V Eligible Source Countries (ESC)	SECTION V: ELIGIBLE SOURCE COUNTRIES OF JAPANESE ODA LOANS	<ul> <li>3. With regard to Section V (1) and (2) above,</li> <li>(iv) The prime Contractor or, in the case of a joint venture, the OECD member countries partners shall be nationals of OECD member countries (hereinafter referred to a as the "OECD member countries").</li> </ul>	We request CMRL to define the requirement of nationals of <b>OECD member countries</b> , inline with details provided in SI. No. 3 (a)(ii).	Refer to the response provided against Pre-bid Query <b>S/N 60</b>	NO
2	Part-1, Section – IV	3. Instructions for completing the pricing document:	3.1.1 The quoted lumpsum price by the bidder is inclusive of all taxes, levies, duties, cess as per GST / Custom tariff act etc., royalty, insurance, freight and fees required to be paid by him under the Contract.	We request CMRL to <b>exclude GST and Customs duty from the</b> <b>quoted lumpsum price and for evaluation process</b> . Accordingly, request CMRL to modify the clause as follows: 3.1.1 The quoted lumpsum price by the bidder is inclusive of all (including statutory deductions viz TDS towards Income Tax and GST, Labour cess), except all the central, state, local taxes, duties, levies, cess and GST as applicable in the Employer's Country on the Plants, Materials and/or Works. Customs duty on :- i. imported complete finished trains; ii imported equipment and parts/components required for indigenous manufacture of the trains; ii. imported finished Spares, Special tools, Jigs, Fixtures, Gauges, Testing and Diagnostic Equipment iv. finished imported components and equipment installed in the indigenously manufactured Spares; V. Custom Duty for imports by the Contractor and/ or subcontractors will be reimbursable, subject to compliance with the Customs Act of India and applicable taxes to the Contractor against Contractor's Invoice. Same shall be reimbursed on actuals.	Tender Condition Prevails	NO
3	Part-1, Section – IV	Table 4.3.2: Overview of Contract Price	Notes: The Bidder is required to submit these filled in tables as above along with Letter of Price Bid, the breakdown of lump sum price clearly giving the following: 1. Goods and Services Tax (GST) on the complete finished trains and Depot Machinery & Plant indigenously manufactured. 2. Not used. 4. Customs duty applicable on imported components / parts which go into manufacturing of cars / trains / Depot Machinery & Plants in India and for CMC scope are deemed to be included in the base price. The Bidders are not allowed to specify any Custom duty value against these Price Centres and hence marked as "NOT APPLICABLE" in the above table. Any change in rate of custom duty due to Change in law / legislation (GCC 13.7) is not applicable for these Price centres and the Contractor is not entitled for any claim or whatsoever on this account. 5. The bidders shall note that the customs duty, GST, levies, etc. indicated in the above table are considered to be included in the lumpsum price (Price centre wise) i.e. Bid Total in INR currency and will be reimbursed by the Employer in INR only, upon submission of proof of discharge of Contractor's liability subject to the ceiling of the amounts indicated in the above table. Cost towards Currency fluctuations if any shall be deemed included in the Lumpsum Price and the Ceiling limit shall not be adjusted on this account. This ceiling limit shall proportionately be increased or decreased based on the work variation / Optional additional order (if any) as awarded by the Employer during the contract period. This ceiling limit shall also be increased or decreased based on the actual tax components incurred by the Contractor towards Price variation payments during the contract period, as per approval of the Engineer / the Employer. If any rates of tax increased or decreased, a new tax is introduced, an existing tax is abolished in the course of performance of contract, an equitable adjustment of the contract price shall be made to fully take into account any	Request CMRL to delete this clause instead request to <b>allow payment</b> of taxes on actuals as indicated in previous query.	Addendum 01 S/N 15 applies the following changes:- 1) Bidders are now permitted to enter a Customs Duty amount for the RS-CMC and DM&P-CMC price centres 2) Improved clarity in the wording of Footnotes to avoid bidder confusion.	Yes
4	Part-1, Section – IV	3.3 Option Quantity Variation	The Price of each 3-car train-set to be supplied against quantity variation shall be derived from the contracted cost of the original tendered quantity, against Price Centre 'RS-B', 'RS-D', and 'RS-F' (in case of offshore supply) or 'RS-C', 'RS-E' and 'RS-F' (in case of indigenous supply).	"Contract price formula for additional 3-car train is different from other rolling stock contracts in India. Moreover, it does not reflect actual Manufacturing cost. We request to modify this clause as below. Contract Price of each 3-car train set to be supplied against quantity variation shall be 90% of the overall contract price ((A+CST+FAI+CPT+B+C+D+E+F+H)) of the original tendered quantity. Price of one 3- car train = ((A+CST+FAI+CPT+B+C+D+E+F+H)) x 90% / 70	Tender Condition Prevails.	NO
5	Part-1, Section – IV Bidding Forms	4.Price Schedules 4.1 Preamble	4.1.9 In case the successful bidder being a JV / Consortium, payment will be made only to the Bank account of JV / consortium and not to the Bank account of individual member of JV / Consortium.	We request CMRL to allow Bidder comprising of JV/Consortium, if desired, <b>can raise separate invoice and receive separate payments</b> <b>to each Member of the Consortium</b> . In this case, Bidder shall clearly lay down the Milestones / Currencies allocated to the different Members of the JV/Consortium, which shall be in agreement with the intended percentage share of the Members as indicated in the Consortium agreement for this Contract. Accordingly, kindly add below clause in line with other Metro tender: "In case of Joint Venture (JV) or Consortium: (A) Invoicing: The invoice shall be raised by i) the JV / Consortium; or ii) the Lead Member provided such a provision has been made in the JV / Consortium Agreement; or iii) the Consortium members separately, provided such a provision has been made in the Consortium Agreement. (B) Payment: Payment shall be made, subject to para (A) above; i) to the JV / Consortium account; or ii) to the Lead Member of the JV I Consortium provided such a provision has been made in the JV / Consortium Agreement; or iii) to the Consortium Members separately in their account, provided such a provision has been made in the JV / Consortium Agreement; or	Tender Condition Prevails.	NO
6	Section VII. General Conditions	GCC 17.6	Limitation of Liability 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 Material], 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.	<ul> <li>We request CMRL to define separately Limitation of Liability for Supply, Installation, testing and Commissioning scope and AMC scope.</li> <li>Limitation of Liability for Supply, Installation, testing and Commissioning scope shall be as per Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free- Issue Material], 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.</li> <li>However, Limitation of Liability for AMC scope shall be limited to 100% of Annual Maintenance Contract Value. "</li> </ul>	Refer Addendum 01 S/N 97	Yes



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
7	Part 3: Section VIII Particular Conditions (Part B: Specific Provisions)	14.2 Advance Payment	The Employer shall make an interest free advance payment for mobilization when the Contractor submits a guarantee in accordance with this sub-clause The Second & final instalment of the Advance Payment may be paid after: (i) the required Bank Guarantee in the specified format from banks as mentioned above is submitted (ii) the evidence for satisfactory utilization of the First instalment of mobilization is submitted; and (iii) acceptance of 3D virtual models.	We request Second installment of Advance should be paid based on utilization of first advance payment. The Employer shall make an interest free advance payment for mobilization when the Contractor submits a guarantee in accordance with this sub-clause The Second & final instalment of the Advance Payment may be paid after: (i) the required Bank Guarantee in the specified format from banks as mentioned above is submitted (ii) the evidence for satisfactory utilization of the First instalment of mobilization is submitted; and (iii) acceptance of 3D virtual models.	Tender Condition Prevails	NO
8	Part-3, Section - VIII Particular Conditions (Part A: Contract Data)	Delay Damages (Sub-clause 8.7)	Table 1.1: Summary of Sections: Key Date - Rolling Stock A. Delay Damages for Non-achievement of Main Key Dates	Request CMRL to wave-off/refund the LD deducted for interim Key date if the Contractor achieves the final KD within the time frame as stipulated in Contract	Tender Condition Prevails	NO
9	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause 46 (GCC Clause 14.1)	Delete last paragraph of GCC Sub-Clause 14.1 Add the following at the end of Sub-Clause 14.1 (d). 14.1 (e): 'Car Shell Structural Qualification Testing' Payment Security and 'First Article Inspections' Payment Security: The Contractor shall at the time of the submission of the invoice for payment of Car Shell Structural Qualification Testing and First Article Inspections provide a security in an amount equal to the payment for these price centres (milestones) (calculated in accordance with Price Schedule to the Contract Agreement, and in the same currency or currencies. The security shall be in one of the forms of bank guarantee in the form provided in the bidding documents or in another form acceptable to the Employer. The security will become null and void when the first	Considering that the Bidder has already submitted the performance Bank Guarantee and there is also provision of Retention amount, the payment will be released by CMRL on successful completion of activity which will be substantiated with documentary evidence . Hence, we request CMRL to delete the Car Shell Structural Qualification Testing' Payment Security and 'First Article Inspections' Payment Security as adequate security is already submitted as an assurance	Refer Addendum 01 S/N 90 Refer Addendum 01 S/N 99	Yes
10	Part-3, Section - VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause 44 (GCC clause 13.1)	"Variations may be initiated by the Engineer at any time during the performance of the Contract, either by an instruction or by a request for the Contractor to submit a proposal."	Variations may be initiated by the Engineer at any time during the performance of the Contract, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by the Employer or by others. Provided that, the Variation shall not exceed beyond the following: a) For Supply scope of the Contract - Beyond 15% of the Supply scope b) For Maintenance Scope of the Contract - Beyond 15% of the AMC	Tender Condition Prevails	NO
11	Part 3- Section VII General Conditions of Contract	GCC Clause 19.1	In this clause, Force inajeure means an exceptional event of circumstance: (a) which is beyond a Party's control, (b) which such Party could not reasonably have provided against before entering into the Contract, (c) which, having arisen, such Party could not reasonably have avoided or overcome, and (d) which is not substantially attributable to the other Party. Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied: (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (ii) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel, (iv) munitions of war, explosive materials, ionising radiation or contamination by radioactivity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and (v) natural catastrophes such as earthquake, hurricane, typhoon or	We request to add below clause in Force Majeure clause: 	Tender Condition Prevails	NO
12	Part 3: Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause 41 GCC Clause 11.1 Completion of Outstanding work and Remedying defects	11.1.3 If the Works or sections are not available for usage by the Employer for more than 48 hrs., then a penalty shall be paid by the Contractor as set out below. The cumulative amount shall be deducted by the Employer from the subsequent bills submitted by Contractor. Rolling Stock: Rs. 25,000 per day/ train Depot Machinery & Plant: Rs. 5,000 per day/ equipment A penalty of Rs. 2 lakhs for each case shall be levied for the failure or malfunction in the Works or sections during passenger operation which interrupt metro operations in the specific corridor for more than 10 mins.	Request CMRL to <b>cap the combined amount of total liquidated</b> <b>damages</b> and penalties payable to CMRL to <b>10%</b> of the total contract price.	Tender Condition Prevails	NO
13	Part-1, Section – IV Bidding Forms	2. Schedule of Adjustment Data Table A	<b>All</b> India Consumer Price India Currency (Indian Rupes)          Labour       All India Consumer Price India Consumer Price India Currency of Index for Industrial Workers Published by RBI Bulletin (base year 2016)       0.10 ~ 0.10 ~ 0.25 ~ 0.25 ~ 0.30 ~ 0.10 ~ 0	The Indices & weightages are not in line with the cost structure.         Request customer to add common components for all commodities also (Wholesale price Index). Hence, we propose the formula below for your consideration.         (a)       (b)       (c)       (d)       (e)       (b)         (a)       (b)       (c)       (d)       (e)       (b)         Index code       Index description       Source of Index       Base value       Bidder related currency amount         Non adjustable (Fixed)       0.15       0.15       0.15         Labour       Consumer price Index for Industrial workers by RBI (or)       Value as on 28 days prior to bid submission       0.15 ~ 0.25         1000000000 WPI       UM logsale Price Index for all Commodities (WPI)       Total       0.18	Tender Condition Prevails	NO
14	Part-I, Section -IV, Bidding Forms 3. Instructions for completing the pricing document:	3.1.3	As a single rate of custom duty is available under project imports scheme under heading 98.01 of Custom Tariff Act 1975 for import of capital goods, the advantage of the same may be considered under project import scheme. 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 Housing and Urban Affairs (MoHUA) / GOI 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.	We understand that Employer will facilitate the Contractor and/or <b>sub-</b> <b>contractor</b> for obtaining <b>sponsoring / recommendation letter from the</b> <b>Ministry of Housing and Urban Affairs (MoHUA) / GOI</b> for imports by contractors and/or sub-contractor for availing the project import benefit. Please confirm.	CMRL support shall be provided to the Contractor.	NO



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
15	Part-1, Section – IV Bidding Forms	2. Schedule of Adjustment Data Table D	Table D. For Price Centre RS-CMC and Price Centre DM&P-CMC (Applicable for INR)         DETAILS NOT TO BE SUBMITTED BID DOCUMENT OF E-PROCUREMENT PORTAL.         Code       Description       Source       Weightage       Base value and date         a       Non-adjustable (Fixed)       N/a       0.33         a       Non-adjustable (Fixed)       N/a       0.27         b       Industrial Workers for Chennai (CPI-       *i       0.20       detectrical Equipment (WPI-MEE)       *iii       0.20       detectrica	Request to modify the Price adjustment formula for Price Center RS- CMC and DM&P-CMC as under: The Price Variation formula (CPA formula) below shall be applicable for INR and Foreign Currency portion to provide for variation in the market rates of inputs like labour and materials during the Contract duration: Pn = 0.50 x (Bn/Bo) + 0.50 x (Cn/Co) Where, Pn = adjustment multiplier Bn = 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 for period 'n' B0 = 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 as on 28 days prior to the date of Submission of Bid Cn = Wholesale Price Indices (WPI) for All Commodities: Base 2011-12: Published by Economic Adviser, Ministry of Commerce & Industry, Government of India for period 'n' C0 = Wholesale Price Indices for All Commodities: Base 2011-12: Published by Economic Adviser, Ministry of Commerce & Industry, Government of India as on 28 days prior to the date of Submission of Bid Cn = Wholesale Price Indices for All Commodities: Base 2011-12: Published by Economic Adviser, Ministry of Commerce & Industry, Government of India as on 28 days prior to the date of Submission of Bid In case the indices indicated above, changes in composition, it shall be replaced by any index which subsequently substitutes the corresponding indices.	Tender Condition Prevails	NO
16	Part-1, Section – IV Bidding Forms	4.2, Note (ii)	Price centres 'CMC – RS' and 'CMC - DM&P' shall be quoted in Indian Rupees (INR) only.	We request CMRL for <b>Multi-currency payment for CMC-RS and CMC-DM&amp;P Price center also</b> , similar to supply scope of RS and DM&P.	Tender Condition Prevails	NO
17	Part-1, Section – IV Bidding Forms	3.2.7	Price Variation / Price adjustment for Comprehensive Maintenance Contract (CMC) The Price adjustment for Price Centre 'RS-CMC' and 'DM&P-CMC', Comprehensive Maintenance of Rolling Stock, Depot Machinery & Plant shall be done as under: Price adjustment shall be applied to the amount (only applicable for INR portion) otherwise payable to the Contractor on completion of Works under these milestones as per the following formula, Pn = R x { a + b (Bn/Bo) + c (Cn/Co) + d (Dn/Do)} - R  Price Adjustment towards RS-CMC and DM&P-CMC is not applicable on Foreign Currencies (JPY & FC) portions.	Request to allow <b>Price Adjustment in foreign currencies also for</b> <b>Comprehensive Maintenance Contract (CMC)</b> , accordingly request to modify this clause as follows: The Price adjustment for Price Centre 'RS-CMC' and 'DM&P-CMC', Comprehensive Maintenance of Rolling Stock, Depot Machinery & Plant shall be done as under: Price adjustment shall be applied to the amount (only applicable for INR portion) otherwise payable to the Contractor on completion of Works under these milestones as per the following formula, Pn = R x { a + b (Bn/Bo) + c (Cn/Co) + d (Dn/Do)} - R  "Price Adjustment towards RS-CMC and DM&P-CMC is applicable on Exercise Operation (UD)( $h = 50$ ) participes"	Tender Condition Prevails	NO
18	New Clause	New Clause	New Clause Proposed: BOCW applicability	BOCW cess shall not be applicable to Maintenance contract including DM&Ps. CMRL is requested to confirm the same.	The Contractor shall be fully responsible for any Statutory Compliance. The Employer shall be fully indemnified of the same. Accordingly, the Bidder's request for inclusion of a new clause is denied.	NO
19	New Clause	New Clause	Liquidated damage for not meeting KPIs/penalty during CMC period for Rolling Stock and DM&P.	It is requested that the <b>penalty shall be capped at 10% of the Annual CMC</b> Contract Price (RS and DM&P).	Denied	NO
20	Part 3/ Section VIII Particular conditions (Part A: Contract Data)	29. (Sub Clause 18.3)	29.       Minimum amount of third party insurance       18.3       In case of death, INR 50,00,000 per person in each case.         In case of permanent disability, INR 25,00,000 per person in each case.       In case of permanent disability, INR 25,00,000 per person in each case.         In case of partial disability, INR 10,00,000 per person in each case.       In case of partial disability, INR 10,00,000 per person in each case.         In case damage to facility, the Contractor shall be responsible for full coverage of damages without limit of occurrences.       Hence, the amount shall be decided by the Contractor based on his experience.	Though <b>Third-Party liability</b> (TPL) policy doesn't explicitly define the <b>limits</b> as requested by customer, we propose to submit the TPL cover for Total Aggregate limit of 25 Crs (per annum) with number of incidents unlimited up to 25 Crs. Request to confirm the same.	Tender Condition Prevails	NO
21	Part 3/ Section VIII Particular conditions (Part B: Specific Provisions)	56. (Sub Clause 18.1)	18. Insurance         18.1 General Requirements for Insurances         Add the following at the end of sub-clause 18.1         56       18.1       Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover Project period, DNP period and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	Please note, <b>CAR/EAR Insurance</b> will not be applicable for CMC/Maintenance period of 15 Years. Contractor will be able to provide this policy till DNP completion only. Request to modify the requirement accordingly. CMRL is requested to confirm the same.	Refer Addendum 01 S/N 96	Yes
22	Part 3/ Section VII Particular conditions (Part A:Contract Data)	27. (Sub Clause 18.1)	27.       Periods for submission of insurance:       18.1         a. Evidence of insurance.       15 days         b. relevant policies       28 days	<b>Period for submission of "Insurance Policies</b> 28 days" is very less. Request to increase this time period minimum of 45 days. CMRL is requested to confirm the same.	Tender Condition Prevails	NO
23	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 19. (GCC Clause No.4.2)	Add the following to the end of Sub-Clause 4.2: CMC - Rolling Stock and Depot Machinery & Plant: 28 days before the completion of Rolling Stock (Train level) DLP/ DNP, the Contractor shall furnish CMC Performance Security for the deliverables defined in the CMC Period; in the form of a Bank Guarantee from a public sector bank (PSB) of India or Scheduled Commercial Banks in India, or any Japanese Bank as listed under Schedule of Commercial Banks by the Reserve Bank of India (RBI) for an amount of 10% of Price Centre RSCMC and DM&P-CMC in the same currency(ies). The Performance Bank Guarantee for CMC shall be valid until 210 days beyond the scheduled expiry of the Rolling Stock and Depot Machinery & Plant CMC period. The Employer shall, however, permit the Contractor to reduce the CMC Performance Security at every three (3) year intervals provided the following two (2) conditions are satisfied: - i. The Contractor has obtained a CMC Performance Certificate from the Employer for the preceding 3-year period. ii. The Contractor has provided a replacement Bank Guarantee (same expiry date) for the reduced value amount for CMC Performance Security amount in accordance with the following schedule:	Please allow separate <b>Performance Bank Guarantee</b> for Maintenance Contract Period @ <b>10% of the Annual CMC</b> contract Price. Performance Bank Guarantee for Maintenance Contract Shall be submitted within 28 days from the commencement date of the Maintenance Contract.	Tender Condition Prevails	NO
24	Part 3/ Section VIII Particular conditions (Part A:Contract Data)	PCC Clause 21 (Sub clause 14.2)	21.       Total advance payment       14.2       The interest free mobilization advance at the rate of 10 % of the accepted contract amount (Excluding Provisional Sum, Price Centre 'RS-CMC' and 'DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. (in parlance with CVC guidelines). GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equal instalments.	Please include <b>15% interest free advance payment of the total</b> <b>maintenance contract price of 15 years</b> necessitated for mobilization of manpower for maintenance of trainsets, depots and washing plants etc., and provision of spare parts, tools and consumables. The advance amount can be adjusted on prorata basis over the entire maintenance contract period. Henc it is requested to add following at the end of this clause: Advance Payment for CMC: The interest free mobilization advance at the rate of 15 % of the accepted contract amount pertaining to Price Centre 'RS-CMC' and 'DM&P-CMC (excluding Provisional Sum) in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. (in parlance with CVC guidelines). GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equal instalments.	Tender Condition Prevails	NO



			CP26 / ARE02A Contract	- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
25	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause 26 (GCC Clause No. 4.25)	Add a new sub-clause 4.25: 4.25.1 CMC - Rolling Stock: The Contractor is required to carry out 15 years Comprehensive Maintenance Contract (CMC) for Rolling Stock which shall commence after the DLP/ DNP or extended DLP/ DNP is completed for all the trainsets (Base order) and shall end after 15 years from start. The Contractor shall provide key maintenance staff as per qualification and experience detailed under Part 2, Section VI C ERTS (CMC). Upon expiry of CMC, the Contractor shall handover all equipment under this Contract in a working condition to the Employer. The procedures for handing over shall be as stated in Part 2, Section VI C ERTS (CMC).	We request to change this clause as: Add a new sub-clause 4.25: 4.25.1 CMC - Rolling Stock: The Contractor is required to carry out 15 years Comprehensive Maintenance Contract (CMC) for Rolling Stock which shall commence after the <b>DLP/ DNP</b> or extended DLP/ DNP is completed for all the trainsets (Base order) and shall end after 15 years from start. The Contractor shall provide key maintenance staff as per qualification and experience detailed under Part 2, Section VI C ERTS (CMC). from ROD of 1st trainset. The Contractor shall provide key maintenance staff as per qualification and experience detailed under Part 2, Section VI C ERTS (CMC) their practice. Upon expiry of CMC, the Contractor shall handover all equipment under this Contract in a working condition to the Employer. The procedures for handing over shall be as stated in Part 2, Section VI C ERTS (CMC).	Tender Condition Prevails	NO
26	Part 2/ Section VI A:ERTS-RS-System Requirements	2.26.5.2 (e) : Smoke & Heat detection system	Complete system should be SIL2 compliant.	We request to modify the clause as: Complete system should be SIL2 compliant- "Safety function of the system should be SIL2 compliant "	Tender Condition Prevails	NO
27	Part 2 / Section VI A: ERTS-RS-System Assurance	18.6.4.1 (a) Failure Classification: a) Type1/ Service Failure	Failures that result in service operational delay in the specific train for more than 2 minutes at any location of the mainline or during induction from depot/mainline in the CMRL Phase 2 Network	We request to consider the <b>delay time</b> of 3 min for service affecting failure in-line with other Metro project in India. <u>Bidder requests to modify the clause as follows:</u> Failures that result in service operational delay in the specific train for <b>more than 2 3 minutes</b> at any location of the mainline-or during- induction from depot/mainline in the CMRL Phase 2 Network	Tender Condition Prevails	NO
28	Part 2/ Section VI A:ERTS-RS-System Assurance	18.6.4.1 (a) Failure Classification: a) Type1/ Service Failure	The train withdrawal scenarios are described in Appendix I. It includes possible anticipated failure scenarios which can affect safety, punctuality and passenger comfort. The train withdrawal scenario defined in Appendix I shall be considered as a Type 1 failure irrespective of whether or not CMRL is able to withdraw the train due to its operational constraints. This list shall be further developed during DNP/ DLP	Bidder request to add below information in the clause as agreed in the Contract for CMRL Phase II (78 cars, Tender No. ARE03A) for Type 1 Failures: <b>"End of the day withdrawals</b> shall not be considered as Type 1 failures as the maintenance intervention is required only after completion of revenue service for entire day"	Refer Addendum 01 S/N 60	Yes
29	Part 2 / Section VI A: ERTS-RS-System Assurance	18.6.4.1 (b) Failure Classification: b)Relevant Failure	 Improper operation, maintenance, or testing of the item as a result of the Contractor supplied documentation or Failures of transient nature including those with post investigation status as 'No fault found', shall be considered as relevant failure if in the opinion of CMRL these are attributable to rolling stock. The decision of CMRL shall be final. 	Bidder requests to kindly change the clause as per mentioned below because of the reason: Zero NFF is not practical, hence 5% tolerance is requested. <u>Hence we proposed following Clause as:</u>  Improper operation, maintenance, or testing of the item as a result of the Contractor supplied documentation or Failures of transient nature including those with post investigation status as 'No fault found', shall be considered as relevant failure if in the opinion of CMRL these are- attributable to rolling stock. The decision of CMRL shall be final only if total NFF failures per annum exceeds 5% of total number of Failures (total number of NFF Failures divided by the total number of failures)	Tender Condition Prevails	NO
30	Part 2 – Section VI C: ERTS –CMC of RS & DMP – Train Operation Plan	3.2.1(a) Failure Classification: (a)Type1/ Service Failure	Failures that result in a service operational delay of a specific train for more than 2 minutes at any location of the mainline or during induction from depot to the mainline of CMRL Phase 2 Network	We request to consider the delay time of 3min for service affecting failure in-line with other Metro project in India. <u>Bidder requests to modify the clause as follows:</u> Failures that result in a service operational delay of a specific train for more than 2 3 minutes at any location of the mainline <del>or during induction</del> from depot to the mainline of CMRL Phase 2 Network	Tender Condition Prevails	NO
31	Part 2 – Section VI C: ERTS –CMC of RS & DMP – Train Operation Plan	3.2.1 (a) Failure Classification: a) Type1/ Service Failure	A list of anticipated scenarios which may lead to an unscheduled withdrawal is provided in Appendix I of Part 2 Section VIA). When such failures occur, it shall be considered as a Type 1 failure event even if CMRL was unable to successfully withdraw the train from service due to operational constraints.	Bidder request to add below information in the clause as agreed in the Contract for CMRL Phase II (78 cars, Tender No. ARE03A) for Type 1 Failures: <b>"End of the day withdrawals</b> shall not be considered as Type 1 failures as the maintenance intervention is required only after completion of revenue service for entire day"	Refer Addendum 01 S/N 86	Yes
32	Part 2 – Section VI C: ERTS –CMC of RS & DMP – Train Operation Plan	3.2.1 (b): Failure Classification: b)Relevant Failure	Failures of transient nature (including those with post investigation status as 'No fault found'), shall be considered as a relevant failure if in the opinion of CMRL these are attributable to rolling stock. The decision of CMRL shall be final.	Bidder requests to kindly change the clause as per mentioned below because of the reason. <b>Zero NFF is not practical, hence 5% tolerance</b> <b>is requested.</b> <u>Hence we proposed following Clause as:</u> Failures of transient nature including those with post investigation status as 'No fault found', shall be considered as relevant failure after mutual agreement / discussion with RS contractor. <del>if in the opinion of the Engineer these are attributable to rolling stock. The decision of the Engineer shall be final.</del> only if total NFF failures per annum exceeds 5% of total number of Failures (total number of NFF Failures divided by the total number of failures).	Tender Condition Prevails	NO
33	Part 2 – Section VI A: ERTS – RS – TCMS	14.1.5: SIL Compliance (I)	Wheel Sliding signal transmission to Signalling, Brakes and Traction systems	<ul> <li>Bidder request to kindly delete the requirement- Wheel Sliding signal- transmission to Signalling, Brakes and Traction systems; due to the following reason:</li> <li>WSP is at SIL2 at Brake level to manage Hazard. No need is foreseen to transmit the safety information to signaling, brakes and traction system at SIL2.</li> </ul>	Tender Condition Prevails	NO
34	Part 2 – Section VI A: ERTS – RS – TCMS	14.1.5: SIL Compliance (n)	Holding Brake demand signal transmission	Bidder request to kindly delete the requirement- Holding Brake demand- signal transmission; due to the following reason: We understand, no need for Transmission of <b>holding brake</b> signal at <b>SIL2</b> , as demand for holding brake given at fixed effort.	Tender Condition Prevails	NO
35	Part 2 – Section VI A: ERTS – RS – TCMS	14.1.5: SIL Compliance (w)	<b>Real time remote transmission of train data</b> as defined in clause 14.11 & 14.13	Bidder request to delete the requirement as it is not a Safety Function.	Tender Condition Prevails	NO
36	Part 2/ Section VI A: ERTS-RS-System Assurance	18.6.6.1: Reliability Requirements Table 18-2 Reliability Calculation	Reliability Calculation	Bidder request to add below information in the clause in section 18.6.6.1 "Any train shall be counted as available for reliability calculations only after a <b>stabilization period of 6 months</b> after putting the train into revenue service". This is in line with CMRL Phase I contract.	Tender Condition Prevails	NO
37	Part 2/ Section VI A:ERTS-RS-System Assurance	18.6.6.1: Reliability Requirements Table 18-2 Reliability Calculation	Level2: Twelve (12) months period after passenger service induction date of first train. Type 1 Failure min. MDBF 125,000 Km	Bidder request to add the following note in the Reliability calculation . When there is a change in <b>x% reduction in annual mileage</b> of the train, there will be x% reduction in reliability targets if the rest of the parameters in the mission profile are kept constant.	Tender Condition Prevails	NO
38	Part 2 – Section VI A: ERTS – RS – Appendix I – Train withdrawal Scenarios for 3-car trains.	S. No. 12	System : Main Compressor Unit Withdrawal Condition: If any-one Main Compressor Unit isolated / faulty in 3 car train.	We request you to kindly change the clause as per mentioned below because of the reason: With <b>one compressor Isolation</b> , train can <b>run till end of day</b> and has no impact on Train service.	Tender Condition Prevails	NO
39	Part 2 – Section VI A: ERTS – RS – Appendix I – Train withdrawal Scenarios for 3-car trains.	S. No. 13	System : Air leakage Withdrawal Condition: Any leakages which may lead to incorrect brake application	We request you to kindly change the clause as per mentioned below because of the reason; <b>Isolate the particular bogie &amp; run till end of</b> <b>day.</b> Hence we proposed following statement: Withdrawal Condition: "Any leakages which may lead to incorrect brake application in multiple bogie"	Tender Condition Prevails	NO



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
40	Part 2 – Section VI A: ERTS – RS – Appendix I – Train withdrawal Scenarios for 3-car trains.	S. No. 15	System : Brake system (mechanical) Withdrawal Condition: If isolation of brakes of two bogies occurs.	We request you to kindly change the clause as per mentioned below because of the reason: With two bogies failure (Bogie Control), will not lead to an unsafe condition.	Tender Condition Prevails	NO
41	Part 2 – Section VI A: ERTS – RS – Appendix I – Train withdrawal Scenarios for 3-car trains.	S. No. 35	System : Semi-permanent half coupler Withdrawal Condition: Failure of coupler 1. Mechanical failure of coupler 2. Pneumatic connection failure if not isolated through isolating cock	We request you to kindly change the clause as per mentioned below because of the reason; <b>Any defect in Semi-permanent half coupler</b> <b>will not cause any delay.</b> Hence we propose to modify this clause as : Withdrawal Condition: "Failure in Semi-permanent coupler causing delay or withdrawal of train from service".	Tender Condition Prevails	NO
42	Part 2 – Section VI A: ERTS – RS – Appendix I – Train withdrawal Scenarios for 3-car trains.	S. No. 36	System : Auto-coupler Withdrawal Condition: Failure of coupler 1. Mechanical failure of coupler 2. Pneumatic connection failure if not isolated through isolating cock	We request you to kindly change the clause as per mentioned below because of the reason; <b>Any defect in Auto-coupler will not cause any</b> <b>delay.</b> Hence we propose to modify this clause as : Withdrawal Condition: "Failure in Auto-coupler causing delay or withdrawal of train from service".	Tender Condition Prevails	NO
43	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	1.7.2	Reasons which may give rise to a requirement for "Unscheduled Maintenance" includes, but is not limited to a Fault, unsatisfactory performance, defects, deficiencies, accident, vandalism, natural calamity, fire, riots, arson or negligence.	During the Mainline operations Contractor won't be taking any Insurance for the rolling stock (trains) since the train operation is under CMRL's scope. So it is requested to modify this clause as: "Reasons which may give rise to a requirement for "Unscheduled Maintenance" includes, but is not limited to a Fault, unsatisfactory performance, defects, deficiencies, accident, vandalism, natural calamity, fire, riots, arson or negligence." Further for "Unscheduled maintenance" arising due to Accident and Vandalism, the same shall be rectified by contractor against reimbursement of additional costs through a Variation Order.	Refer CMC Clause 1.7.12(c). Tender condition prevails.	NO
44	Part 2 Section VI A: ERTS -RS - Systems Assurance	Clause 18.13.2.1	CMRL shall allocate approximately 100 square meter space to the Contractor at the Designated Depot(s) for erection of site the Contractor's Site Office. This land / space provision shall be provided to the Contractor on a free of cost basis without any rental charges. Further space shall also be allocated to establish the Depot Stores facility. Any buildings and/or structures needed to make the allocated space ready for occupation by the Contractor shall be constructed by the Contractor at the Contractor's own cost.  All buildings and/or structures shall be handed over to CMRL in good condition after the completion of the CMC Period.	It is requested that <b>all the civil infrastructure shall be provided by the</b> <b>Employer including the Depot Stores.</b> The Contractor will install the Depot M&Ps as per the Price Centre DM&P-Q, DM&P-R, DM&P-S and DM&P-T.	<ul> <li>Tender condition prevails.</li> <li>For clarity, the following points are clarified:-</li> <li>1) The 100sqm allocated space is for the Contractor to construct their site office, at their own cost.</li> <li>2) A fully constructed stores area shall be handed over to the Contractor.</li> <li>3) If the allocated storage space provided is insufficient for the Contractor's requirements, then additional stores facility shall be constructed by the Contractor at his own cost using additional space that will be allocated to him by CMRL.</li> </ul>	NO
45	Part 2 Section VI A: ERTS -RS - Systems Assurance	Clause 18.13.2.9	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.	Employer is requested to <b>provide utilities</b> , electricity and water free of cost for the complete duration of the Maintenance Contract.	Tender condition prevails. Refer to ERTS Section VI-A Clause 18.13.2.2	NO
46	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – Management of Maintenance Depot	2.3.2 (i)	Maintenance obligations of CMRL All maintenance works related to Civil works, E&M, fire safety, Traction, all S&T installations and Track Installation including all its fittings shall be undertaken by CMRL.	Bidder understands that the <b>maintenance of onboard Signaling</b> system is excluded from the scope of this contract. CMRL is requested to confirm the same.	Maintenance of the onboard Signalling system shall be carried out by the concerned Contractor. However, the RS Contractor shall still be responsible to ensure the integrity of the same.	NO
47	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – Management of Maintenance Depot	2.5.1(iii)	The Contractor shall be responsible, at its own cost (inclusive of manpower and any other expenses), for any upgradation (if required), operation and maintenance of all infrastructure in its custody at the RS Maintenance Depot. The Contractor may undertake any structural change or any additional construction work to the buildings handed over to the Contractor at the Maintenance Depot, if required, after submission of details of work proposed for seeking prior approval of CMRL.	It is requested that any upgradation of infrastructure shall be in the scope of CMRL. CMRL is requested to confirm the same.	Tender condition prevails	NO
48	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – Management of Maintenance Depot	2.5.2(i)	Maintenance and upkeep of RS Maintenance depot i) During its period of custody, the Contractor shall be responsible for undertaking the maintenance of the RS Maintenance Depot including cleanliness, upkeep, housekeeping, repair work, civil maintenance and electrical maintenance for the entire premises of the RS Maintenance Depot.	It is requested that any <b>repair work, civil maintenance and electrical</b> <b>maintenance</b> for the entire premises of the RS <b>Maintenance Depot</b> shall be carried out by CMRL. CMRL is requested to confirm the same.	Refer Addendum 01 S/N 85	Yes
49	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	1.18.6	Taxes will be reimbursed by CMRL to the Contractor subject to the conditions of Contract.	It is requested that Bidders shall be <b>allowed to quote for the Price</b> <b>Centres excluding all taxes and duties</b> (i.e. GST, Customs Duty, levies and fees etc.). The taxes and duties shall be reimbursed at actuals upon submission of documentary evidence." CMRL is requested to confirm the same.	Tender Condition Prevails	NO
50	Part 2 – Section VI C: ERTS –CMC of RS & DMP – Train Operation Plan	3.3.5.4 Table 3-5, Note:6.	Escalation of 5% compounded annually shall be applicable for the figures mentioned under Penalty / Damages from the Commencement date of the Contract.	It is requested to delete this clause.	Tender Condition Prevails	NO
51	Part 2 – Section VI A: ERTS –RS- System Description	1.4.1	CMRL plans to operate 365 days a year, from approximately 4.00Hrs to 00.00Hrs Monday through Sunday during the complete fleet operation conditions.	We propose to modify this clause as "CMRL plans to operate 365 days a year, from approximately <b>5:30 Hrs</b> <b>to 23:30 Hrs</b> Monday through Sunday during the complete fleet operation conditions.	Tender Condition Prevails	NO
52	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	1.8.2	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.	<b>Mandatory requirement of 10 staff per shift shall be removed</b> . The organization structure shall be proposed by the Contractor as per their practice.	Tender Condition Prevails	NO
53	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – Management of Maintenance Depot	2.3.1(xiii)	The Contractor shall ensure coordination with CMRL's Representative (PPIO) and personnel for operation of Traction and auxiliary power supply system by the Contractor's personnel including requesting for power blocks required for the maintenance activities to be undertaken by the Contractor or CMRL at depot. The Contractor shall be responsible for deployment of competent personnel for: (a) Safe operation of the traction and auxiliary power supply system. (b) Safety of all persons including CMRL personnel and any 3rd party at RS Maintenance Depot.	We understand that our scope will be <b>limited to operation of power</b> <b>block in the area where maintenance activity is done</b> by our team in the depot i.e. (IBL, Workshop and SBL). CMRL is requested to confirm the same.	The Bidder Understanding is Correct.	NO
54	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – Management of Maintenance Depot	2.4.1 (iii) (c)	A Minimum of 25% maintenance staff and supervisor of the Contractor shall be transferred to CMRL payroll after expiry of Comprehensive maintenance contract to ensure continuity and quality of maintenance of the train till alternative arrangements are made by CMRL. The selection procedure shall be finalized jointly by CMRL and Rolling stock Contractor.	We request to modify this clause as: A <b>Minimum of 25% maintenance staff</b> and supervisor of the Contractor shall be transferred to CMRL payroll after expiry of Comprehensive- maintenance contract to ensure continuity and quality of maintenance of- the train till alternative arrangements are made by CMRL. The selection- procedure shall be finalized jointly by CMRL and Rolling stock Contractor. Contractor shall provide training to CMRL Maintenance team 6 months before the completion of CMC-RS & CMC-DM&P.	Tender Condition Prevails	NO



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
55	Part-2 -Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	1.14.3(a)	No.       Position       Total Work Experience (Minimum number of years)       Experience in Similar Works * (Minimum number of years)         1       Chief Maintenance Manager       15       10         2       CMC Co-Ordinator       12       7         3       Failure Investigation Specialist       12       7         4       AMMS Specialist       10       5	The requirement for mandatory staff position shall be removed. The <b>organization structure</b> shall be proposed by the Contractor as per their practice.	Tender Condition Prevails	NO
56	Part 2 – Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	1.1.9	Designated Depot(s) refers to (i) Madhavaram Depot, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) (mostly for inspection, cleaning activities and Corrective Maintenance).	It is requested to inform the number of <b>satellite depots</b> and their location	Refer Addendum 01 S/N 76	Yes
57	Part 2 – Section VI C: ERTS – CMC of RS & DM&P – CMC Requirements	5.11.2	The training for various groups (maintainers and stores) shall be conducted separately. Solution provider shall provide training for four weeks to CMRL. The number of trainees will be decided by CMRL.	Please clarify <b>no. of trainees and duration of training</b> in the Tender Specifications	Duration already specified. Tender Condition Prevails	NO
58	Part 2 – Section VI C: ERTS – CMC of RS & DMP – Handover Requirements	4.5.1	Arrangements for Retention of Payments, <b>release of Retention Money</b> against a Bank Guarantee as well as the final release of Retention Money or Bank Guarantee is defined in Part 3: Section VIII Particular Conditions Clause 50 which is to be read in conjunction with Part 3: Section VII General Conditions of Contract Clause 14.9	It is requested to delete this clause for Maintenance Contracts (CMC of RS & DM&P)	Refer Addendum 01 S/N 87	Yes
59	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause 52 (GCC Clause 14.9)	Replace Clause 14.9 with the following Retention Money (Throughout the Contract Period) Retention money shall be deducted at the rate of 5% on each Interim payment certificate (IPC), excluding taxes & duties, in respective currencies and up to the cumulative value equal to 5% of the Accepted Contract Amount (Excluding Provisional sum), excluding taxes & duties. Release of Retention Money Against BG (Project Phase) Upon the request of the Contractor, the Employer after issuance of Taking-Over certificate of each trainset / each Depot Machinery & Plant may release the withheld retention money specific to that trainset / Depot Machinery & Plant, on submission of Bank Guarantee for an equivalent amount in respective currencies from a Public sector bank (PSB) of India or Scheduled Commercial Banks in India or any Japanese Bank as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI), in the format annexed to the Particular Conditions. Release of Retention Money Against BG (CMC Phase) Upon the request of the Contractor and after completion of every 3 years of CMC period for Rolling stock, the Employer may release the withheld retention money specific to Price Centre RS-CMC and DM&P-CMC accrued until then, on submission of Bank Guarantee for an equivalent amount in respective currencies from a Public sector bank (PSB) of India or Scheduled Commercial Banks in India as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI), in the format annexed to the Particular Conditions. Final Release of Retention or BG (Project Phase) Upon completion of DNP of Rolling Stock and Depot Machinery & Plant, the Retention money amount or the Retention money Bank Guarantees (less the value of claims made by the Employer for uncompleted warranty work) for Rolling Stock and Depot Machinery & Plant (excluding Price Centre RS-CMC and Price Centre DM&P-CMC) shall be certified by the Engineer / Employer for releasing to the Contractor. Final Release of Retention or BG	It is requested to delete this clause for Maintenance Contracts (CMC of RS& DM&P)	Refer Addendum 01 S/N 87 Refer Addendum 01 S/N 91 Refer Addendum 01 S/N 92 Refer Addendum 01 S/N 93 Refer Addendum 01 S/N 94 Refer Addendum 01 S/N 95	Yes
60	Part-1, Section V	ELIGIBLE NATIONALITY	The prime Contractor or, in the case of a joint venture, the OECD member countries partners shall be nationals of OECD member countries (hereinafter referred to a as the "OECD member countries").	While reading the cited Clauses, we interpret that wholly owned Indian subsidiary companies that are incorporated and registered in India and actually conduct their business in India; may themselves be considered as "Nationals of OECD member countries" where it is the case that the parent company is registered in and actually doing business in an OECD member country. Requesting you to kindly confirm our understanding.	Assuming the parent company would be able to qualify as an OECD bidder, then the Bidder's interpretation is correct.	No
61	Part-1/SECTION - III : EVALUATION AND QUALIFICATION CRITERIA (EQC)/2.3 Financial Situation :	2.3.1 Financial Performance	Eligibility and Qualification Criteria         Compliance Requirements         Documentation           No.         Factor /Sub-Factor         Requirement         Single Entity         Joint Venture (Existing or Intended) All Parties         Submission Requirements           2.3.1         Financial Situation         The audited balance sheets or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the Bidder's financial position and its prospective long-term profitability.         Must meet requirement soundness of the Bidder's financial position and its prospective long-term profitability.         N/A         Must meet requirem ent         N/A         Form FIN - 1 with attachments           As the minimum requirement, a Bidder's net worth calculated as the difference between total assets and total liabilities should be positive for any three years out of five years         As the minimum requirement, a Bidder's net worth calculated as the difference between total assets and total liabilities should be positive for any three years out of five         Image: State of Sta	It is our understating that "wholly owned Indian subsidiary of OECD member countries partners shall be eligible to participate as a Joint Venture Partner along with its parent company which are nationals of OECD member countries". Wherein, Indian subsidiary company can use the <b>parent company's (OECD member) credentials</b> both Financial as well as Technical in accordance with the guidelines issued by MoHUA (kindly refer Letter NO. K-14001/08/2017/MRTS Coord), in case of subsidiary company participating with its Parent company, the financial credentials of only Parent company are considered. In such case, there shall be no requirement of "Each Member to Must Meet requirement". It is submitted that this was specifically indicated in the tender conditions of JICA funded (DMRC/RS17 & BMRCL/5RSDM).	Refer Addendum 01 S/N 01 Refer Addendum 01 S/N 02	Yes
62	Part-1/SECTION - III : EVALUATION AND QUALIFICATION CRITERIA (EQC)/2.3 Financial Situation :	2.3.2 Average Annual Turnover and 2.3.3.Financial Resources	Eligibility and Qualification Criteria     Compliance Requirements     Documentation       No.     Factor /Sub-Factor     Requirement     Single Entity     Joint Venture (Existing or Intended)     Submission       2.3.2     Average Annual Turnover     Minimum average annual turnover of INR 997.26 Crores calculated as total certified payments received for Contracts in progress and/or completed, within the last five (5) years.     Must meet moinimum at	It is our understating that "wholly owned Indian subsidiary of OECD member countries partners shall be eligible to participate as a Joint Venture Partner along with its parent company which are nationals of OECD member countries". Wherein, Indian subsidiary company can use the parent company's (OECD member) credentials both Financial as well as Technical in accordance with the guidelines issued by MoHUA (kindly refer Letter NO. K-14001/08/2017/MRTS Coord), in case of subsidiary company participating with its Parent company, the financial credentials of only Parent company are considered. In such case, there shall be no requirement of "Each Member to Must meet minimum 25% of the total requirement". It is submitted that this was specifically indicated in the tender conditions of JICA funded (DMRC/RS17 & BMRCL/5RSDM).	Refer Addendum 01 S/N 01 Refer Addendum 01 S/N 02 Refer Addendum 01 S/N 03	Yes
63	Part-1/SECTION - III : EVALUATION AND QUALIFICATION CRITERIA (EQC)/	2.4.1 General Experience	Eligibility and Qualification Criteria         Compliance Requirements         Documentation           No.         Factor /Sub-Factor         Requirement         Single Entity         Joint Venture (Existing or Intended) All Parties         Submission Requirements           2.4         Experience	It is noted that 'General Experience' requirement has been mandated for each member. It is our understating that "wholly owned Indian subsidiary of OECD member countries partners shall be eligible to participate as a Joint Venture Partner along with its parent company which are nationals of OECD member countries". Wherein, Indian subsidiary company can use the parent company's (OECD member) credentials both Financial as well as Technical in in accodance with the MoHUA guidelines (kindly refer Letter NO. K-14001/08/2017/MRTS Coord) the subsidiary company can use the parent company's credentials. Accordingly, in such case, 'General Experience' requirements shall be applicable for 'All Parties Combined' and not for 'Each Member'.	Refer Addendum 01 S/N 01 Refer Addendum 01 S/N 05	Yes



			CP26 / ARE02A Contract	- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
64	Part-1/SECTION - III : EVALUATION AND QUALIFICATION CRITERIA (EQC)/ & Part-1, Section – IV/ Bidding Forms/Form SYS- Subcontractors/ Manufacturers	Section III/ 2.5 Subcontractors / Manufacturers & Section iv/Bidding forms/Form Sys - 1 to Form Sys - 23	2.5 Subcontractors / Manufacturers & Form Sys - 1 to Form Sys - 23	It is noted that minimum criteria has been specified for Subcontractors/ Manufacturers of <b>23 Major items</b> . Further, it is requirement of the tender conditions that the Bidder is required to submit End Customer experience certificates for the above said items. Please note, with such requirements for getting the Certificates from End Customers is not feasible at Bid stage and may require huge amount of time extending to double digit months. In view of above constraints, it is proposed that as included in the tender conditions of JICA funded (DMRC/RS17 & BMRCL/5RSDM) tenders, this requirement shall be limited for only Propulsion System (Traction Converter, Auxiliary Converter and Traction Motors). Further, it is proposed that experience certificates including end customer certificates can be provided by the Contractor during Design approval stage.	Tender Condition Prevails.	No
65	Part-1, Section – IV/ Bidding Forms/	1.2 Letter of Price Bid	Table D. For Price Centre RS-CMC and Price Centre DM&P-CMC (Applicable for INR)         Table D. For Price Centre RS-CMC and Price Centre DM&P-CMC (Applicable for INR)         DETAILS NOT TO BE SUBMITTED IN TECHNICAL BID. IT SHALL BE FILLED AND UPLOADED ONLY IN THE PRICE BID DOCUMENT OF E-PROCUREMENT PORTAL.         Code       Description       Source       Weightage       Base value and date         a       Non-adjustable (Fixed)       N/a       0.33       and date         b       All India Consumer Price Index for Industrial Workers for Chennai (CPI-INV)       *i       0.27	Table D. For Price Centre RS-CMC and Price Centre DM&P-CMC We note that price variation for the Price Centre RS-CMC and DM&P- CMC has been defined as 33% (Fixed)+ 27% (CPI-IW)+20% (WPI- MEE)+20% (WPI-MCEOP). Assessment of past years indices with the defined Weightage, doesn't address the actual inflation linked with CMC scope. It is requested to kindly review Table-D Inflation index along with their respective Weightage and request you to define in line with recent JICA funded RS projects (DMRC/RS17 & BMRCL/5RSDM) where Maintenance of 15 years was also part of scope, with <b>Price variation for the Maintenance Price centre was defined as 20% (Fixed)+ 40% (CPI- IW)+ 40% (WPI)</b> . Kindly note that Price Variation Clause(PVC) for maintenance in RS17 and 5RSDM Projects has been defined after detail industrial consultation. We recommend you to kindly amend the clause in line with the recent JICA funded RS projects (DMRC/RS17 & BMRCL/5RSDM).	Tender Condition Prevails.	No
66	Part-1, Section – IV/ Bidding Forms/	3.1 General Requirements: & 4.3.1 & 4.3.2 & 4.4.13 / Price Centre DM&P-Q, R, S // Taxes & duties	GST & Custom Duty /DETAILS OF TAXES / DUTIES / LEVIES ETC. INCLUDED IN THE LUMPSUM PRICE (PRICE CENTRE WISE)	As per JICA conditions, all Contracts will be <b>evaluated excluding</b> <b>Custom Duty and GST</b> . Further, it will be appropriate that bid shall be submitted excluding "Customs duty and GST" and same shall be reimbursable as per MBOM approved at the project stage for project import scheme and documentary evidence. Further Custom Duty & GST for Price Centre CMC shall be reimbursed as applicable and as per actuals based on Custom Duty amount indicated in the Bill of Entry (BoE). You are requested to kindly align tender condition inline with recent JICA funded RS projects (DMRC/RS17 & BMRCL/5RSDM).	Refer Addendum 01 S/N 15 Refer Addendum 01 S/N 17 Refer Addendum 01 S/N 18 Refer Addendum 01 S/N 19 Refer Addendum 01 S/N 20	Yes
67	Part-1, Section – IV/ Bidding Forms/	4.3/DETAILS OF TAXES / DUTIES / LEVIES ETC. INCLUDED IN THE LUMPSUM PRICE (PRICE CENTRE WISE)	1) Table 4.3.1: Taxes, Duties, Levies, etc. 2) Table 4.3.2: Overview of Contract Price	It is our understanding that JICA funding is excluding Taxes & Duties, however, <b>table 4.3.1 &amp; table 4.3.2 are defined inclusive of 'Basic</b> <b>Custom Duty and associated IGST &amp; Social welfare Surcharges' for</b> <i>Price Centres RS-A, CST, FAI,CPT &amp; RS-C,D,E,F,H,CMC</i> and <i>DM&amp;P-</i> <i>CMC</i> . It implies that Custom Duty will also be part of basic price defined in form 4.2 Price Summary (Bid Total) which is in contradiction to the JICA funding condition. In view of above we request you to kindly align tender condition inline with recent JICA funded RS projects (DMRC/RS17 & BMRCL/5RSDM).	Refer Addendum 01 S/N 15	Yes
68	Part-1, Section – IV/ Bidding Forms//	4.4.12 PRICE CENTRE 'RS-CMC & 4.2 Pricing Summary (BID TOTAL)/	PRICE CENTRE 'RS-CMC' – Comprehensive Maintenance Contract of Rolling Stock for 15 years & Pricing Summary (BID TOTAL)/ 1.) SI. No. 11./Price Centre RS-CMC: Allowable apportionment 2.) SI. No. 16./Price Centre DM&P-CMC: Allowable apportionment	It is noted that the <b>CMC amount for 15 years has been fixed as 30%</b> (for RS) and 45% (for Depot M&P) of the Total Contract Value, which is not realistic. Keeping such arbitrary cap will result in re-appropriation of Maintenance and Supply into different price centres. Considering that the RS and Depot M&P (supply) is being funded by JICA, it will be appropriate to Not to define CMC as a percentage of RS or Depot M&P Price. The CMC Price shall be independent of the RS price and Depot M&P supply. It is proposed that the 'Price Bid Structure', as followed in the JICA funded BMRCL/5RS-DM tender may kindly be followed.	Tender Condition Prevails.	No
69	Part-1, /Section II/BDS//	ITB 2.3/ Other Source of Finance	The other sources of finance (for CMC of Rolling Stock & Depot Machinery and Plant) are operated through CMRL (Operation & Maintenance).	Requesting you to kindly define <b>CMC scope source of funding</b> along with the Payment Guarantee. Further we request you to kindly confirm that the ESCROW account facility will be made available for smooth payment process and this account will not be limited to CMRL operating revenues of the Corridors on which these trains will be operated.	CMRL clarifies that funding for CMC scope shall be provided by CMRL. There shall be no provision of payment guarantee or escrow account. Tender Condition Prevails	No
70	Part-1, Section – IV/ Bidding Forms//	4.4.18	DNP Maintenance Cost	It is noted that the <b>CMC period for RS and Depot M&amp;P is commencing</b> <b>after expiry of DNP/DLP. Further</b> , the Contractor is required to carry out complete maintenance (Scheduled and unscheduled maintenance of trains & M&P's) during the DNP/DLP. Considering that CMC period is for 15 Years, there shall be no requirement for separate DNP/DLP. In the recent JICA funded (DMRC/RS17 & BMRCL/5RSDM) tenders which included 15 years CMC of RS and Depot M&P, there was no separate requirement of DNP/DLP and the CMC period in both the above tenders commenced from the "Start of Revenue Service of first TS" and Ends "15 years from the start of revenue service of the last TS". In view of above, it is proposed that suitable changes to be made in the tender conditions to bring it in line with above. Accordingly, we request you to kindly remove this DNP maintenance Cost clause.	Tender Condition Prevails.	No



			CP26 / ARE02A Contract	- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
71	Part-2, Section - IV C /ERTS/CMC Requirement	1.1.9 Desgnated Depot	Designated Depot(s) refers to (i) Madhavaram Depot, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) (mostly for inspection, cleaning activities and Corrective Maintenance).	It is our understanding that 210 and option 126 cars will be operated on Corridor-3 (Madhavaram to SIPCOT) and Corridor-5 (Madhavaram to Sholinganallur) and Madhavaram depot will be principle depot site for CMC scope. Further, kindly also confirm Madhavaram depot will be fully handed over to the RS Contractor for Contract No. CP26/ARE02A and there will be no sharing of the abovesaid depot with CMRL.	It is clarified that Madhavaram Depot shall be the principal site for maintenance, however, the Contractor shall still be required to undertake light maintenance at up to one (1) satellite depot. <b>Refer Addendum 01 S/N 76</b> Madhavaram Depot shall be handed over to the Contractor, however, there is the potential that another Rolling Stock Contractor(s) may also require to undertake maintenance at the depot as well. In such scenario an SOP shall be agreed between the parties to provide effective governance and determine how the facility shall be shared and provide clarity on the division of roles and responsibilities. <b>Refer Addendum 01 S/N 77</b>	Yes
72	Part-2, Section - IV C /ERTS/CMC Requirement	1.12/ SUPPLY OF DIAGNOSTIC MAINTENANCE LAPTOPS	<ul> <li>1.12.1 At the start of the CMC Period, the Contractor shall supply twenty (20) diagnostic maintenance laptops of the same specification that is defined in Part 2 Section VIA Chapter 15.6 which will be handed over to CMRL.</li> <li>1.12.2 The full quantity of laptops shall be replaced every five (5) years, throughout the CMC Period.</li> </ul>	The Contractor is required to carry out complete maintenance (Scheduled and unscheduled maintenance of trains & M&P's) during the CMC period of 15 years. Accordingly requirement for "SUPPLY OF <b>DIAGNOSTIC MAINTENANCE LAPTOPS</b> " shall not be applicable as RS Contractor will be responsible for maintain the trains and responsible to fulfil the defined CMC KPIs. Kindly delete the requirement of 1.12 clause.	Tender Condition Prevails.	No
73	Part-3, Section - VII/ GCC & PCC/Part-3, Section - VIII/Particular Conditions	GCC/1.1.3.7/DNP & GCC /11/Defect Liability & GCC 1.1.3.13, 1.1.5.8; 4.25,11.9 11.1.1 DLP/ DNP - Rolling Stock & 11.1.2, 11.3, DLP/ DNP – Depot M&P: & PCC/(Part B: Specific Provisions)/ PCC Clause 3, 7,10, 26,41, 42, 43 Comprehensive Maintenance Contract (CMC)	Various clauses pertaining to Defects Liability (DLP/DNP), DLP/DNP Extension & CMC for RS and Depot M&P	It is noted that the CMC period for RS and Depot M&P is commencing after expiry of DNP/DLP. Further, the Contractor is required to carry out complete maintenance (Scheduled and unscheduled maintenance of trains & M&P's) during the DNP/DLP. Considering that CMC period is for 15 Years, there shall be no requirement for separate DNP/DLP. In the recent JICA funded (DMRC/RS17 & BMRCL/5RSDM) tenders which included 15 years CMC of RS and Depot M&P, there was no separate requirement of DNP/DLP and the <b>CMC period in both the</b> <b>above tenders commenced from the</b> "Start of Revenue Service of first TS" and Ends "15 years from the start of revenue service of the last TS". It is proposed that suitable changes to be made in the tender conditions to bring it in line with above.	Tender Condition Prevails.	No
74	Part-3, Section - VIII/Particular Conditions Part-3, Section - VIII/Particular Conditions	GCC/ 11 Defects Liability/ 11.1/ 11.1.3 DNP – Depot M&P PCC/Part A: Contract Data/ Table 1.2 : Key date Depot M&P & PCC/ Part B: Specific Provisions/ PCC Clause 41		Considering that the contractor is responsible for the availability of RS, there shall be no separate requirement of timely commissioning of Depot M&P which are independent of civil interface and Penalty thereof. <b>Commissioning schedule for the Depot M&amp;P can be finalised by the Contractor during Design finalisation stage.</b> Further, penalty defined in PCC clause 41 / GCC 11.1.3 on RS 25,000 per day / Train and Depot M&P 5,000 per day / equipment shall not be applicable as RS contractor will be responsible to fulfil CMC KPIs.	Tender Condition Prevails.	No
75	Part-3, Section - VIII/Particular Conditions	(Part B: Specific Provisions)/ PCC Clause 52 & GCC 14.9 GCC/14.3('C) & PCC/ Part A: Sr No. 23 & 24 Section 9/ Form 6/Retention Money	Percentage of Retention; Limit of Retention; Payment of Retention Money; Form 6/Retention Money Security	Retention money deduction shall not be applicable for the Contract as Contractor will be responsible for 15 years of CMC as well. Further, retention money deduction was not applicable in recent JICA funded DMRC / RS17 & BMRCL/5RS-DM tender where 15 years of CMC was applicable. Accordingly, we request you to kindly remove Retion money related clauses from the tender along with associated release and BGs (Form 6 Retention Money Security).	Retention shall not be required for CMC Price centres. Refer Addendum 01 S/N 87 Refer Addendum 01 S/N 91 Refer Addendum 01 S/N 92 Refer Addendum 01 S/N 93 Refer Addendum 01 S/N 94 Refer Addendum 01 S/N 95	Yes
76	Part-3, Section - VIII/	Particular Conditions (Part A: Contract Data)/	Table 1.1: Summary of Sections : A. Delay Damages (Sub-Clause 8.7) for Non-achievement of Main Key Dates/ KD 1, 2, 3, 4	It is proposed that the <b>Key Dates may be classified as "Major/Minor Key Dates"</b> , as specified in the recent JICA funded (DMRC/RS17 & BMRCL/5RSDM) tenders. Further, in case of fulfilment of Major Key date, the damages for the corresponding Minor Key dates, if imposed shall be waived off and if deducted earlier shall be reimbursed along with the payment for the Milestones corresponding to Major Key Dates. It is proposed that the Key dates corresponding to Integrated Testing with all other systems (KD-4) shall only be considered as Major Key date. Kindly define "Major/Minor Key Dates" as proposed above and same shall be included as footnote of Table 1.1	Tender Condition Prevails.	No
77	Part-3, Section - VIII/	GCC 14.2 & PCC/47 Part B:	The Second & final instalment of the Advance Payment may be paid after: (i) the required Bank Guarantee in the specified format from banks as mentioned above is submitted (ii) the evidence for satisfactory utilization of the First instalment of mobilization is submitted; and (iii) acceptance of 3D virtual models.	The second and final installments of interest free <b>mobilization advance</b> shall not be linked with the acceptance of <b>3D virtual model</b> Key Date, as this will impact project cash flow. Further it is worth highlighting, in the recent JICA funded (DMRC/RS17 & BMRCL/5RSDM) tenders, Second instalment of interest free mobilization advance payable after satisfactory utilisation of the first instalment. Accordingly, we request you to kindly remove Point no. (iii) acceptance of 3D virtual models from second and final installments of interest free mobilization advance.	Tender Condition Prevails.	No
78	Part-3, Section - VIII	PCC/Particular Conditions (Part B: Specific Provisions)/ PCC Clause 20 & GCC 4.4 Subcontractors	Where the Contractor had proposed more than One (1) Subcontractor the Employer / Engineer reserves the right to choose the vendor and/or Subcontractor from the proposed list	Such provision of <b>selection of Subcontractor/Manufacturer by</b> <b>Engineer</b> will have serious consequences on performance of the RS for which Contractor shall then not be responsible. Requesting you to kindly delete such one sided requirement.	Tender Condition Prevails.	No
79	Part-3, Section - VIII	/Particular Conditions (Part B: Specific Provisions)/ PCC Clause 19 & GCC 4.2/ CMC - Rolling Stock and Depot Machinery & Plant:	Paragraph 6 of GCC sub - clause 4.2- Rolling Stock and Depot Machinery & Plant:BG amounting 10% of the Price Centre RS-CMC and DM&P-CMC	Performance BG for CMC is required to be submitted before commencement of CMC (10% of the Total CMC amount for 15 years). <b>Banks do not provide BGs for such long periods.</b> Moreover, the Contract value per annum for CMC will be much lower than the 10% amount of Total CMC contract value. Accordingly, it is proposed that the Performance BG value for CMC be limited to 10% amount of the CMC contract value for succeeding 3-year period and validity for the same duration. The BG shall be renewed every 3 years.	Tender Condition Prevails.	No
80	Part-1, Section – IV/ Bidding Forms/	3.3 Option Quantity Variation:/ 3.3.5 Depot Machinery & Plant – CMC:	3.3.5 Depot Machinery & Plant – CMC: The Employer at their own discretion <b>may extend the CMC period</b> applicable for Depot Machinery & Plant beyond its original CMC period (15 years), in-order to align with the completion date of Rolling stock CMC period. In such cases, the pro-rata CMC cost applicable for DM&P or part thereof, calculated from the 'Price Centre DM&P-CMC' shall be adopted for all payment purposes, subject to Price variation as per Cl. 3.2 (Price variation / Price adjustment).	With "Option Quantity Variation" being exercised CMC obligation as applicable for the <b>base order for both RS and DM&amp;P shall be</b> <b>extended and DM&amp;P-CMC extension shall not be an Option</b> . In case of absence of Depot M&P CMC availability of RS can't be guaranteed. Thus it is requested to amend the clause such that the CMC of Depot m&P and CMC of RS are extended together.	Tender Condition Prevails. Provision to extend the CMC for Depot M&P is already provided for under cited Clause.	No



			CP26 / AREU2A CONTract		<b></b>	
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
81	Part-1, Section – IV/ Bidding Forms/	1) 4.4.13/ Price Centre'DM&P-Q'; 2) 4.4.14/Price Centre'DM&P-R 3) 4.4.15/Price Centre'DM&P-S 4) 4.4.16/Price Centre'DM&P-T	Payments against each milestone, shall be made at two stages; as and when the Contractor is awarded a "No Objection With Comments (NOWC) or Notice of No Objection (NONO)" from the Employer / Engineer for each of the following activities individually: a. Design document delivery, FAT & Delivery at Site. (Payment weightage of 65%) b. Installation, Commissioning, Testing, Trials, Training, Handing over. (Payment weightage of 35%)	For smooth Project Cashflow, we recommend to revise <b>Payment</b> Weightage of 80% against 65% for "Design document delivery, FAT & Delivery at Site" and payment weightage of 20% against 35% for "Installation, Commissioning, Testing, Trials, Training, Handing over." Kindly amend the sub-clause 'a&b' accordingly with revised payment weightage against delivery and commissioning.	Tender Condition Prevails.	No
82	Part-1, Section – IV/ Bidding Forms/	3.3.2/Option Quantity Variation	The Price of each 3-car train-set to be supplied against quantity variation shall be derived from the contracted cost of the original tendered quantity, against Price Centre 'RS-B', 'RS-D', and 'RS-F' (in case of offshore supply) or 'RS-C', 'RS-E' and 'RS-F' (in case of indigenous supply).	With this clause option car price will be limited to 78.89% only of the RS base price (Considering 100% at Price Centre RS-A, CST, FAI, CPT, B,C,D,E,F). It will not be feasible execute option cars at such low price. In view of the above we request you to kindly <b>revise option Cars price determination methodology</b> as described below (It's worth highlighting same has been followed in JICA funded DMRC RS17 Project): The price for option cars shall be determined based on methodology described below: a) Say sum total of Price Centres 'RS-A, CST, FAI, CPT, B,C,D,E,F' is 'T' (in respective currencies). b) Irrespective of the apportioned contracted price, the value for the Design, Car Body Structure Testing (CST), FAI and CPTshall be considered as <b>10%</b> of 'T' and the fact that design is not required to be carried out for additional Trains, the price to be considered for determination will be equal to <b>90%</b> of 'T' i.e. 'T <sub>90</sub> '. c) Contracted quantity of cars = 210 d) Price of additional cars against quantity variation, Say VTS = 'T90'/210 Further it is our understanding that minimum 30.069% requirement will not be applicable for option quantity variation. Kindly clarify.	Tender Condition Prevails. However, Bidders' are requested to <b>refer to Addendum S/N 13</b> on a related topic.	No
83	Part-1, Section V	ELIGIBLE SOURCE COUNTRIES OF JAPANESE ODA LOANS	Minimum 30.069% of the Contract Price (Excluding Price Centre 'RS- CMC', Price Centre 'DM&P-CMC' and Taxes & Duties) shall be sourced from Japanese manufacturer / Companies for Goods and Services as it is mandatory requirement under this package.	It is our understanding that <b>minimum 30.069%</b> of the Contract Price (Excluding Price Centre 'RS-CMC', Price Centre 'DM&P-CMC' and Taxes & Duties) <b>also includes Suppliers &amp; Sub-suppliers</b> procurement meeting requirement defined in Section V/ Clause No. 5,6,7,8,9,10 based on documentary evidences during Project execution. Kindly clarify.	Tender Condition Prevails.	No
84	Part-2, Section - IV A - ERTS · RS	1.3.1	<ul> <li>1.3.1 The CMRL Metro Phase 2 Project will be approximately 118.9 km long, operating within three corridors i.e.,</li> <li>Corridor 3 from Madhavaram to Sipcot of 45.8 Km,</li> <li>Corridor 4 from Lighthouse to Poonamalle of 26.1 Km,</li> <li>Corridor 5 from Madhavaram to Sholinganallur of 47 Km And their inter-corridor operations in the Chennai Metro Rail Phase 2 Project. The route will be approximately 76.3 km elevated and 42.6 km underground.</li> </ul>	It is our understanding that the inter-corridor operation shall be only in non-passenger service. Please confirm if our understanding is correct.	Bidder's understanding is incorrect. As per ERTS 22.26 the requirement is for all rolling stock fleets to be fully capable of serving all corridors in revenue operation.	No
85	Part-2, Section - IV A - ERTS · RS	1.3.3 (and various other clauses related to Multi-consist operation)	<ul> <li>1.3.3 Operation of Trainsets that are formed of 6-cars shall be achievable through two (2) possible configuration options:</li> <li>(i) The future provision of a single Consist trainset comprised of the following rake configuration</li> <li>*DMC + TC + MC + MC + TC + DMC* (67% traction power)</li> <li>(ii) Multi-Consist trainset comprising of two (2) coupled 3-car consists having configuration *DMC + TC + DMC* *DMC + TC + DMC* (67% traction power)</li> <li>Notes: The symbol * denotes a fully automatic coupler (with electrical head)</li> <li>The symbol + denotes a semi-permanent coupler.</li> <li>DMC denotes 'Driving Motor Car', TC denotes 'Trailer car' (with pantographs), MC denotes Motor Car</li> </ul>	The Multi-consist trainset operation is not recommended as this will impede safe rescue of passengers in case of emergency. None of the operational metro systems in India have so far adopted multi-unit operation in passenger service. It is thus suggested to delete all the related requirements. Consequently it is not necessary to provide electrical head in the automatic coupler and hence the same may please be deleted.	Tender Condition Prevails.	No
86	Part-2, Section - IV A - ERTS · RS	1.4.3 (and various other clauses related to GoA2 operation mode)	Based on operational requirement, rakes may have to be operated in GoA2 mode with driver / in GoA3 mode with attendant / in GoA4 (UTO). However, the Phase 2 project is planned with operations in GoA4 (UTO) from the initial passenger service inauguration itself.	It is our understanding that the driver cabin and hence partition wall and door between driver cab and saloon area is not required. Please confirm.	The bidder's understanding is correct. A strap shall be provided by the Contractor.	No
87	Part-2, Section - IV A - ERTS · RS	2.10.4	Trains shall be compatible with combined operation with other type of trains in CMRL Phase 2 network. Hence all the related interface with other Rolling stock systems suggested in Appendix C & Section 14 shall be achieved.	It is our understanding that combined operation shall only be limited to rescue of defective trains and hence only mechanical coupling with other train will be achieved. Please confirm.	Electrical coupling is still required to allow basic control of the brakes system during emergency train rescue operations (as clearly defined in the ERTS).	No
88	Part-2, Section - IV A - ERTS · RS	2.11.3	With maximum allowable wheel and rail wear, the rakes shall be able to operate in water 100 mm above top of rail, and to creep at up to 8 kmph for a distance of 120 m.	Water more than 50mm above top of rail will have implications on train equipment. Operation of trains is recommended to be stopped if the water is more than 50mm above top of trail.	The defined scenario already has an appropriate cap on the speed and distance to be travelled. Tender Condition Prevails.	No
89	Part-2, Section - IV A - ERTS · RS	3.4.6.1	An open split type of double skin gangway shall be provided between the ends of interconnecting cars	Since it is required to install sidewall and ceiling in the gangway and further the cars are not expected to be frequently uncoupled for maintenance, it is suggested that one piece gangway should be specified instead of split type gangway.	Tender Condition Prevails.	No
90	Part-2, Section - IV A - ERTS - RS	4.6.1	Front end electrical coupling	Due to differences in design philosophy and practices of different car builders, it is not possible to connect the two trains electrically. Thus it is requested to delete this requirement for other fleets.	Further clarifying on existing ERTS requirements: When dissimilar fleets are coupled, the ERTS only requires the rescuing train to cross-feed power to the brake control units of the sick train and to provide trainlines for basic control of the brakes system. This limited scope of required functionality eases the complexity for RS Contractors to coordinate their interfaces.	No
91	Part-2, Section - IV A - ERTS · RS	6.9.3	The two (2) required operating modes of the Detrainment Door are as follows:- a. Train to Track Evacuation Mode (will be configured this way when the DM cars are not coupled) b. Train to Train Evacuation Mode (will be configured this way when DM cars are coupled during multi-consist operation)	Train to Train Evacuation mode of detrainment door is suggested to be deleted due to very limited supplier base and this shall also have significant impact on the reliability and availability of train.	Tender Condition Prevails.	No
92	Part-2, Section - IV A - ERTS · RS	15.18.1	Notwithstanding any other provisions of the Contract, at any time prior to sixty (60) months from taking over certificate of the 70th Trainset for the whole Works, if an "Endemic Failure" occurs in any component or sub- assembly, CMRL shall issue notice in writing to the Contractor.	Endemic failure requirements shall be deleted as Contractor is liable for 15 years of maintenance and hence ensure availability as specified.	Refer Addendum 01 S/N 57	Yes
93	Part-2, Section - IV A - ERTS · RS	14.12.1.2	The measurements shall be: a) Made independently at pantograph, converter, auxiliary converter and HVAC levels,	The energy measurement will be made at pantograph level so as to give the required data for CMRL to claim carbon credits. Measuring energy at all SIVs, HVACs etc. will increase the cost and complexity. It is thus requested to limit energy measurement to Pantograph level.	Tender Condition Prevails.	No



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
94	Part-2, Section - IV A - ERTS - RS	17.5.4.8.8.	Operational Performance Test The Prototype Train shall be given an operational performance test for a minimum of 10,000 km through the CMRL alignment before handover to CMRL	CMRL shall make the full time track access available to the Contractor for carrying out Operational Performance test.	Tender Condition Prevails.	No
95	Part-2, Section - IV A - ERTS - RS	18.6.6.1	Table 18-2: The Reliability calculation shall be as per the below requirements: Level 1 Six (6) months period after passenger service induction date of first train 80,000 Km Level 2 Twelve (12) months period after passenger service induction date of first train 1,25,000 Km	A sufficient time should be provided for the system to get stabilized and hence it is proposed that Level1 and Level2 should be specified at 12 months and 18months respectively after passenger service induction date of first train.	Tender Condition Prevails.	No
96	Part-2, Section - IV A - ERTS - RS	18.6.6.1	Any train shall be considered for reliability calculations after due completion of various testing and commissioning as detailed in Chapter 17, after completion of UTO trails and after sanction of Train's Conditional Acceptance certificate from CMRL for operation in passenger revenue service.	A stabilization period of 6months shall be required for each train from its entry into revenue service, before it could be counted for reliability calculations. It is requested to amend the clause suitably.	Tender Condition Prevails.	No
97	Part-2, Section - IV B - ERTS · DM&P	1.1.4	The main purpose of Madhavaram depot is to carryout Preventive Maintenance (PM), Corrective Maintenance (CM) and overhaul of multiple types of rolling stock fleets serving CMRL Phase II of the network.	Please confirm that Madhavaram depot shall be exclusively for the trains supplied under this contract and no other rolling stock shall be stabled or maintained at this depot. In case the Depot shall be shared, the allocation of Inspection/Workshop/Stabling Bays shall be in proportion to the quantity of different make RS fleet.	Refer Addendum 01 S/N 79	Yes
98	Part-2, Section - IV B - ERTS · DM&P	1.2.2	Special Note: i) All Depot Machinery and Plant given in the tender scope, shall be utilized for multiple types of rolling stocks. The above depot machinery shall be designed, manufactured, and demonstrate its compatibility during testing commissioning for multiple rolling stocks in CMRL phase -II project. ii) The Contractor shall comply with the Interface Requirements (specified in Chapter-4 of this section VIB) and shall undertake all trails, and acceptance tests required to verify the compatibility with multiple train fleets at no additional cost to CMRL. iii) Unless otherwise stated, the clause conditions specified this document shall apply to all the machines listed in Table 1-1, Table 1-2, Table 1-3 & Table 1-4.	<ul> <li>Please confirm that the Depot Machinery &amp; Plant required to be supplied under this Contract shall be exclusively required for maintenance of trains supplied under this Contract.</li> <li>Thus requirement for compatibility with other fleets may please be deleted.</li> <li>In case the depot M&amp;P will be required to used for other RS make, then:</li> <li>1.) the Operation of Depot M&amp;P for other RS make shall not be responsibility of Contractor under this Contract.</li> <li>2.) Any Fault/Damages caused by or during use for other RS make, shall be corrected/rectified/repaired, to the satisfaction Contractor under this Contract, at the expense of CMRL/Other Contractor. The downtime shall not be considered for calculation of CMC- KPI.</li> <li>3.) Priority shall be provided for RS Supplied under this Contract for the use of Depot M&amp;P to fullfil the CMC KPI defined.</li> </ul>	Refer Addendum 01 S/N 78 Refer Addendum 01 S/N 80 Refer Addendum 01 S/N 83 Refer Addendum 01 S/N 84	Yes
99	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	1.1.9	Designated Depot(s) refers to (i) Madhavaram Depot, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) (mostly for inspection, cleaning activities and Corrective Maintenance).	<ol> <li>Increasing the number of depots shall have significant cost impact for CMC. Please specify the maximum number of satellite depot(s) to be considered for CMC.</li> <li>It is our understanding that All facilities, machinery, plant, office required for CMC scope at satellite depot shall be provided free of cost to Contractor and all shall be compatible for usage with trains supplied under this Contract. Please confirm.</li> </ol>	<ol> <li>The number of satellite depots shall be capped at one (1) at any one time.</li> <li>Refer to addendum 01 S/N 76</li> <li>The Contractor will not be charged for using Depot M&amp;P at the satellite depot even if it wasn't supplied under the scope of this Contract.</li> </ol>	Yes
100	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	1.2.3	<ul> <li>1.2.2 In the event that defects and/or damage cannot be expeditiously remedied at the maintenance depot facility; CMRL consent shall be sought for the Contractor to remove the asset(s) from the maintenance depot for the purposes of undertaking such repairs.</li> <li>1.2.3 The Contractor accepts that granting of consent to remove assets from the depot may be contingent on the Contractor increasing the Performance Security amount (equal to the full replacement value) or otherwise providing an alternative form of security as agreed by CMRL.</li> </ul>	Contract includes CMC scope where RS contractor is responsible to meet defined KPIs and train availability. Hence Contractor will be responsible for upkeeping of all associated assets. Requirement of Performance Security amount against defect and/or damages repair/replacement shall not be defined. accordingly we request you to kindly amend the clause.	Tender Condition Prevails.	No
101	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	1.16	KPI - Rolling Stock	It is suggested that the payments of CMC for RS should be linked to train availability, to be ensured by Contractor. The pre-conditions for the train to be considered as available will be decided and agreed mutually based on failures/conditions in the trains which affects safety, functionality/reliability and/or convenience of passengers. The KPI for train availability as specified in Clause 3.3 of ERTS-CMC shall suffice. It is thus suggested to delete all these clauses related to KPI-RS.	Tender Condition Prevails.	No
102	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	1.17	KPI - DM&P	Contractor shall be liable to make the trains available as per specified requirement by CMRL. Contractor should be free to decide on maintenance & upkeep of DM&P to fulfil its obligation of making the trains available. KPI for train availability thus covers the DM&P KPIs and any separate KPI for DM&P should not be specified. It is requested to delete all the clauses related to KPI-DM&P.	Tender Condition Prevails.	No
103	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	3.3.5	RS Penalties on Service Failures	Penalty amount specified are very high and will increase the risk cost for Contractor and hence the CMC price for CMRI. It is suggested to reduce the penalties as follows: Penalty for deboarding on mainline = 7,50,000 INR Penalty for delay > 5minutes/trip cancellation = 35,000 INR Penalty for delay >2min and <=5min = 5,000INR The penalty amounts are suggested based on JICA funded (DMRC RS17 & BMRCL 5RSDM) tender which were for 6 car trainset.	Tender Condition Prevails.	No
104	Part-2, Section - IV C - ERTS - CMC of RS & DM&P	3.3.6	DM&P Availability target	Contractor shall be liable to make the trains available as per specified requirement by CMRL. Contractor should be free to decide on maintenance & upkeep of DM&P to fulfil its obligation of making the trains available. Train availability thus covers the DM&P availability and any separate target for DM&P should not be specified. It is requested to delete all the clauses related to DM&P availability targets.	Tender Condition Prevails.	No
105	Part-2, Section - IV B - ERTS - DM&P	1.2	List of Depot Machinery & Plant	It is suggested only Major machinery should be specified but all the remaining i.e. the items specified in Table 1.2, 1.3 and 1.4 should be decided by Contractor based on its maintenance philosophy adopted during the CMC period. It is suggested to delete Table 1.2, 1.3 and 1.4 and the related specifications.	Tender Condition Prevails.	No
106	PCC ( Section - viii )	21	TOTAL ADVANCE PAYMENT :- The interest free mobilization advance at the rate of 10% of the accepted contract amount (Excluding Provisional Sum, Price Centre 'RS-CMC' & DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. ( in parlance with CVC guidelines ) GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equall instalments.	TOTAL ADVANCE PAYMENT :- 15 % (interest free) advance of the total contract price (excluding cost center - F) in the respective currencies shall be paid in two tranches - First & Second tranches are 10 % & 5 % respectively of the total contract price (excluding cost center - F) As per Tender Documents of BMRCL/5RS-DM.	Tender condition prevails.	NO
107	ERTS	3.20.3.1	The Supplier shall furnish fully equipped Catenary Maintenance Vehicle designed for operation in CMRL Phase 2 installation.	<ul> <li>Removal of CMV &amp; Wheeler Requirement: Considering the exclusive availability of the CMV &amp; Wheeler with our competitor, we suggest removing this specific requirement from the contract. This would allow us to do the competitive costing.</li> <li>or</li> <li>Modification to 4 Wheeler or Equivalent: Alternatively, we propose amending the contract requirements to include the option for a 4 Wheeler CMV or an equivalent vehicle that meets the necessary specifications and functionalities. This adjustment would provide us with a wider range of options, making it easier to obtain accurate quotes and ensure cost-effectiveness.</li> </ul>	Tender condition prevails.	NO

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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
108	ERTS	6.9	DUAL MODE DETRAINMENT DOOR 6.9.1 Dual Mode Detrainment Doors shall be provided in the first and last car for emergency egress of passengers in one (1) of two (2) modes of operation. 6.9.2 Each Detrainment Door shall offer the possibility of two (2) operating modes, either through a single hybrid design; or shall otherwise be reconfigurable by the installation and removal of door subsystem equipment at a maintenance depot. 6.9.3 The two (2) required operating modes of the Detrainment Door are as follows:- a. Train to Track Evacuation Mode (will be configured this way when the DM cars are not coupled) b. Train to Train Evacuation Mode (will be configured this way when DM cars are coupled during multi-consist operation) (ii) Multi-Consist trainset comprising of two (2) coupled 3-car consists bruing configured to a state the trainment of the trainment of the trainment the trainment of the trainment the train to train the trainment the train to train the trainment the t	the implementation of Dual Mode Detrainment Doors with two operating modes is not feasible due to technical limitations. The design and installation of such doors would pose significant challenges and could compromise the overall safety and functionality of the system. To avoid impractical expectations and ensure a more viable solution, it is strongly recommended to remove the clause requiring the Dual Mode Detrainment Doors and explore alternative options for emergency egress of passengers in both single and multi-consist operation modes.	Tender condition prevails.	NO
		1.3.3	TC + DMC* *DMC + TC + DMC* (67% traction power)	configuration proposed shall be applicable only during the resuce mode and not for operationational purpose. Therefore, it is recommended to revise the clause by removing the multi-consist trainset requirement."		NO
110	ERTS	19.54.3	Dry heat test: The dry heat test shall be conducted for class T3 and temperature shall be considered 80°C against 70°C specified in IEC/EN. An extra performance check at 95°C shall also be carried out for 10 minutes over temperature value. LCD/LED display units may be tested into 70°C and an extra performance check at 85°C shall also be carried out for 10 minutes over temperature value.	As per clause 2.11.1 the maximum ambient temperature is 42 degrees celsius which was observed in Chennai for the past 15 years considering the above we request that all the Electrionic Equipments shall comply with standard EN 50155. That means +70°C for 6 hours and +85°C for max. 10 minutes according to the temperature profile defined in the norm. With a longer time at T>+70°C the functioning of the electronic equipment is not guaranteed hence we request the requirement to be changed to cpmply with EN50155 and not for temperatures above the temperatures mentioend in the standard which is not required for this particular tender	Tender condition prevails.	NO
111	ERTS	15.18.1	Endemic Failures Notwithstanding any other provisions of the Contract, at any time prior to sixty (60) months from taking over certificate of the 70 th Trainset for the whole Works, if an "Endemic Failure" occurs in any component or sub-assembly, CMRL shall issue notice in writing to the Contractor. The failure rate shall be assessed over any rolling 60-month period from start of CMC Works.	TRSL recommend revising the contractual clause to consider "Endemic Failures" from the delivery of the last train set and for a duration of five (5) years thereafter. The current clause refers to a sixty (60) months period from taking over the certificate of the 70th Trainset for the whole Works, but we propose a more straightforward approach based on the last train's delivery. This modification ensures that the prototype build is also covered within the warranty timeframe and provides clear guidelines for addressing "Endemic Failures" during the crucial five-year period.	Refer Addendum 01 S/N 57	Yes
112	ERGS	4.1 Contractor's General Obligations	4.1.1 Country of Origin of Goods and Services: The successful bidder under this Contract shall procure goods and services of minimum 30.069% of the Total Contract Price (Excluding all Taxes & Duties, Price Centre 'RS-CMC' and Price Centre 'DM&P-CMC') from Japanese Manufacturers / Contractors as per Part 1 Section V – Eligible Source countries.	We seek clarification on this clause related to the procurement of goods and services from Japanese Manufacturers/Contractors. We request insights into the evaluation process ensuring compliance with this requirement. Additionally, please elaborate on the mechanisms to monitor and enforce Relevant Suppliers' (RS) adherence to this clause. we also request contractor to declare the 30.069% commitment during the financial bid phase, Clarity on these aspects will aid us in aligning our procurement strategy.	Bidder shall submit the "5.15 Certificate confirming Tender requirement for Japanese Goods & Services" & "6.13 Form Japanese Goods and Services". Based on this details, we can evaluate. Further, the Bidder shall submit the certificate from Cost auditor / statutory auditor regarding this calculation.	NO
113	ERTS	3.6.1.22	All internal panels (side panels, ceiling panels, end-ceiling panels, inspection cover panels, door coving panels, ceiling coving panels, etc) shall be of aluminium material with proven record in Metro/ EMU application. Coating system shall be proposed by the Contractor shall be proven and conform to the requirements in clause 3.6.1.21, subjected to CMRL approval. Flatness of Aluminium side panels shall be controlled within 0.5 mm per 1m length.	TRSL proposes modifying the Contract to include FRP (Fiber- Reinforced Plastic) panels alongside aluminum for internal panels in Metro/EMU application. While aluminum is a conductor and may cause electrical concerns during VAC operation, FRP's thermal insulating properties offer improved passenger comfort and weight reduction . CMRL approval will be sought for the proposed FRP coating system to ensure compliance with clause 3.6.1.21. By providing flexibility in panel material, we can enhance safety and energy efficiency, benefiting the project's success. Your support in incorporating this modification will be highly appreciated. Flatness of 0.5mm per 1m length requirment to be re assessed.	Tender condition prevails.	NO
114	ERTS	14.10.6.5	Event Recorder The event recorder shall continue recording when the car is stationary but in operational mode.	The Specification does not specify the Audio / Video recording requirement. The same has to be included or specified.	Event recorder is only for Vital signals and not for Audio / Video. Tender Condition Prevails.	NO
115	ERTS	14.10.6	Event Recorder Safety function (SIL2)	The Specification does not specify the SIL2 Safety function for event recorders. The same has to be included or specified.	Details shall be discussed in detail with the successful bidder during Design Stage. Tender Condition Prevails.	NO
116	2/VI-B	4.1.1	Basic Parameters/features for the design of Wheel Profile Measurement System (WPMS): The WPMS shall automatically measure the following minimum parameters of wheelsets (but not limited to): Wheel Diameter - ± 2.5 mm	the diameter parameters should be 1 mm.	Tender condition prevails.	NO
117	2/VI-B	4.2.2	The WPMS shall be supplied including in Madhavaram depot on ballast- less track outside the workshop shed so that the respective train get examined by WPMS	Please provide us the autocad drawing of the depot so that we can suggest proper place of the system.	Noted. Shall be provided after Contract award.	NO
118	2/VI-B	4.3.3	Installation of the WPMS shall require no cutting of tracks or any major civil works on the track. The system shall be installed on the existing Ballast-less track or using a special sleeper by the contractor without altering the track layout. In case of usage of special sleeper, the contractor has to prove the strength of the sleeper through test reports.	we suggest to install the sytem on ballasted track.	Madhavaram Depot & Main Line are Ballastless track. Bidders' shall therefore ensure full compatibility of their proposed design without compromise to performance.	NO
119	2/VI-B	4.3.10	The on -tracks sensors shall be housed in IP67 or better rated enclosures for protection against water and dust.		Bidder did not populate the clarification field of the PBQ form. Tender Condition Prevails.	NO
120	2/VI-B	4.3.11	The system shall automatically identify the Train number and its orientation by means of inputs received from on -board signalling and rolling stock system. WPMS Contractor shall interface with Signalling and rolling stock Contractor for all specific requirement to enable data inputs for train number, type of trainset, wheelset number, Bogie number etc.	no where in the world signalling system is used for identifying train. RFID is the preferred system.	Tender condition prevails.	NO
121	ERTS	4.6.1.3	In case of an electrical failure on a defective train (or in the case of coupling with a train from a different Chennai Phase-2 fleet); it shall be possible to electrically couple with only essential control and power feed circuits active (E.g. non-essential circuits shall be isolated to avoid migration of the electrical defect to the healthy train)	Coupling of Electrical heads with existing fleet may not be possible as the TCMS (Signal list and position of signals) of the both Trainsets will be different	Tender Condition Prevails. Bidder may refer to the PBQ response provided to similar queries.	NO



			CP26 / ARE02A Contract -	Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
122	ERGS	4.1 Contractor's General Obligations	4.1.1 Country of Origin of Goods and Services: The successful bidder under this Contract shall procure goods and services of minimum 30.069% of the Total Contract Price (Excluding all Taxes & Duties, Price Centre 'RS-CMC' and Price Centre 'DM&P-CMC') from Japanese Manufacturers / Contractors as per Part 1 Section V – Eligible Source countries.	We seek clarification on this clause related to the procurement of goods and services from Japanese Manufacturers/Contractors. We request insights into the evaluation process ensuring compliance with this requirement. Additionally, please elaborate on the mechanisms to monitor and enforce Relevant Suppliers' (RS) adherence to this clause. we also request contractor to declare the 30.069% commitment during the financial bid phase, Clarity on these aspects will aid us in aligning our procurement strategy.	Bidder shall submit the "5.15 Certificate confirming Tender requirement for Japanese Goods & Services" & "6.13 Form Japanese Goods and Services". Based on this details, we can evaluate. Further, the Bidder shall submit the certificate from Cost auditor / statutory auditor regarding this calculation.	NO
123	ERTS	3.20.3.1	The Supplier shall furnish fully equipped Catenary Maintenance Vehicle designed for operation in CMRL Phase 2 installation.	Removal of CMV 8 Wheeler Requirement: Considering the exclusive availability of the CMV 8 Wheeler with our competitor, we suggest removing this specific requirement from the contract . This would allow us to do the competitive costing. or Modification to 4 Wheeler or Equivalent: Alternatively, we propose amending the contract requirements to include the option for a 4 Wheeler CMV or an equivalent vehicle that meets the necessary specifications and functionalities. This adjustment would provide us with a wider range of options, making it easier to obtain accurate quotes and ensure cost- effectiveness.	Tender condition prevails.	No
124	ERTS	6.9	<ul> <li>DUAL MODE DETRAINMENT DOOR</li> <li>6.9.1 Dual Mode Detrainment Doors shall be provided in the first and last car for emergency egress of passengers in one (1) of two (2) modes of operation.</li> <li>6.9.2 Each Detrainment Door shall offer the possibility of two (2) operating modes, either through a single hybrid design; or shall otherwise be reconfigurable by the installation and removal of door subsystem equipment at a maintenance depot.</li> <li>6.9.3 The two (2) required operating modes of the Detrainment Door are as follows:-</li> <li>a. Train to Track Evacuation Mode (will be configured this way when the DM cars are not coupled)</li> <li>b. Train to Train Evacuation Mode (will be configured this way when DM cars are coupled during multi-consist operation)</li> </ul>	the implementation of Dual Mode Detrainment Doors with two operating modes is not feasible due to technical limitations. The design and installation of such doors would pose significant challenges and could compromise the overall safety and functionality of the system. To avoid impractical expectations and ensure a more viable solution, it is strongly recommended to remove the clause requiring the Dual Mode Detrainment Doors and explore alternative options for emergency egress of passengers in both single and multi-consist operation modes.	Tender condition prevails.	No
125	ERTS	1.3.3	<ul> <li>(ii) Multi-Consist trainset comprising of two (2) coupled 3-car consists having configuration *DMC +</li> <li>TC + DMC* *DMC + TC + DMC* (67% traction power)</li> </ul>	"The usage of two similar two (2) coupled 3-car consists having the configuration DMC + TC + DMC DMC + TC + DMC is requested to be removed due to the lack of definite guidelines and it is suggested that the configuration proposed shall be applicable only during the resuce mode and not for operationational purpose. Therefore, it is recommended to revise the clause by removing the multi-consist trainset requirement."	Tender condition prevails.	No
126	ERTS	19.54.3	Dry heat test: The dry heat test shall be conducted for class T3 and temperature shall be considered 80°C against 70°C specified in IEC/EN. An extra performance check at 95°C shall also be carried out for 10 minutes over temperature value. LCD/LED display units may be tested into 70°C and an extra performance check at 85°C shall also be carried out for 10 out for 10 minutes over temperature value.	As per clause 2.11.1 the maximum ambient temperature is 42 degrees celsius which was observed in Chennai for the past 15 years considering the above we request that all the Electrionic Equipments shall comply with standard EN 50155. That means +70°C for 6 hours and +85°C for max. 10 minutes according to the temperature profile defined in the norm. With a longer time at T>+70°C the functioning of the electronic equipment is not guaranteed hence we request the requirement to be changed to cpmply with EN50155 and not for temperatures above the temperatures mentioend in the standard which is not required for this particular tender	Tender condition prevails.	No
127	ERTS	15.18.1	Endemic Failures Notwithstanding any other provisions of the Contract, at any time prior to sixty (60) months from taking over certificate of the 70 th Trainset for the whole Works, if an "Endemic Failure" occurs in any component or sub-assembly, CMRL shall issue notice in writing to the Contractor. The failure rate shall be assessed over any rolling 60-month period from start of CMC Works.	Notwithstanding any other provisions of the Contract, at any time prior to sixty (60) months from taking over <b>First prototype</b> , if an "Endemic Failure" occurs in any component or sub-assembly, CMRL shall issue notice in writing to the Contractor	Refer Addendum 01 S/N 57	Yes
128	ERTS	3.6.1.22	All internal panels (side panels, ceiling panels, end-ceiling panels, inspection cover panels, door coving panels, ceiling coving panels, etc) shall be of aluminium material with proven record in Metro/ EMU application. Coating system shall be proposed by the Contractor shall be proven and conform to the requirements in clause 3.6.1.21, subjected to CMRL approval. Flatness of Aluminium side panels shall be controlled within 0.5 mm per 1m length.	TRSL proposes modifying the Contract to include FRP (Fiber- Reinforced Plastic) panels alongside aluminum for internal panels in Metro/EMU application. While aluminum is a conductor and may cause electrical concerns during VAC operation, FRP's thermal insulating properties offer improved passenger comfort and weight reduction . CMRL approval will be sought for the proposed FRP coating system to ensure compliance with clause 3.6.1.21. By providing flexibility in panel material, we can enhance safety and energy efficiency, benefiting the project's success. Your support in incorporating this modification will be highly appreciated. Flatness of 0.5mm per 1m length requirment to be re assessed.	Tender condition prevails.	No
129	ERTS	14.10.6.5	Event Recorder The event recorder shall continue recording when the car is stationary but in operational mode.	The Specification does not specify the Audio / Video recording requirement. The same has to be included or specified.	Event recorder is only for Vital signals and not for Audio / Video. Tender Condition Prevails.	NO
30	ERTS	14.10.6	Event Recorder Safety function (SIL2)	The Specification does not specify the SIL2 Safety function for event recorders. The same has to be included or specified.	Details shall be discussed in detail with the successful bidder during Design Stage. Tender Condition Prevails.	NO
31	ERTS	4.6.1.3	In case of an electrical failure on a defective train (or in the case of coupling with a train from a different Chennai Phase-2 fleet); it shall be possible to electrically couple with only essential control and power feed circuits active (E.g. non-essential circuits shall be isolated to avoid migration of the electrical defect to the healthy train)	Coupling of Electrical heads with existing fleet may not be possible as the TCMS(Signal list and position of signals) of the both Trainsets will be different	Tender Condition Prevails. Bidder may refer to the PBQ response provided to similar queries.	NO
132	Part 2	7.2.6	The refrigerant used in the VAC system shall be in accordance with the requirements of the Montreal Protocol or latest better guidelines. Environment-friendly refrigerants, such as R407C or R32 or R410A or better shall be used.	Please add R134a as a permitted refrigerant; it is already a component of R407c and is widely used in the Indian railway market.	Stated refrigerant types are only mentioned as examples. Contractor may propose the most suitable refrigerant type to meet the overall ERTS requirements during design stage. Tender Condition Prevails	No



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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum	
133	Part 2	7.2.7	All electrical and electronic components shall comply with the EMC and EMI requirements of EN 50121 (all parts), IEEE 16, EN 55011 and IEC 61000-4 standards or other equivalent international standards. The requirements of EMC EMI requirements referred to in clause 10.19 & 2.18 of the rolling stock shall be met.	EN 50121 already makes reference to several other standards including EN 61000 to define requirements and test methods. It is unnecessary and creates confusion to add the other standards (IEEE 16, EN 55011 and IEC 61000-4) in addition to requiring compliance to EN 50121. Please simplify the clause to state that applicable EMC requirements referred to in clause 2.18 should be met. And 10.19 can be for reference purpose only not to be a compulsion	As per ERTS Clause 1.2.4:- "When assessing acceptability of the Contractor proposed equivalent standard, CMRL will review on a case- by-case basis and will not unreasonably withhold acceptance of any alternative standard that is in general use in the transit agencies or railroads for similar applications that have a successful history of operation"	No	
					Tender condition prevails.		
134	Part 2	7.2.9	Each VAC unit shall have independent over voltage protection and over current protection system which safeguards the individual VAC unit from external electrical disturbances outside the VAC unit.	Please clarify that the required protection for the over voltage & current is to be built inside HVAC System .	Yes, Bidder understanding is correct.	No	
135	Part 2	7.3.10	Air filter elements shall be replaceable from outside the car.	Please clarify if filter access should be from outside the car or inside the car? Normally it is quicker for maintenance personnel to change filters if access is provided from inside the car. Hence kindly inform, is it necessary that only filter access to be done form outside or both (Indside + outside) can be proposed.	Tender condition prevails.	No	
136	Part 2	7.3.13	The VAC units shall be sized to cater for AW4 load condition with all train sub-system equipment being operated simultaneously. The Contractor shall take the effects of door opening and closing at stations as well as piston and infiltration effects when the rake moves in a tunnel (as specified in relevant standards) into full consideration.	Please specify which standard is applicable to consider the effects of piston and infiltration effects. Also exact door opening & closing cycle timings need to be specified.	The door cycling times may be derived using the data defined in ERTS Clause 2.25.10 in combination with a simulation Tender Condition Prevails.	No	
137	Part 2	7.4.3	The air discharge velocities at any outlet grille, shall not create noise disturbing the passengers and shall vary progressively as per EN14750. Minimum air discharge velocities at any outlet grille shall not be less than 0.5 m/s measured at 300mm below ceiling. The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. The minimum volume of fresh air supplied by the artificial ventilation shall be 2.5 liters per second per passenger at AW4 Load. This air shall be filtered. The Contractor may propose design improvements to the above parameters for CMRLs' review and approval.	Please confirm the requirement of 2.5 L/s/passenger (9 m3/hr/passenger) of fresh air. The usual requirement for several other contracts in India is 8 m3/hr/passenger. The higher fresh air volume will result in higher load and greater energy consumption overall.	Tender condition prevails.	No	
138	Part 2	7.5.3	The control circuitry shall not allow the heaters to be powered unless the evaporator blowers are operating. Heater element over-temperature protection shall be provided for individual heaters. Self-resetting thermostats shall be installed adjacent to the heaters to open the contactors when excessive temperatures are detected. A positive interlock shall be provided to open heater contactors in the event of failure of the Auxiliary Power Supply.	The last sentence of the clause requires, "A positive interlock shall be provided to open heater contactors in the event of failure of the Auxliary Power Supply." Please clarify why this is needed - in case of Auxiliary Power Supply failure (loss of 415 VAC, 3 Phase), the heaters will anyway be unpowered even if the contactors are closed. What is the meaning of "positive interlock" - does a software interlock serve the purpose or is electrical interlocking required?	NO contact type to be used.	No	
139	Part 2	7.6.2	The below mentioned Heat gains are to be considered for each car: h) Air leakages during door operation at stations with minimum 30 Seconds dwell time.	Infiliteration of outside air is function of door design, its gaps, gasket tollerances & positive pressure inside car. Hence its approximations will be done based industrial standards.	Tender condition prevails.	No	
140	Part 2	7.6.4	Each VAC unit shall be sized for an additional 10% over the required capacity calculated for the design of the VAC System.	Please confirm if this is required; the overcapacity represents an inefficiency that will penalize the SECh performance of the system. Designing unit with additional 10 % required capacity, will directly impact the product cost & its overall input power requirement ( Operational cost ). Also This 10 % extra capacity (overdesign system) per HVAC, considering Max Designed load may result in reduction in compressor's start->run->stop cycle ( which results in frequent start /stops) during lesser load conditions. Which may also impact/harm compressor reliability in a long run.	Tender condition prevails.	No	
141	Part 2	7.6.5	When the external ambient temperature exceeds the values specified at paragraph 7.6.3, then the air conditioning shall be designed to maintain the temperature difference between the interior temperature and ambient temperature at not less than 10°C up to the ambient temperature of 42°C. From 42°C to 48°C of ambient temperature, the VAC units shall continue to operate at full load maximum capacity in cooling mode without interruption or degradation and shall maintain constant internal temperature of 33°C. Beyond 48°C ambient temperature, the VAC system shall go into ventilation mode.	Is this a specific requirement . As our units are microprocessor controlled to Bring internal temperature as close to Set point ( 25 deg C ), and irrespective of the Outer temperature . Hence for Higher ambient cases ie 42°C to 48°C the HVAC will try to bring temperature lower than 33°C also ( in case if the passanger load is low inside the coach). But if its a specific requirement , then TRSL can execute the same .	Tender condition prevails.	No	
142	Part 2	7.7.5	The microprocessor shall have memory permitting logging of faults and system events in its memory for sufficiently long durations. The microprocessor shall have suitable interface with TCMS for data communication and display. Suitable communication shall be provided to permit logged events to be downloaded to a laptop/computer. All the variables and parameters of the VAC unit shall be transmitted to TCMS and shall be logged in TCMS. This data shall be able to be transmitted as part of RTR-DMS as mentioned in clause 14.11 & 14.13.	The term "sufficiently long durations" is ambiguous - please define the number of events that should be retained in the memory before the oldest data is overwritten.	Since the data must be logged by TCMS, please refer to the requirements defined in Clause 14.10. However, Tender condition prevails	No	
143	Part 2	7.7.19.f	Heat detectors/temperature sensors shall be used and integrated to TCMS/Fire Detection Control Unit for real time monitoring of all connections/points of the VAC cables in vicinity of return air duct as specified in clause 2.26.	Please clarify this clause - to use heat detectors to monitor the connection points of the VAC cables in the vicinity of the return air duct is quite difficult. The interface connection points of the HVAC unit to the train are usually EN 45545 rated quick disconnect connectors. Given that the high voltage passing through the connectors is 415 VAC, as opposed to <b>DC</b> (possibility of arcing in case of disconnection when live), there is no risk of fire at these connection points.	Refer Addendum 01 S/N 48	Yes	
				appropriately derated for temperature considering the maximum amperage that passes through the contacts.			
144	Part 2	7.8.2	Only permanent copper pipe with suitable non-ferrous fittings shall be used.	Please clarify what is "permanent copper pipe" - should this be understood to mean "continuous copper pipe"?	Yes, Bidder understanding is correct.	No	
145	Part 2	7.8.3	Intermediate joints in refrigerant piping (E.g., pipe to pipe) shall not be accepted. The end termination to equipment shall be brazed lap joints.	Please relax this clause to state, "Refrigerant piping should minimize the number of intermediate brazed joints." To design to not have any intermediate brazed joints would be quite difficult.	Tender condition prevails.	No	
146	Part 2	7.2.11	Material requirements of all sub systems of train shall be compliant with the requirements of Chapter 19.	Material of construction for HVAC Structure is not clear, we propose to offer SS 304L Material which is widely used .	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No	



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147	Part 2	7.11.2	The Contractor shall ensure that the overall design of the VAC System; is able to tolerate the extremely dusty and humid environment which prevails in Chennai to the extent that there is no necessity to clean VAC filters before 12,500 kms or within fewer than 30 days train running; whichever is lower. Minimum expected life of filter shall be 100,000 km. The effectiveness of VAC filters shall be adequate enough to ensure that dust deposition in the air ducts is minimal and won't create cause to need to clean the ducts between major overhauls.	Filter Cleaning frequency actually depends on the Level of contamination of the outside Air to be cleaned. And may vary from Zone to zone. But with past experience with Metros, the Optimum filter cleaning cycle proposed is every 15-20 days . Which can be increased / Extended as per actual field run condition.	Tender condition prevails.	No
148	Part 2	2.25.10.b	<ul> <li>SEC of VAC for a 3-car train (Say 'SECH' Wh/GTKM)</li> <li>Specific Energy Consumption for functioning of VACs of a 3-car train - ('SECH') as declared by</li> <li>the Contractor i.e. SECH-declared shall be validated by conducting a test on one car under following</li> <li>conditions in a climatic chamber:</li> <li>i. Round Trip Time (RTT) corresponding to Declared Schedule Speed (DSSP) (RTTDSSP), in</li> <li>Phase 2 network for Corridor 3, 4 &amp; 5 as mentioned in clause</li> <li>2.25.10.a.vi. shall be</li> <li>considered.</li> <li>ii. Dwell time at each intermediate station shall be 30 seconds (including door opening and closing time).</li> <li>iii. The train operation and the run time between stations corresponding to DSSP as per clause</li> <li>2.25.10.a.vi. shall be considered for testing during validation.</li> <li>iv. Inside car temperature shall be maintained at 25°C and relative humidity of 65%. The</li> <li>Contractor to note that the car inside temperature before opening of the saloon doors at each station shall be within 25°C.</li> </ul>	The Average Interior temperature for all the sensors will be maintained As per EN 14750 as a whole . As some sensor placed just next to the doors may go above for fraction of time during door opening & closure . But the Average Interior temperature will be maintained at 25 °C as recommended by EN14750.	Tender condition prevails	No
149	Part 2	4.2.9	To meet emergency requirements of clearing a disabled train by a healthy train, the couplers of ARE02a trainsets shall be totally compatible for providing safe mechanical and pneumatic coupling with electrical head (only for rescue operation) with ARE03a / ARE04 trainsets (in accordance with the interface requirements detailed in (Appendix-C). Complying auxiliary power requirements specified in clause 9.10 and also complying with clause 4.6.	TRSL Requests to Clarify whether the "ARE03a" and ARE04 have different couplers, or will both be equipped with the same coupler? Also Reqyest ti tiu clarify the required amount of signals for the lectrical coupler as the The electrical coupler size is a critical factor for costing	CMRL believes it shall be necessary for the Contractor to provide a compatible automatic coupler / electric head in order to achieve the specified requirements. Precise requirements shall be defined during design / interface management stage. It is suggested that the bidder refers to the broader ERTS requirements (as well as CMRL's response to other pre- bid queries), to estimate the likely number of signals that will be required when the train is coupled with a trainset of a different fleet.	No
150	Part 2 / Section VI A	2.14.1e	Service braking rate from 80 kmph to standstill for fully loaded (seating plus standees @ 8 passengers / m2) train on level tangent track: 1.0 m/s2 Service braking rate from 80 kmph to standstill for - (seating plus standees @ 6 passengers / m2) train on level tangent track: 1.1 m/s2 Emergency braking rate from 80 kmph to 0 kmph for fully loaded train on level tangent track: 1.3 m/s2	The requirement can be reworded as below based on EN13452. <b>Equivalent</b> Service braking rate from 80 kmph to standstill for fully loaded (seating plus standees @ 8 passengers / m2) train on level tangent track: 1.0 m/s2 <b>Equivalent</b> Service braking rate from 80 kmph to standstill for - (seating plus standees @ 6 passengers / m2) train on level tangent track: 1.1 m/s2 <b>Equivalent</b> Emergency braking rate from 80 kmph to 0 kmph for fully loaded train on level tangent track: 1.3 m/s2	Tender condition prevails.	No
151	Part 2 / Section VI A	2.14.3.3	For an emergency brake application in good adhesion conditions (i.e. dry uncontaminated wheel rail interface) on level track from maximum speed, the rake shall brake to a standstill from 80kmmh within a distance of 223 m under any Loading Conditions up to AW4. The minimum average emergency brake rate following any single point failure shall not be less than 1.3 m/s2	The requirement can be rephrased as below "For an emergency brake application in good adhesion conditions (i.e. dry uncontaminated wheel rail interface) on level track from maximum speed, the rake shall brake to a standstill from 80kmmh within a distance of 223 m under any Loading Conditions up to AW4. The minimum average <b>equivalent</b> emergency brake rate following any single point failure shall not be less than 1.3 m/s2"	Tender condition prevails.	No
152	Part 2 / Section VI A	2.15.8.10	Software contained within the traction and braking equipment shall be capable of modification to alter the rake performance and capabilities.	The requirement can be rephrased as below "Software contained within the traction and braking equipment shall be capable of modification <b>by supplier</b> to alter the rake performance and capabilities."	Tender condition prevails.	No
153	Part 2 / Section VI A	2.27.1	The Contractor shall develop a life cycle cost plan in accordance with IEC 60300-3-3 with an aim to minimize the overall life cycle cost whilst meeting the safety, quality, availability, maintainability, and reliability requirement of this particular specification.	TRSL follows internal guidelines which is followed in many Metro applications. Hence the clause may please be changes as "The Contractor shall develop a life cycle cost plan in accordance with IEC 60300-3-3 or followed in other Metro applications globally with an aim to minimize"	Tender condition prevails.	No
154	Part 2 / Section VI A	10.11.10	Wheel Slip / Slide control during powering and electrical regenerative braking shall be provided using speed sensor less vector control subject to its proven design in Metro Transits System. Uncontrolled slip / slide should be clearly recorded in TCMS, OCC, BCC & DCC as critical fault.	Friction brake slide indication during Emergency Brake can be given through TCMS. However, under service brake condition friction slide is a normal functioning of WSP and indication will lead to transmission of lot of data which will not be useful and it is not related to safety. Hence, request to change as "Wheel Slip / Slide control during powering and electrical regenerative braking shall be provided using speed sensor less vector control subject to its proven design in Metro Transits System. Uncontrolled slip / slide <b>during Emergency braking</b> should be clearly recorded in TCMS, OCC, BCC & DCC as critical fault."	Tender condition prevails.	No
155	Part 2 / Section VI A	12.2.7	The brake system shall comply to UIC 544-1 regarding Braking Performances.	The brake system shall comply to UIC 544-1 <b>or EN 13452-1</b> regarding Braking Performances.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
156	Part 2 / Section VI A	12.6.5	In the event of a failure of the dynamic brake, the friction brake shall be capable of carrying out three (3) consecutive emergency brake applications from maximum speed down to standstill of a rake in the Crush Loading condition. The rake shall be deemed to then accelerate at its maximum rate up to maximum speed after each stop.	TRSL requests to modify the clause as below "In the event of a failure of the dynamic brake, the friction brake shall be capable of carrying out-three (3) <b>two</b> consecutive emergency brake applications from maximum speed down to standstill of a rake in the Crush Loading condition. The rake shall be deemed to then accelerate at its maximum rate up to maximum speed after each stop."	Tender condition prevails.	No
157	Part 2 / Section VI A	12.6.8.10	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. The enclosed lockable boxes shall be made of stainless steel.	All the pneumatic control equipment and valves will not be mounted in enclosed lockable boxes Hence, this clause may please change to "pneumatic control equipment, safety valves, governors, switches, sensors etc. <b>having electrical</b> <b>contact</b> in the underframe shall be provided in IP53 or higher compliant lockable boxes for dust control"	Tender condition prevails.	No
158	Part 2 / Section VI A	12.11.1	A leveling control system shall be provided to ensure longitudinal and transversal control of body height under all conditions of load. In each bogie, one leveling system shall be provided to adjust air pressure in the air springs gradually. In the case of failure of one air spring, the other should quickly bleed out so that the car body is lowered to its stable position. The air supply for the leveling system shall be taken from the main reservoir pipe and a separate reservoir of suitable capacity shall be provided for each air suspension system. A load sensing valve shall be provided.	TRSL requests to modify the clause as below Load sensing valve <b>or pressure transducers</b> shall be provided	Tender condition prevails.	No



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159	Part 2 / Section VI A	12.12.3g	Wheel slide protection shall be available during emergency braking. Any failure in the wheel slide protection in emergency braking shall result in the application of full brake force and deactivation of the slip/slide system.	Failure of WSP will deactivate Dump valve to open the Brake cylinder path to admit the Brake Cylinder pressure as per load condition. Recommended to change the sentence as "Wheel slide protection shall be available during emergency braking. Any failure in the wheel slide protection in emergency braking shall result in the application of full emergency brake force (load corrected) and eactivation of the slip/slide system will have to be done."	Refer Addendum 01 S/N 51	Yes
160	Part 2 / Section VI A	12.16.1	It shall be possible to rescue a sick train (E.g. Defective, Immobilized, No battery power or in a shutdown condition) using only an air connection from the rescue train or locomotive. The emergency brake application of the dead train shall be possible by its operator. The detailed scheme shall be subject to the Engineer's review during design finalization.	Request customer to change the WSP Requirement as below "It shall be possible to rescue a sick train (E.g. Defective, Immobilized, No battery power or in a shutdown condition) using only an air connection from the rescue train <b>or locomotive</b> "	It is intended that the tender specification allows the possibility of a single pipe brakes system. <b>Refer to Addendum 01 S/N 52</b>	Yes
161	Part 2 / Section VI A	12.19.1	The brakes system shall comply with the following SIL levels: Emergency Brakes  SIL 4; Service Brake, Train Speed information, Wheel Slide Protection, Holding brake application & Feedback  SIL 2;	Request customer to change the WSP Requirement as below "Emergency Brakes □ <del>SIL 4</del> <b>SIL3</b> ;"	Tender condition prevails.	No
162	Part 2 / Section VI A	14.2.4	All the End Devices shall support dual-homing type or any latest technology type of Ethernet connections to ECN via physically independent ports to increase system reliability and availability. All digital and analogue Input / Output interfacing with TCMS (directly or via an interface unit) shall also be fully redundant. In any case, the Contractor shall maintain full system availability, in case of single point failure of any TCMS component or communication link, and the vehicle	TRSL requests to modify the clause as below "All the End Devices shall support dual-homing type or any latest technology type of Ethernet connections to ECN via physically independent ports or <b>by any alternate means</b> to increase system reliability and availability	Tender condition prevails.	No
163	Part 2 / Section VI A	14.9.5	<ul> <li>operation shall not be affected.</li> <li>Single Point Upload of all software of the train <ul> <li>a) Single point uploading of software (for all sub-systems connected with TCMS) shall be possible via TCMS nodes. In-case of sub-supplier's equipment like Saloon Doors, PAPIS &amp; CCTV, VAC, CI, APS, Brake system, etc. also, single point uploading of software and downloading of faults on unit / car / train basis shall be ensured from TCMS only.</li> <li>b) The overall time required for uploading the software for all subsystems shall not be more than 10 minutes for each complete sub-system of train and the same shall be demonstrated. (Ex. In case of doors sub-system, the time requirement is collectively for all doors of one train)</li> </ul> </li> </ul>	<ul> <li>Single point uploading of software can be done through network switch. Request to reword the clause as following <ul> <li>a) Single point uploading of software (for all sub-systems connected with TCMS) shall be possible via TCMS nodes or through suitable network switch. In-case of sub-supplier's equipment like Saloon Doors, PAPIS &amp; CCTV, VAC, CI, APS, Brake system, etc. also, single point uploading of software and downloading of faults on unit / car / train basis shall be ensured from TCMS only.</li> <li>b) The overall time required for uploading the software for all subsystems shall not be more than 10 minutes 30 minutes for each complete subsystem of train and the same shall be demonstrated. (Ex. In case of doors sub-system, the time requirement is collectively for all doors of one train)</li> </ul> </li> </ul>	Refer Addendum 01 S/N 52 Refer Addendum 01 S/N 53 Refer Addendum 01 S/N 54	Yes
164	Part 2 / Section VI A	14.11.2n	If fault data downloading is interrupted somehow, it should resume from the same point, at which it was interrupted.	Request customer to change the requirement as below "If fault data downloading is interrupted somehow, <b>downloading will</b> <b>start from beginning</b> " Clause may please be change to call for downloading from beginning	Refer Addendum 01 S/N 55	Yes
165	Part 2 / Section VI A	19.54.3 (i)	Dry heat test: The dry heat test shall be conducted for class T3 and temperature shall be considered 80°C against 70°C specified in IEC/EN. An extra performance check at 95°C shall also be carried out for 10 minutes over temperature value. LCD / LED display units may be tested at 70°C and an extra performance check at 85°C shall also be carried out for 10 minutes over temperature value	Brake electronic devices only comply EN standard. That means +70°C permanently and +85°C for max. 10 minutes according to the temperature profile defined in the norm. With a longer time at T>+70°C the functioning of the electronic equipment is not guaranteed. Hence this requirement may please be changed as <b>given for standard IEC clause without increasing the temperature</b>	Tender condition prevails.	No
166	Part 2 / Section VI A	19.55.6	The Contractor shall furnish the following information in respect of printed circuit boards as part of contract: a) Voltage and/or waveform expected at each critical test point.	Wave form of electronic circuit is proprietary information. Hence, the details <b>can be put under ESCROW</b>	Tender condition prevails.	No
167	Part 2 / Section VI A	19.25.2 (i)	Threaded fasteners shall be self-locking or provided with locking devices, where practicable.	Threaded fasteners are part of proprietary informations. Depending upon the design requirements different fasteners has been used. However, the the loosening of fastened components is taken care and the locking remains intact. TRSL requests to consider and rephrase the requirement accordingly.	Tender condition prevails.	No
168	Part 2 / Section VI A	19.32.2	All rubber hoses, connecting pipes etc. used in pneumatic circuit shall not be required to be replaced before 5 years or major overhaul which ever later. The rubber/ rubber- metal components used in suspensions shall not be replaced before 12 years or during major overhaul of the equipment, whichever is later. All rubber hoses shall be steel reinforced for better life and reliability.	Compressor suction hose required to be replaced in every two years. Request to give exception for compressor suction hose.	Tender condition prevails.	No
169	Part 2 / Section VI-B	4.1.1	Basic Parameters/features for the design of Wheel Profile Measurement System (WPMS): The WPMS shall automatically measure the following minimum parameters of wheelsets (but not limited to): Wheel Diameter - $\pm$ 2.5 mm	TRSL Proposes the diameter parameters should be 1 mm.	Tender condition prevails.	No
170	Part 2 / Section VI-B	4.2.2	The WPMS shall be supplied including in Madhavaram depot on ballast- less track outside the workshop shed so that the respective train get examined by WPMS	TRSL Requests to provide the autocad drawing of the depot so that we can suggest proper place of the system.	Noted. Shall be provided after Contract award.	NO
171	Part 2 / Section VI-B	4.3.3	Installation of the WPMS shall require no cutting of tracks or any major civil works on the track. The system shall be installed on the existing Ballast-less track or using a special sleeper by the contractor without altering the track layout. In case of usage of special sleeper, the contractor has to prove the strength of the sleeper through test reports.	TRSL suggest to install the sytem on ballasted track.	Madhavaram Depot & Main Line are Ballastless track. Bidders' shall therefore ensure full compatibility of their proposed design without compromise to performance. Tender Condition Prevails.	NO
172	Part 2 / Section VI-B	4.3.11	The system shall automatically identify the Train number and its orientation by means of inputs received from on -board signalling and rolling stock system. WPMS Contractor shall interface with Signalling and rolling stock Contractor for all specific requirement to enable data inputs for train number, type of trainset, wheelset number, Bogie number etc.	Across the globe, train identification is primarily achieved using the RFID system, with signaling systems playing a secondary role." request you to please modify the clause accordingly	Tender condition prevails.	No
173	PART- 2: SECTION VI A	3.4.9.2.4	Replacement of door window glass shall be possible without removal of door leaf.	TRSL suggest to replace the door window after dismount the door leaf, as it is the fastest way to do so. (consider it takes very short time to dismount the door panel, 2 prerson*30min).	Tender condition prevails.	No
174	PART- 2: SECTION VI A	6.2.2	The two door panels at each passenger doorway shall be synchronously controlled with Antidrag Feature and shall provide a door clear opening width of equal spacing of not less than 1400 mm Since platform screen doors (PSD) will be used at all stations with full height PSDs in underground stations and half height PSDs in elevated stations, the location, inter-door distance & size of the door panels are important for the PSD equipment supplier. The Contractor shall coordinate with PSD Contractor as part of interface.	TRSL propose Pushback Feature as most of experienced projects in India market;	Tender condition prevails.	No
175	PART- 2: SECTION VI A	6.2.7	No door system operation or single defect or failure of any part of any door system shall produce a situation capable of causing injury to any passenger / maintenance staff.	Single point failure of mechanical part cause a door to open will be demostration by FEA and managed in the Safety related item list, Single point failure leading to passenger injuries /door opeend without being commanded would be included in FMECA, Details to be discussed	Tender condition prevails.	No





SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
176	PART- 2: SECTION VI A	6.3.14	6.3.14 It shall be possible for CMRL to modify or change the door system parameters, modify or change open-close logic of the door circuits and implement the same as required by CMRL based on their operational and maintenance requirements. Full access to the software for the purpose above shall be provided. 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. CMRL personnel shall be fully trained and made fully conversant by the Contractor for this purpose.	some parameters can be adjust by engineer in maintenance, it would be defined in technical description in design phase, while the logic of door's circuit could be only modified by TRSL via software updating	Tender condition prevails.	No
177	PART- 2: SECTION VI A	6.3.17	6.3.17 There shall not be any drain holes on the floor sides that allow any exterior noise, vermin, water, and dust from exterior of the saloon under frame to saloon during door close condition.	no drain holes on floor side, while there are holes for falling foreign objects on threshold as most of experienced projects in India market;	Noted	No
178	PART- 2: SECTION VI A	6.3.18	Each door leaf shall have a glass window meeting the requirements of clause 3.4.9. Replacement of door glass window shall be possible without removal/detachment of door leaf from the train.	TRSL suggest to replace the door window after dismount the door leaf, as it is the fastest way to do so. (consider it takes very short time to dismount the door panel, 2 prerson*30min).	Tender condition prevails.	No
179	PART- 2: SECTION VI A	6.4.5	6.4.5 The device to detect and prove that passenger doors are fully closed and latched shall be capable of detecting any obstruction causing a minimum gap of 10 mm per doorway and prevent the door proving indication from being achieved, in accordance with EN-14752. This detection obstacle function shall be achievable for a minimum gap of 10 mm per doorway all along the height of the door.	TRSL propose detected rectangular with dimension 15x100mm at bottom, the middle and the top of the door as most of our experienced projects in India market;	Tender condition prevails.	No
180	PART- 2: SECTION VI A	14.4.5	14.4.5 List of Operator Control Functions Remote Control features of train available from the OCC, BCC and from the DCC's control via remote operation shall include, but not be limited to, the following (These features shall be available in all UTO and Non-UTO modes of operation).	for door system, when minor fault disappear, it would be reset automatically, TRSL proposes to remove remote reset featureor modify the clause accordingly;	Tender condition prevails.	No
181	PART- 2: SECTION VI A	14.5.2_ z)	<ul> <li>z) Energy Consumption Data: TCMS shall interface with the relevant sub- systems and shall provide</li> <li>the facility to display energy consumption for one sided/round trip as well as cumulative for each</li> <li>consist and for the train.</li> </ul>	TRSL Sees for door system, it only can be test in type test for energy consumption; request to modify the clause accordingly	Tender condition prevails.	No
182	PART- 2: SECTION VI A	17.5.3.6.1	17.5.3.6.1 Endurance test: Two million operations shall be performed. A record of the velocity profile shall be taken at the beginning and the end of the test. It should also be demonstrated that no undue wear or compression of seals has occurred. This test shall be performed under representative dry and wet conditions. Endurance test shall be done on actual replica of the door portion of the car and door shall be as assembled in the car. Approval of CMRL shall be sought on the complete arrangement.	TRSL requests that endurance test would may be conduct on mockup in lab environment, not dry and wet conditions;	Tender condition prevails.	No
183	PART- 2: SECTION VI A	17.5.3.6.2	<ul> <li>17.5.3.6.2 Vibration Tests:</li> <li>Vibration test shall be carried out as defined in IEC 61373. These tests shall be completed</li> <li>before the first car is ready for final assembly. Failures recorded during testing must correlate</li> <li>within specified reliability values. Door speed and noise tests shall be performed at the</li> <li>beginning, mid-point, and end of the life test for comparative evaluation.</li> <li>Door testing shall</li> <li>include the effects of wind.</li> </ul>	TRSL suggests that door speed and noise test can be conduct at the mid point, and end of the life test, but test result only can be reference; please clarify the requirement of effect of wind;	Tender condition prevails.	No
184	PART- 2: SECTION VI A	19.6.2	19.6.2 Stainless steel shall be AISI type 201, 301, 301L, 301LN, 302, 304, 304L, 316, 316L or 347 in accordance with the intended function.	TRSL requests to add alrernative NF EN 10283 for stainless steels.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
185	PART- 2: SECTION VI A	19.7.3	19.7.3 High strength castings shall be tested, inspected, and accepted in accordance with AAR requirements. High strength castings, and Low alloy nickel castings, shall comply with, and be tested, inspected, and accepted in accordance with AAR M-201.	TRSL requests to add alrernative NF EN 1706 for aluminium and follow NF EN 10283 for stainless steels.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
186	PART- 2: SECTION VI A	19.7.4	19.7.4 General-purpose steel castings shall comply with ASTM A27, either Grade 65-35 / Grade 70-36.	TRSL requests to add alternative GB/T11358	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
187	PART- 2: SECTION VI A	19.9.1	19.9.1 Structural heat-treated alloy steel suitable for welding may be used for sub-structures not exposed to atmospheric corrosion. Heat treated alloy steel used for structural purposes shall comply with ASTM A514, Grade F. The use of all alloys is subject to CMRL approval.	TRSL requests to add alternative GB/T 1591;	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
188	PART- 2: SECTION VI A	19.25.1	<ul> <li>19.25.1 General</li> <li>(ii) All fasteners shall be stainless steel, dichromate, or zinc-plated steel, depending on the specific</li> <li>application. Zinc plating on steel fasteners shall conform to ASTM B 633</li> <li>Type II – yellow, or</li> <li>equivalent standard, for non-exposed fasteners.</li> </ul>	for zinc plating on steel fastners, TRSL requests to add alternative DIN50979;	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
189	PART- 2: SECTION VI A	19.31	<ul> <li>19.31 SOLDERING</li> <li>19.31.1 Soldering of electronic equipment shall comply with requirements of MIL-STD-454 or equivalent</li> <li>19.31.2 Soldering of mechanical equipment shall comply with requirements of DOD-STD-1866 or equivalent</li> <li>19.31.3 The Contractor shall submit soldering specifications, procedures, and certifications for CMRL approval.</li> </ul>	for soldering, TRSL requests to add alternative IPC-610, IPC-620;	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
190	PART- 2: SECTION VI A	19.41.6	19.41.6 Connectors shall comply with MIL-C-5015 or approved equal	TRSL requests to add alternative EN61984	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
191	PART- 2: SECTION VI A	19.42.8& 19.42.9	19.42.8 Except for electronic equipment, all cable terminations shall be of the crimped type in accordance with BS 4579: Part 1: 1988, Compression Joints in Copper Conductors, or other service proven type. Soldered connections will not be accepted. 19.42.9 Low voltage cables up to 6.0 mm2 conductor cross sectional area shall preferably be fitted with	BS4579 is withdraw, TRSL requests to add alternative EN 60352-2;	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No

	terminals comorning to DO+0791 t.1 of equivalent. Alternatives shall be		
	submitted for CMRL		
	review.		



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192	PART- 2: SECTION VI A	19.46.14	<ul> <li>19.46.14 All metallic boxes, cases and enclosures containing electrical equipment, including cable ducts</li> <li>&amp; conduits which are not intended to be part of the live circuit shall be properly earthed with an insulated flexible earth bond to the relevant earth bar. All the locations accessed by passengers and maintenance personnel shall be properly earthed.</li> </ul>	TRSL use earthing wire and bolted ; we request you to amend the clause accordingly	Tender condition prevails	No
193	PART- 2: SECTION VI A	19.54.3	<ul> <li>19.54.3 All Electronic equipment shall comply with IEC60571 and/or EN50155 and additionally type tested for,</li> <li>(i) Dry heat test: The dry heat test shall be conducted for class T3 and temperature shall be considered 80oC against 70oC specified in IEC/EN. An extra performance check at 95°C shall also be carried out for 10 minutes over temperature value. LCD / LED display units may be tested at 70oC and an extra performance check at 85°C shall also be carried out for 10 minutes over temperature value. LCD / LED display units may be tested at 70oC and an extra performance check at 85°C shall also be carried out for 10 minutes over temperature value.</li> <li>(ii) Salt Mist test (ST3 category) a. Cyclic Humidity tests (IEC 60571).</li> <li>b. Dust and sand test &amp; Mold growth tests: The tests shall be done as per IEC 60068 &amp; IEC 60721. The dust settlement rate shall be taken as 6gm/m2/day and dust particle size shall not be larger than 100 microps.</li> </ul>	for TRSL, EDCU comply with OT3 as EN 50155-2017: - S2 (10 ms power supply interruption) out of motor driving, S1 during motor driving; - C1 (0.6 Un for 100 ms); - T3 (temperature operating range = -25°C to +70°C, +85°C for 10 minutes); - ST4 (salt mist test for 96 hours). not comply with test at 95°C for 10 minutes; for a. Cyclic Humidity tests (IEC 60571), TRSL follow EN50155; No dust and santest & mold growth test is performed	Tender condition prevails	No
194	PART- 2: SECTION VI A	2.17.3.9	Door Operation Noise produced by simultaneous operation of all saloon doors on one side of the car shall not exceed 72dBA during the sliding operation and 75dBA for the locking / unlocking, measured on the fast meter scale. This should be measured at all points in the car 300mm from the doors and 1000mm above the floor during train stationary condition.	conflict with 6.3.26, TRSL follow 6.3.26;:Door Operation Noise produced by simultaneous operation of all saloon doors on one side of the car shall not exceed 75dBA during the sliding operation and 78 dBA for the locking & unlocking conditions, measured on the fast meter scale. This should be measured at all points in the car 300mm from the doors and 1000mm above the floor.	Refer Addendum 01 S/N 31	Yes
195	PART- 2: SECTION VI A	6.3.15	<ul><li>6.3.15 Passenger Door Opening and Closing Times</li><li>a) Opening and closing time of the passenger doors shall be adjustable in the range of 1.5 to 4.5 seconds.</li></ul>	for door system, TRSL proposes close time can be adjusted from 1.8 to 4.5 s; request you to modify accordingly	Tender condition prevails.	No
196	Part 3/ Section III	4.1.1	Minimum 30.069% of the Contract Price (Excluding Price Centre 'RS- CMC', Price Centre 'DM&P- CMC' and Taxes & Duties) shall be sourced from Japanese manufacturer / Companies for Goods and Services as it is mandatory requirement under this package.	The contract clause says excluding CMC & Taxes for Japanese G&S. For eg., in RS 70% is project and 30% is CMC. So in 70% of project cost 30.069% will be 42.955% of Japanese G&S. During discussion with CMRL, Our understanding regarding Japanese G&S is 30.069% of JICA Funded cost.Therefore, please revise the clause accordingly.	The bidder has misunderstood the calculation method. A more detailed explanation of the correct calculation method is described in "6.13 Form Japanese Goods & Services.	No
197	Part-3, Section - VIII Particular Conditions (Part A: Contract Data)	SL No.27	27.Periods for submission of insurance:18.1a. Evidence of insurance.15 daysb. relevant policies28 days	The stipulated timelines of 15 days and 28 days are not practical. The following is suggested in line with the stipulations of other metro corporations: a. Evidence of Insurance - 12 weeks from commencement date b. Relevant policies - 14 weeks from commencement date	Tender Condition Prevails.	No
198	Part-3, Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 28	Maximum amount of decutibles for insurance of Employer's risks: INR 1,00,000/-	As per our insurance consultant, it is understood, Deductibles are guided by regulation & would as note below for projects exceeding Rs.2500Crores. For Storage & Erection Claims:5 % of the claim amount subject to a minimum of Rs. 75,000/- For Testing Period Claims:5% of the claim amount subject to a minimum of Rs. 2,25,000/- For Acts of God Claims:10% of the claim amount subject to a minimum of testing period excess i.e., Rs.2,25,000/- For Fire/Explosion Claims:10% of the claim amount subject to a minimum of testing period excess i.e., Rs 2,25,000/ For projects below Rs.2500 Crores the minimum limit in each case would little lesser. 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	Tender Condition Prevails.	No
199	Part-3, Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 29	29.       Minimum amount of third party insurance       18.3       In case of death, INR 50,00,000 per person in each case.         In case of permanent disability, INR 25,00,000 per person in each case.       In case of pertial disability, INR 25,00,000 per person in each case.         In case of partial disability, INR 10,00,000 per person in each case.       In case of partial disability, INR 10,00,000 per person in each case.         In case damage to facility, the Contractor shall be responsible for full coverage of damages without limit of occurrences.       Hence, the amount shall be decided by the Contractor based on his experience.	As per our insurance consultant, Since third party liability is a legal liability & payment is dependent on the court order, such sub limits per person for death, permanent disability & partial disability cannot be offered. In view of the above, it is requested to not explicitly mention sub-limit liability amounts in the tender document. The option should be left to the contractor based on his experience.	Tender Condition Prevails.	No
200	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for <u>Contractor's All Risk</u> and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover Project period, DNP period and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	As per our insurance consultant, the term "Contractor All Risk" policy is not applicable for rolling stock contracts. It should be Marine cum Erection policy. Request to rename the term "Contrcator's All Risk" to avoid confusion.	Tender Condition Prevails, however, the bidder may refer to the following Addendum on a related topic. Addendum 01 <b>S/N 96</b>	Yes
201	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover Project period, DNP period and <u>till completion of CMC period</u> . This shall be submitted within 28 days from date of commencement including all other relevant policies.	As per our insurance consultant, it is not possible to take Contractor All Risk insurance or other insurance during the CMC period by the Contractor, since the trains are already owned and operated by the Employer. It is understood only third party liability can be covered by the Contractor during CMC period. Accordingly, we request CMRL to delete the underlined portion and modify the clause.	Tender Condition Prevails, however, the bidder may refer to the following Addendum on a related topic. Addendum 01 <b>S/N 96</b>	Yes
202	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover Project period, <u>DNP period</u> and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	In case of extension of DNP period beyond 730 days, the extended maintenance cover as per insurance policy cannot be further extended (24 months is the limit) as per regulation. It is suggested to add the following statement at the end of the clause: <i>The validity period of the insurances for extended DNP periods (if any) shall be discussed and agreed in line with insurance guidelines / regulations.</i>	At the time of extension of DNP, suitable coverage to be ensured by the Contractor. Tender Condition Prevails.	No
203	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover <u>Project period</u> , DNP period and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	Since the definition of "Project Period" as per PCC clause No.8 contain in itself DLP / DNP (and extension thereof), and considering the fact that DNP period is already mentioned separately in the adjacent clause, it is suggested to make the following change in the term "Project Period" in the adjacent clause to avoid confusion: Read "Project Period" As "Project Period (Excluding DNP period)"	Tender Condition Prevails.	No
204	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover 100 % of the Total Contract price and also cover the variation price. This insurance shall cover Project period, DNP period and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	As already requested vide our above query no. 01, we request to modify the period of "28 days" to "14 weeks" from date commencement. In any case there is no risk envisaged in the first few weeks of contract commencement as it would only design phase. Please modify teh clause.	Tender Condition Prevails.	No



			CP26 / ARE02A Contract -	- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
205	Part 3 : Section VIII Particular Conditions (Part B: Specific Provisions)	PCC Clause No. 56	Insurance cover for Contractor's All Risk and other requirements as specified in GCC shall cover <u>100 % of the Total Contract price</u> and also cover the variation price. This insurance shall cover Project period, DNP period and till completion of CMC period. This shall be submitted within 28 days from date of commencement including all other relevant policies.	<ul> <li>Please confirm/clarify the following:</li> <li>(A) Confirm that the Total contract price exludes Price Centre RS-CMC and Price Centre DM&amp;P-CMC</li> <li>(B) Clarify whether Total Contract Price for the purpose of insurances as per this clause, is exclusive of taxes &amp; duties or inclusive of taxes &amp; duties.</li> <li>(C) Clarify whether terrorism cover is required to be taken by the contractor or not</li> </ul>	<ul> <li>A) There will be no exclusions as this is a Lumpsum Contract.</li> <li>B) Inclusive of Taxes and Duties.</li> <li>C) Please refer GC Clause 18.2(d).</li> <li>Tender condition Prevails.</li> </ul>	No
206	Section VII. General Conditions	18.2	The insuring Party shall maintain this insurance to provide cover until the date of issue of the <u>Performance Certificate</u> , for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability] and Clause 12 [Tests after Completion]).	For avoidance of confusion, please confirm the "performance Certificate" mentioned in this clause is the "Project Performance certificate" and not the "CMC performance Certificate" (PCC clause No. 43)	Refer Addendum 01 S/N 98	Yes
207	Part-1, Section – IV, Bidding Forms	Clause 3.1.1	The quoted lumpsum price by the bidder is inclusive of all taxes, levies, duties, cess as per GST / Custom tariff act etc., royalty, insurance, freight and fees required to be paid by him under the Contract.	In line with the RS contracts of other major metro corporations, we recommend the lumpsum price shall be exclusive of GST and Custom duties. GST & Custom duties shall be reimbursed at actuals as extra. This request is crucial. Please consider/modify.	Addendum 01 S/N 15	Yes
208	Part-1, Section – IV, Bidding Forms	Clause 3.3.2	The Price of each 3-car train-set to be supplied against quantity variation shall be derived from the contracted cost of the original tendered quantity, against Price Centre 'RS-B', 'RS-D', and 'RS-F' (in case of offshore supply) or 'RS-C', 'RS-E' and 'RS-F' (in case of indigenous supply).	The Price Centres RS-A (5.60%), RS-CST (2.10%), RS-FAI (4.90%) and RS-CPT (2.10%), together constitute 14.7% of the Metro car price which are not being considered for the metro cars under quantity variation. This non-consideration is not rational since the cost structure of RS suppliers is not in alignment with these contractual Price centre apportionments and are in actual much less. Retaining this condition shall force RS suppliers to front load the prices for base quantity as buffer to option quantity which may or may not be exercised by CMRL in future and is detrimental to CMRL interests. The following is suggested which is more closer to the reality and provides Win-Win situation to both RS supplier and CMRL: The Price of each 3-car train-set to be supplied against quantity variation shall be derived from the contracted cost of the original tendered quantity, against Price Centre 'RS-CST', 'RS-FAI' and 'RS-CPT', 'RS-B', 'RS-D', and 'RS-F' (in case of offshore supply) or 'RS-CST', 'RS-FAI' and 'RS-CPT', 'RS-C', 'RS-E' and 'RS-F' (in case of indigenous supply).	Tender Condition Prevails.	No
209	Part-1, Section – IV, Bidding Forms	Table 4.3.2 Note 4	Customs duty applicable on imported components / parts which go into manufacturing of cars / trains / Depot Machinery & Plants in India and for CMC scope are deemed to be included in the base price. The Bidders are not allowed to specify any Custom duty value against these Price Centres and hence marked as "NOT APPLICABLE" in the above table. Any change in rate of custom duty due to Change in law / legislation (GCC 13.7) is not applicable for these Price centres and the Contractor is not entitled for any claim or whatsoever on this account.	This clause is not fair and is unilateral. The contract is of long duration (>17 years) and the bidder has no control over the movements of the customs rates / changes in customs rules for the import components / parts which go into indigenuous manufacturing / CMC maintenance. Hence, we request CMRL to admit change in rate of custom duty due to change in law / legislation. Pls consider/modify. This request is crucial.	Refer Addendum 01 S/N 15 Refer Addendum 01 S/N 17 Refer Addendum 01 S/N 18 Refer Addendum 01 S/N 19 Refer Addendum 01 S/N 20	Yes
210	Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 21	Total advance payment: The interest free mobilization advance at the rate of 10 % of the <u>accepted contract amount</u> (Excluding Provisional Sum, Price Centre 'RS- CMC' and 'DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for <u>110% of the advance amount</u> <u>requested plus GST</u> . (in parlance with CVC guidelines). GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equal instalments.	Since the accepted contract amount already includes GST, in the expression "110% of the advance amount requested plus GST", the repition of "plus GST" creates confusion. The following modification is suggested: 110% of the advance amount requested <del>plus</del> including GST	Refer Addendum 01 S/N 88	Yes
211	Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 21	Total advance payment: The interest free mobilization advance at the rate of 10 % of the accepted contract amount (Excluding Provisional Sum, Price Centre 'RS- CMC' and 'DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. (in parlance with CVC guidelines). GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equal instalments.	Please confirm if the mobilization advance amount is also payable on taxes & duties as declared by the bidder in Table 4.3.1. Please clarify.	Refer Addendum 01 S/N 88	Yes
212	Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 21	Total advance payment: The interest free mobilization advance at the rate of 10 % of the accepted contract amount (Excluding Provisional Sum, Price Centre 'RS- CMC' and 'DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. (in parlance with CVC guidelines). <u>GST on the mobilization advance is not reimbursable.</u> Mobilization advance shall be paid in two equal instalments.	We understand GST on mobilization advance is not applicable since it is repayable. In this context, we could not understand the following expression, <u>GST on the mobilization advance is not reimbursable.</u> Please clarify.	Refer Addendum 01 S/N 88	Yes
213	Section - VIII Particular Conditions (Part A: Contract Data)	SL No. 21	Total advance payment: The interest free mobilization advance at the rate of <u>10 % of the</u> <u>accepted contract</u> amount (Excluding Provisional Sum, Price Centre 'RS- CMC' and 'DM&P-CMC') in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. (in parlance with CVC guidelines). GST on the mobilization advance is not reimbursable. Mobilization advance shall be paid in two equal instalments.	We request to increase the advance amount to 15% in two instalments of 10% and 5%, on the same lines of other metro corporations. Please consider.	Tender Condition Prevails.	No
214	Part-1, Section – IV Bidding Forms	4.4.6	PRICE CENTRE 'RS-C' – INDIGENOUS MANUFACTURE, TESTING, INSPECTION, TRANSPORTATION AND DELIVERY TO CMRL DEPOT         INSPECTION, TRANSPORTATION AND DELIVERY TO CMRL DEPOT         Insuesting the transportation of the transportation of the transportation of transportation	It is found payment will not be made train wise, but after certain lot of trains. This creates hardships to the contractors in terms of cashflows and is in- consistent with established accounting precedence and processes of the contractor. It is suggested to make payments trainwise. Please modify.	Tender Condition Prevails.	No



SI no	Part/	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
	Section No		PRICE CENTRE 'RS-E' – FORMATION, TESTING IN THE DEPOT FOR			
			INDIGENOUSLY MANUFACTURED TRAINS         INDIGENOUSLY MANUFACTURED TRAINS         MILESTONE       PERIOD OF COMPLETION OF MILESTONE MILESTONE ACTIVITY       ALLOWABLE APPORTIONE OF COMPLETION OF MILESTONE FROM COMMENCEME NT DATE (QUANTITY)         MILESTONE ACTIVITY       COLUMN A       COLUMN B       COLUMN C	It is found payment will not be made train wise, but after certain lot of		
215	Part-1, Section – IV Bidding Forms	4.4.8	For;         RS-E1       First 3-car rake (Prototype Rake)       Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">For;         RS-E2       Obtain as above for first 8 train sets       Image: Colspan="2">Image: Colspan="2" Image: Colspa	trains. This creates hardships to the contractors in terms of cashflows and is in- consistent with established accounting precedence and processes of the contractor. It is suggested to make payments trainwise. Please modify.	Tender Condition Prevails.	No
216	Part-1, Section – IV Bidding Forms	4.4.9	RS-E11       Collam as above to next / train sets         RS-E: PRICE CENTRE TOTAL (RS-E1 ~ RS-E11)         MILESTONE ACTIVITY         PRICE CENTRE TOTAL (RS-E1 ~ RS-E11)         MILESTONE ACTIVITY       PRICE COLUMN       PRICE CENTRE TOTAL (RS-E1 ~ RS-E11)         MILESTONE ACTIVITY       Column Columnity         MILESTONE ACTIVITY       Column Columnity         MILESTONE ACTIVITY       Column Columnity         MILESTON	It is found payment will not be made train wise, but after certain lot of trains. This creates hardships to the contractors in terms of cashflows and is in- consistent with established accounting precedence and processes of the contractor. It is suggested to make payments trainwise. Please modify.	Tender Condition Prevails.	No
			RS-F8       Obtain as above for next 6 train sets       0.42 %         RS-F9       Obtain as above for next 8 train sets       0.56 %         RS-F10       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         RS-F11       Obtain as above for next 7 train sets       0.49 %         Training for the Employer's staff shall be arranged and will be conducted at:       i) the site of an Operating Railway (must be part of a network that	Please quantify the requirement in terms of man months and whether the		
217	Part-1, Section – IV Bidding Forms	4.4.11 (RS-H0)	<ul> <li>ii) the Contractor's design/primary car building facility</li> <li>iii) the site where System's Integration simulation testing is undertaken The training syllabus shall be jointly decided between the Contractor and the Employer. It may consist of but shall not be limited to: Rolling Stock design, manufacturing, Testing and Commissioning, Systems Integration Testing and UTO Signalling Technology.</li> </ul>	same is trainer man months or trainee man months. Please confirm for clarity purpose.	Refer Addendum 01 S/N 22	Yes
218	Part-1, Section – IV Bidding Forms	4.4.11 (RS-H0)	Training for the Employer's staff shall be arranged and will be conducted at: i) the site of an Operating Railway (must be part of a network that has provided <u>GoA-4 / UTO operations for a period &gt;10 years</u> ) ii) the Contractor's design/primary car building facility iii) the site where System's Integration simulation testing is undertaken The training syllabus shall be jointly decided between the Contractor and the Employer. It may consist of but shall not be limited to: Rolling Stock design, manufacturing, Testing and Commissioning, Systems Integration Testing and UTO Signalling Technology.	The underlined portion seeking training at site with UTO operations for a period of atleast 10 years is restrictive and is difficult to achieve especially for Indian players. Hence in line with the experience threshold in Section - III, Evaluation and Qualification Criteria (EQC), we request to amend the underlined porion as below, "GoA-4 / UTO operations for a period <u>&gt;3 years"</u> Please modify the clause.	Tender Condition Prevails.	No
219	Part-1, Section – IV Bidding Forms	6.12.23	Form Sys-23: The Catenary Maintenance Vehicle <u>equipped with onboard signaling</u> system (mention Quantity) are in service since (DD-MM-YYYY).	The connected item No. 23, Minimum Criteria to be met, as below, At least two CMV (8 wheeler), incorporating the requirement for Design, manufacture, Supply, Installation, Testing and Commissioning of Catenary Maintenance Vehicle (CMV) for Metro Rail Projects / LRT / High Speed Rail Network / Railways, satisfactorily completed and in Operation for minimum 2 years in the duration from 1st January 2013 to bid submission end date. Proven-ness certificate (issued by end-user) of working satisfactorily outside the country of origin (for foreign company) or within India shall be submitted by the bidder. does not mention onboard signaling system as requirement in minimum criteria. Further the onboard signaling system is a comparatively new development. Hence request to delete the term "equipped with onboard signaling system" in the adjacent wordings in Form Sys-23.	Refer Addendum 01 S/N 25	Yes
220	Part-1, Section – IV Bidding Forms	2. Schedule of Adjustment Data	Table D. For Price Centre RS-CMC and Price Centre DM&P-CMC (Applicable for INR)CodeDescriptionSourceWeightageBase value and dateaNon-adjustable (Fixed)N/a0.33Image: Consumer Price Index for Industrial Workers for Chennai (CPI- IW)*i0.27bAll India Consumer Price Index for Manufacture of Electrical Equipment (WPI-MEE)*ii0.20dWholesale Price Index for Manufacture of Computer, Electronic and Optical Products (WPIMCEOP)*iii0.20	Weightage of 0.33 as Non-adjustable (Fixed) is more and Weightage of 0.27 for CPI-IW is less during the CMC period.         Alternatively we suggest following Price Adjustment formula of the earlier DMRC / BMRCL tenders which is more realistic as below,         Index       Index description         Source of       Weightage         a       Nonadjustable       NA       0.20         b       All India Consumer Price Index for Industrial       Note (i)       0.40         c       Wholesale Price Index for all Commodities       Note (ii)       0.40         Please modify.       Index       Index       Index	Tender Condition Prevails.	No
221	Part-1, Section – IV Bidding Forms	2. Schedule of Adjustment Data	Table B: Foreign Currency (FC) – Japanese Yen         Ln       Labour & welfare - Japan         La       Unitstry of Health, Labour & welfare - Japan         Wage Indices - Manufacturing       0.10 ~ 0.25	Most of Japanese suppliers not accepting to Price Adjustment. Hence, if this clause is mandatory, please replace Ministry of Health, Labour & welfare - Japan Wage Indices - Manufacturing with All India Consumer Price Index for Industrial Workers Published by RBI Bulletin (base year 2016) similar to Table C stipulation for foreign currency. Or Else, give both options to the bidders and let Bidder choose one between them.	Tender Condition Prevails.	No
222	Part-1, Section – IV Bidding Forms	3.3.5	Depot Machinery & Plant – CMC: The Employer at their own discretion may extend the CMC period applicable for Depot Machinery & Plant beyond its original CMC period (15 years), in-order to align with the completion date of Rolling stock CMC period. In such cases, <u>the pro-rata CMC cost applicable for DM&amp;P</u> or part thereof, calculated from the 'Price Centre DM&P-CMC' shall be adopted for all payment purposes, subject to Price variation as per Cl.	Form the key dates, it is seen that the time gap is more than 3 years between CMC of trainsets and CMC of DM&Ps. For the purpose of clarity, please mention the applicable percentages for years 16,17,18 and 19. We suggest average yearly CMC cost of 13th, 14th and 15th years, be taken as the per year CMC cost for the years 16,17,18 & 19. Please modify.	Tender Condition Prevails.	No

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			CP26 / ARE02A Contract			- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Oi	riginal Bid Condition		Bidder's queries	CMRL Response	Addendum
223	Part-1, Section – IV Bidding Forms	3.3.2	In case the Employer is exe stated above, the CMC obl trainsets of 3 car configura respective optional trainset trainsets shall be derived p	ercising the optional quanti igation as applicable for th tion) quantity shall be appli s also. The pricing for CM roportionately from the 'RS	ity variation as le base order (70 licable for the C for the optional S-CMC' price centre.	As per key dates, option quanity can be exercised within 1215 days (> 3years) after commencement date, which is a substantial amount of time. Correspondingly, the time gap between CMC completion of base order and CMC completion of option quantity will also be more than three years. Now who will maintain base quanity trains during this time gap/difference until CMC completion of option quantity cars? If contractor has to take up this work, how will he be compensated?	The CMC Periods for Base quantity trainsets and Option quantity trainsets shall remain separate. CMRL has no plan to club the CMC contract periods to achieve a single end date. The succession plan for continued maintenance of the assets beyond expiry of the CMC Periods will be decided by CMRL nearer the time. Tender Condition Prevails	No
224	Part-1, Section – IV Bidding Forms	2. Schedule of Adjustment Data	Local Currency (Ir         (a)       (b)         Index       Index         Code       Description         Non-adjustable       (Fixed)         Ln       Labour	All India Consumer Price Index for Industrial Workers Published by RBI Bulletin (base year 2016)	Foreign Currency (d) Base value and date —	Typically, there is two months lag in publishing of CPI indices. For ex, May indices will be published in July. Hence, it is not possible to provide Base Value and Date of the index 28 days before last date of bid submission. Please delete this requirement for this Source of Index or suggest a way out.	Refer Addendum 01 S/N 07 Refer Addendum 01 S/N 08 Refer Addendum 01 S/N 09	Yes
225	Part-1, Section – IV Bidding Forms	General	General			In the contract, there are too many financial securities/deductions asked from the Contractor, viz, (1) Performance Security (10%) (2) Retention Money (5%) (3) 80% payment on NOWC and balance 20% only on NONO (4) Carshell structural qualification testing & First Article Inspection's payment guarantee (5) KPIs during CMC phase along with penalties We opine this overspecification lead to inevitable price increase. We suggest to remove SL No. 2, No. 3 & 4, which is also in line with other metro RS tenders of silimar nature floated by DMRC / BMRCL. Please consider/modify.	Retention shall not be required for CMC Price centres. Refer Addendum 01 S/N 87 Refer Addendum 01 S/N 91 Refer Addendum 01 S/N 92 Refer Addendum 01 S/N 93 Refer Addendum 01 S/N 94 Refer Addendum 01 S/N 95	Yes
226	Part-1, Section - IV Bidding Forms	4.2, Note (ii)	Price centres 'CMC – RS' a Rupees (INR) only.	and 'CMC - DM&P' shall be	e quoted in Indian	We request CMRL to permit bidders to quote for CMC in forein currency as well.	Tender Condition Prevails.	No
227	Part-1, Section - IV Bidding Forms	5.15	Certificate confirming Tender requirement for Japanese Goods & Services This is to certify that we, M/s. [Insert name of the company (Single Entity JV)] have carefully examined all the requirements stipulated in Part 1: Section V – ELIGIBLE SOURCE COUNTRIES OF JAPANESE ODA OANS for meeting a minimum of 30.069% Japanese Goods & Services as required by the tied loan conditions <u>(excluding Price Centre RS-CMC</u> ).			To bring this clause in line with SL No. 4, Part-1, Section - V Eligible Source Countries (ESC), the underlined portion may be amended as below: (Excluding Price Centre 'RS-CMC', Price Centre 'DM&P-CMC' <u>and Taxes</u> <u>&amp; Duties</u> )	Refer Addendum 01 S/N 24	Yes
228	Part-1, Section - V Eligible Source Countries (ESC)	4	Minimum 30.069% of the C CMC', Price Centre 'DM&P from Japanese manufactur is mandatory requirement u	Contract Price (Excluding P -CMC' and Taxes & Duties er / Companies for Goods under this package.	Price Centre 'RS- s) shall be sourced and Services as it	<ul> <li>(A) What is the foreign exhange conversion applicable for calculation of the 30.069%?</li> <li>(B) What are the modalities for verification of the achievement of 30.069%?</li> </ul>	<ul> <li>a) Refer ITB 37.1</li> <li>b) Bidder shall submit Bidding Form "5.15 Certificate confirming Tender requirement for Japanese Goods &amp; Services" &amp; "6.13 Form Japanese Goods and Services".</li> <li>Further, the Bidder shall submit the certificate from Cost auditor / statutory auditor regarding this calculation.</li> <li>Tender Condition prevails.</li> </ul>	No
229	Part-1, Section - V Eligible Source Countries (ESC)	4	Minimum 30.069% of the C CMC', Price Centre 'DM&P from Japanese manufactur is mandatory requirement u	Contract Price (Excluding P -CMC' and Taxes & Duties er / Companies for Goods under this package.	Price Centre 'RS- s) shall be sourced and Services as it	We understand that while claculating 30.069% japanese content, the amounts quoted for price centres RS-CMC, Price Centre DM&P-CMC and Taxes and duties shall be ignored and not considered. Please confirm our understanding.	Refer Addendum 01 S/N 24	Yes
230	Part-1, Section – IV Bidding Forms	4.4.11 (RS-H4)	Provision of Contractor's D of Employer's operating pe	riving Instructors ( <u>2 man n</u> rsonnel in India.	<u>nonths</u> ) for Training	Please confirm whether the mentioned 02 man months is trainer man months or trainee main months?	As the Clause refers to the instructor, it is already clear that the requirement is for Trainer man months. Tender Condition Prevails.	No
231	Part-1, Section – IV Bidding Forms	4.4.11 (RS-H5)	Provision of Contractor's In <u>months</u> ) for on job Training personnel in the metro trair	structors and OEM's Expe and supervision of Emplo depot of CMRL in India	erts ( <u>40 man</u> oyer's maintenance	Please confirm whether the mentioned 40 man months is trainer man months or trainee main months?	As the Clause refers to the instructor, it is already clear that the requirement is for Trainer man months. Tender Condition Prevails.	No
232	Part-1, Section – IV Bidding Forms	4.4.11	Price Centre 'RS-H' - Train	ing and Manuals		Please provide timelines for providing training under this price centre. This is required for pricing purposes.	Refer to Footnote-2 of Part-1, Section – IV Bidding Forms Clause 4.4.11	No
233	Part-1, Section - II Bid Data Sheet (BDS)	ITB 11.2	A. Cost of the bid: Shall be Scanned copy to be upload tender fee is submitted in the uploaded online and the Bid DD by person/post/courier specified in the Bid docume submission due date. Nam number are to be written or	Paid by NEFT/RTGS/Dem led online at the time of bio he form of DD, a scanned dder should ensure submis at the office of the Employ ent within Seven (07) days e of the Bidder and tender in the backside.	nand Draft/SWIFT. d submission. If copy of DD is to be ssion of the original ver at the address after the bid d id/tender reference	Please clarify if CMRL issue receipt after payment of cost of the bid through NEFT/RTGS. If yes, where to collect the same?	Bidders can request by email a confirmation receipt and CMRL will respond. Tender Condition Prevails.	No
234	Part-1, Section - II Bid Data Sheet (BDS)	ITB 11.2	A. Cost of the bid: Shall be Scanned copy to be upload tender fee is submitted in the uploaded online and the Bid DD by person/post/courier specified in the Bid docume submission due date. Nam number are to be written or	Paid by NEFT/RTGS/Dem led online at the time of bio he form of DD, a scanned dder should ensure submis at the office of the Employ ent within Seven (07) days e of the Bidder and tender in the backside.	nand Draft/SWIFT. d submission. If copy of DD is to be ssion of the original ver at the address after the bid d id/tender reference	Please clarify if CMRL issue GST invoice for the payment of cost of the bid. If yes, where to collect the same?	No.	No
235	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.1.10	The location of the Satellite However, CMRL may at its giving 60 days' notice) to d Satellite Depot facilities. Th request without any cost im	e Depot(s) shall be designa sole discretion instruct the eploy their maintenance of the Contractor shall comply aplications to CMRL.	ated by CMRL. e Contractor (by perations at further with the deployment	Please stipulate the number of Satellite depots. This input is required for resource planning across various depots.	The number of satellite depots shall be capped at one (1) at any one time. Refer to Addendum 01 S/N 77	Yes
236	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.1.10	The location of the Satellite However, CMRL may at its giving 60 days' notice) to d Satellite Depot facilities. Th request without any cost im	e Depot(s) shall be designa sole discretion instruct the eploy their maintenance of the Contractor shall comply aplications to CMRL.	ated by CMRL. e Contractor (by perations at further with the deployment	Please clearly stipulate the allocation of trainsets among the depots (Madhavaram & satellite depots) This input is required for resource planning across various depots.	Shall be provided after Contract award.	No



			CP26 / ARE02A Contract -	Reply to Bidder Queries	1	
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
237	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.5.2	Spares and Consumables (herein referred to only as Spares) <u>shall</u> include but shall not be limited to the following subcategories, as applicable to both Rolling Stock and Depot Machinery & Plant (including CMV) assets, a) <u>Unit exchange spares</u> b) <u>Mandatory spares</u> c) <u>Recommended spares</u> ; d) <u>Consumable spares</u> ; e) <u>Special Tools</u> , Jig, Fixtures, Gauges, Testing and Diagnostic <u>Equipment</u> f) <u>Overhauling Spares</u> ; g) Any other items required for maintenance (identified by the Contractor / CMRL / OEM).	The different terms, viz. 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; are not defined in the tender document and are legacy terms used in earlier contracts without CMC. Inclusion of these terms may lead to confusion. Request to delete the clause. Instead the term "All Spares, Special tools, Jig, Fixtures, Gauges, Testing and Diagnostic Equipment" or similar may be used	Noted, however CMRL does not foresee a significant impact. Tender Condition Prevails.	No
238	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.5.8	At least three (3) months prior to the end (or early termination) of the CMC 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 CMRL	Is there any minimum inventory level to be handed over to CMRL at the end of the CMC period? If so, pls specify.	Inventory management requirements are defined in CMC Clause 1.5.17. This includes arrangements for how minimum levels are defined and agreed between the parties.	No
239	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.5.12	The Contractor shall ensure that Spares are replaced at intervals that are set in accordance with the OEM's recommendations for time, distance, wear limits etc as the case may be. The Contractor shall ensure the maintenance regime has an optimized schedule, such that inspections are frequent enough to avoid components wearing beyond serviceable limits during the normal course of operation of CMC Assets.	Typically, it is seen OEMs tend to overspecify their recommendations even when they may not be practically needed. This clause is prone to mis-interpretations from OEM/CMRL side during the CMC period and they may insist for replacements even when the contractual performances are met by the contractor. It is the contractor who is responsible to CMRL and not the OEMs. Further, the Contractor is already fully responsible through out the period of DNP, 15 years CMC to CMRL for complying to availability / reliability / KPI targets as per contract stipulations. Hence imposition of adherence to OEM recommendations will needlessly constrain the RS contractor with no added benefit to CMRL. Hence it is requested to relax the clause as below, The Contractor shall ensure that Spares are replaced at intervals to meet the prescribed contractual performance requirements following Good Industry Practices that are set in accordance with the OEM's- recommendations for time, distance, wear limits etc as the case may be. The Contractor shall ensure the maintenance regime has an optimized schedule, such that inspections are frequent enough to avoid components wearing beyond serviceable limits during the normal course of operation of CMC Assets. This shall result in Win-Win situation both for CMRL and the Contractor. Please modify.	Refer Addendum 01 S/N 82	Yes
240	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.10.2	2 For guidance of the operating staff of CMRL, the Contractor shall provide an Operations and Maintenance Manuals to CMRL. <u>The</u> <u>Contractor shall be also responsible for the training of TO's, Instructors,</u> <u>Supervisors and CMRL's other officers and staff associated with the</u> <u>Trains operational management including but not limited to controllers</u> (herein after referred as Rolling Stock Controllers or RSC), nominated officers and staff deployed by CMRL in the Depot for assessment/reconciliation of the Maintenance work etc.	Please confirm that the training mentioned in the adjacent clause is counted under Price Centre RS-H. If additional, please quantify the number of trainer manmonths or trainee months required for the adjacent clause.	Refer Addendum 01 S/N 100	Yes
241	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.1.7	Broadly the RS Maintenance Depot shall include Stabling Bay Lines (SBL), Inspection Bay Line (IBL), Cleaning Sheds and Repair Bay Lines (RBL) for heavy repairs and overhaul as illustrated in Part 2 Section VIA – Appendix D	For greater clarity, please indicate which of the following bulidings/facilities constitute part of the "RS Maintenance Depot" (Details from APPENDIX-D) <b>No Building/facility</b> Description               Area(sqm)               Type                 2        Test track               -               7880.7             G+1                 2             Test track               -               9014.4             G+2                 4             Deep Clean Bay + Workshop Bay               7 lines               9563.5                 5             ETU & PWL               3 Lines + IPI               2009.5             G+Shed                 6             Stabling Yard               20 Rakes               Open                 8             Stabling Yard               20 Rakes               Open                 1             ACWP (FUTURE)                 Open               Open                 13             RSS               C               Open                   14             WTP & Pump Room               -             Open	Tentatively, the following S/N's from the appended table shall be areas handed over to the Contractor:- 1-8 and 10-12 and 21, 22	No
				TOTAL BUILT UP AREA (Sq.Mt.) 57886.05 Also, please clarify at which stage of construction, the buildings/facilities will be handed over to the contractor.	It is anticipated that the buildings will be ready for occupation at the appropriate time of the project phase.	No
242	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.5.2(i)	During its period of custody, the Contractor shall be responsible for undertaking the maintenance of the RS Maintenance Depot including cleanliness, upkeep, housekeeping, <u>repair work, civil maintenance and</u> <u>electrical maintenance for the entire premises of the RS Maintenance</u> <u>Depot.</u>	This clause is not consistent with clause 2.3.1 iv). While clauses 2.3.1 iii) and iv) are aggreable this clause 2.5.2(i) is not acceptable and creates confusion. Hence request to delete this clause.	Refer Addendum 01 S/N 85	Yes
243	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.1.9	Designated Depot(s) refers to (i) Madhavaram Depot, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) (mostly for inspection, cleaning activities and Corrective Maintenance).	Who will provide the infrastructure & DM&Ps required for inspection, cleaning activities and Corrective Maintenance at Depots other than at Madhavaram? Please clarify.	Major Depot Machinery & Plant items procured under this Contract shall be deployed at Madhavaram Depot. Any additional items required for satellite depot(s) shall be procured separately by CMRL.	No
244	Part 2 – Section VI A: ERTS – RS – Systems Assurance	18.13.2.2	The Contractor shall arrange its own furnishing, security etc. Charges for the electricity consumption shall be payable by the Contractor at the prescribed rates.	We understand the requirement of payment of charges for electricity consumption is only for Contractor's Site Office and not for the entire RS maintenance Depot or Designated Depots. Please confirm for clarity purpose. Further, please provide electricity charges details presently being paid by CMRL at similar depots for reference purpose to the bidders.	The bidders understanding is correct. Charges will be at the prevailing tariff.	No
245	Part 2 – Section VI A: ERTS – RS – Systems Assurance	18.13.2.2	The Contractor shall arrange its own furnishing, security etc. Charges for the electricity consumption shall be payable by the Contractor at the prescribed rates.	We understand the requirement of arranging for security is only for Contractor's Site Office and not for the entire RS maintenance Depot or Designated Depots. Please confirm for clarity purpose.	The bidders understanding is correct.	No
246	Part 2 – Section VI A: ERTS – RS – Systems Assurance	18.13.2.9	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 <u>water supplies</u> 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	Please clarify if water supplies are made available free of cost to the Contractor? If no, please provide water supply charges details presently being paid by CMRL at similar depots for reference purpose to the bidders.	Water supplies are free of cost to the Contractor	No



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
247	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.3.1 vii)	The Contractor shall optimize the consumption of the water required for maintenance and other Project activities. Considering the scarcity of the water resources at present & in future, the Contractor by all innovative means shall progressively make efforts to limit the water consumption.	Please clarify if water supplies are made available free of cost to the Contractor? If no, please provide water supply charges details presently being paid by CMRL at similar depots for reference purpose to the bidders.	Water supplies are free of cost to the Contractor	No
248	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.7.7 i)	The Contractor shall maintain appropriate Re-railing and Rescue Equipment (RRE) <u>at the Designated Depot(s)</u> in a box container that is loaded on a Relief and Rescue Vehicle ("RRV").	Who will supply & maintain RRVs and RREs at Depots other than at Madhavaram Depot? Please confirm for clarity purpose.	CMRL has nothing further to clarify on this matter	No
249	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.4.1 iii) c)	A Minimum of 25% maintenance staff and supervisor of the Contractor shall be transferred to CMRL payroll after expiry of Comprehensive maintenance contract to ensure continuity and quality of maintenance of the train till alternative arrangements are made by CMRL. The selection procedure shall be finalized jointly by CMRL and Rolling stock Contractor.	This transfer is not feasible. Please delete the underlined portion.	Tender condition prevails	No
250	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	4.1.4 e)	All spares as per the latest approved list shall be replenished by the Contractor and handed back to CMRL in a serviceable and good working condition at least three (3) months prior to Expiry / Termination of the Contract Period at no cost to CMRL; in accordance with this Chapter.	Is threre any list of minimum spares to be handed over to CMRL at the end of the CMC period? If so, pls specify.	Clause is self explanatory. Inventory management requirements are defined in CMC Clause 1.5.17. This includes arrangements for how minimum levels are defined and agreed between the parties.	No
					Tender condition prevails.	
251	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.4.1 iii) b)	All spares as per the latest approved list under shall be replenished by the Contractor and handed back to CMRL in working condition at least three (3) months prior to termination or expiry of the CMC Period at no cost to CMRL; in accordance with Chapter 4 -Handover Requirements of Section VI C CMC.	Is threre any list of minimum spares to be handed over to CMRL at the end of the CMC period? If so, pls specify.	Inventory management requirements are defined in CMC Clause 1.5.17. This includes arrangements for how minimum levels are defined and agreed between the parties.	No
					Tender condition prevails.	
252	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.16.10 a)	1 (one) point shall be deduced for each <u>individual item of the</u> PA/PIS system found to be nonfunctioning after the train is inducted to the main line. Defects identified through physical inspection or were recorded by the TCMS logs shall be counted.	Accordingly, the modified clause may be, 1 (one) point shall be deduced for each individual item of the PA/PIS system found to be nonfunctioning after the train is inducted to the main line. Defects identified through physical inspection or were recorded by the TCMS logs shall be counted. Please consider.	Tender condition prevails It is clarified that the worded "deduced" should be "deducted"	No
253	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.16.10 b)	1 (one) point shall be deduced for each <u>individual item of the CCTV</u> system found to be nonfunctioning after the train is inducted to the main line. Defects identified through physical inspection on the train, OCC workstation or recorded by the TCMS logs shall be counted. Failures of a redundant or standby equipment which do not directly affect the performance of the CCTV system will not be counted.	The underlined portion creates confusion and may be deleted. Accordingly, the modified clause may be, 1 (one) point shall be deduced for each individual item of the CCTV system found to be nonfunctioning after the train is inducted to the main line. Defects identified through physical inspection on the train, OCC workstation or recorded by the TCMS logs shall be counted. Failures of a redundant or standby equipment which do not directly affect the performance of the CCTV system will not be counted. Please consider.	Tender condition prevails It is clarified that the worded "deduced" should be "deducted"	No
254	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.9	ENDEMIC FAILURES AND DEFECTS	Since this contract involves 02 years DNP and 15 years CMC totalling to more than 17 years wherein the Contractor is already fully responsible for performance parameters including CMRL controls through KPI, we find no necessity for inclusion of this Endemic Failures clause during CMC period. Moreover, this clause has potential to create disagreements on whether certain failures consititute Endemic failures and/or whether entire fleet remedial mesarures are actually necessary if trains are otherwise running satisfactorily. This pose avoidable hardships to the contractor with no added benefit to CMRL. Hence it is recommended to delete this clause for CMC period for contractual simplicity.	Tender Condition Prevails	No
255	Part 2 - Section VI A: ERTS - RS System Support	15.8.1	Notwithstanding any other provisions of the Contract, at any time prior to sixty (60) months from taking over certificate of the 70th Trainset for the whole Works, if an "Endemic Failure" occurs in any component or sub- assembly, CMRL shall issue notice in writing to the Contractor.	Firstly, as explained in our query No. 20, we opine "Endemic Failures and Defects" are not relevant for long term maintenance contracts. Hence, we suggest the following modification in the referred clause 15.8.1, so that the clause is only applicable for project period: Notwithstanding any other provisions of the Contract, at any time-prior to- sixty (60) months from taking over certificate of the 70th Trainset for the- whole Works, during the Defects Notification Period (DNP), if an "Endemic Failure" occurs in any component or sub-assembly, CMRL shall issue notice in writing to the Contractor. Clause 15.8.4 also to be suitably modified. Please modify accordingly.	Tender condition prevails	No
256	Part 2 - Section VI A: ERTS - RS Systems Assurance	18.13.2.1	CMRL shall allocate approximately 100 square meter space to the Contractor at the Designated Depot(s) for erection of site the Contractor's Site Office. This land / space provision shall be provided to the Contractor on a free of cost basis without any rental charges.	Please clearly state, if the space provided is in the form of land or constructed building. We prefer if space is provided in the form of constructed building by the Employer. Please confirm/clarify. Accordingly modify the clauses.	CMRL clarifies that it shall allocate approximately 100 square meter of empty space which shall be outside the depot building.	No
257	Part 2 - Section VI A: ERTS - RS Systems Assurance	18.13.2.1	CMRL shall allocate approximately 100 square meter space to the Contractor at the Designated Depot(s) for erection of site the Contractor's Site Office. This land / space provision shall be provided to the Contractor on a free of cost basis without any rental charges.	Please clarify in how many depots contrator's site offices has to be set- up? Our understanding is, it is required only at Madahavaram Depot. Please confirm for clarity purpose.	The bidder's understanding is correct	No
258	Part 2 - Section VI A: ERTS - RS Systems Assurance	18.13.2.1	CMRL shall allocate approximately 100 square meter space to the Contractor at the Designated Depot(s) for erection of site the Contractor's Site Office. This land / space provision shall be provided to the Contractor on a free of cost basis without any rental charges.	If in future there is additional requirement of space in depots, we understand the same will be provided free of cost by CMRL. Please confirm for clarity purpose.	No	No
259	Part 2 - Section VI A: ERTS - RS Management Program	16.7.5 and 16.7.6	The contractor will be managing the PMIS for entire contract duration including the defects liability period for their contract package including sharing the proportionate cost of a. Cloud based server (CMRL will be acquiring the common cloud based server for all contract packages of phase 2 and back charge the proportionate cost of the Server, Cloud services and the manage services of the cloud server to each contractor b. 3 nos user licenses cost for Primavera P6 Enterprise Project Portfolio Management Cloud Service (1 No. each to be used by the Contractor, GC and CMRL). Please note that the Contractor can ask for more licenses if he wish to but strictly on his cost c. 3 nos user licenses cost for Project Management Software to be procured for 1 No. each to be used by the Contractor, GC and CMRL. Please note that the Contractor can ask for more licenses if he wish to but strictly on his cost. d. CMRL will be hiring a professional agency to implement P6 EPPM for whole project and integrate it with PMIS. The contractor for each package will have to share proportionate cost for their package. Any other software required to interact with PMIS for their contract package needed to update the information as explained above.	Please confirm the deduction at the rate of 0.05% of the accepted contract amount as per clause 16.17.6, covers the various charges payable by the contractor as per clause 16.7.5. Please confirm for clarity purpose.	Note: We assume the bidder intended to refer to Clauses 16.17.5 rather than 16.5.7 It is clarified that the 0.05% deduction rate includes the scope mentioned in 16.17.5 (a - d). There shall be no further deductions over and above this.	No
260	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.12.1	At the start of the CMC Period, the Contractor shall supply twenty (20) diagnostic maintenance laptops of the same specification that is defined in Part 2 Section VIA Chapter 15.6 which will be handed over to CMRL.	Can these laptops be used by the Contractor during CMC period, even if they are required to be handed over to CMRL at the end of CMC period? Please clarify.	The laptops are primarily for CMRL. CMRL cannot guarantee that the laptops will be available for the Contractor's use.	No



SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
261	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.14.2	The Contractor shall follow CMRL's competency procedure, which will be updated from 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.	CMRL's competency procedure may please be provided.	Shall be provided after Contract award.	No
262	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	1.16.10	Secondary KPI Calculation	These clauses are new and we are not sure how this clause will effect the execution. However, we have the following submission: "KPA Points & Weightage may be reviewed annually and modified based on the usages/age of rolling stock". Please insert the above as part of the tender clause to take into account the natural wear & tear / deterioration of performance within satifactorty limits over time. Also, the Contractor should not be unreasonably penalized if CMRL is able to run its fleet with satisfactory reliability and availability	Tender condition prevails	No
263	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.3.1 viii)	However, CMRL shall be given access to the data, information and reports generated by the Asset Management System through <u>dedicated terminals /</u> workstations / servers provided by the Contractor at DCC / BCC / OCC / PPIO and at any other CMRL offices through the internet.	<ul> <li>A. Please quantify the requirement of number of terminals, wrokstations &amp; servers for CMRL use.</li> <li>B. Also, who is responsible for providing internet?</li> </ul>	Detailed requirements are defined in chapter 5 of Section VI C AMMS Tender condition prevails.	No
264	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	2.6.1 vii)	Shunting within RS Maintenance Depot shall be the responsibility of the Contractor in coordination with DCC. The Contractor's shunter shall be used for this purpose.	We assume that route setting for shunting of the train within RS Maintenance Depot shall be done by DCC/CMRL and the arrangement of pointer (if any) shall be done by DCC/CMRL. Please confirm our understanding is correct.	The bidder's understanding is correct	No
265	Part 2 - Section VI C: ERTS - CMC of RS & DM&P - CMC Requirements	3.3.1	RS Availability Requirements	Downtime of Train due to additional modifications on account of operational requirements/ performance improvements shall not be considered for calculating of availability of Train. Please include this condition as part of the clause for clarity purpose.	Tender condition prevails	No
266	Part 2 – Section VI B: ERTS – DM&P General Requirements and Scope	1.2	List of Depot Machinery & Equipment	In the list of Depot Machinery & Equipment, we could only find Air compressor for PWL shed (DM&P-R12) - 01 Nos.and Mobile air compressor - 01 Nos. Please confirm the compressed air supply system (including compressors & piping network, etc.) required at the depots shall be under the responsibility of CMRL. Please confirm for clarity purpose.	The Contractor need only maintain depot machinery & plant that is procured under the ARE02A Contract.	No
267	Part 2 – Section VI B: ERTS – DM&P General Requirements and Scope	1.1.4	Provisional Civil works required to provide foundations for the respective Machinery and plant shall be constructed by CMRL's designated civil Contractor.	Pls confirm the track laying for EOT cranes is not the responsibility of the contractor and the same falls under the scope of other contractors. Please confirm for clarity purpose.	Refer to Part-2, Section –VIB ERTS Clause 11.4.3 for EOT Rail requirements.	No
268	Part 2 – Section VI A: ERTS – RS – System Requirements	Appendix D	SOD	Please provide SOD for phase-2 project.	Kindly refer to the weblink shown in the Footnote of Part 2 – Section VI A: ERTS – RS – Appendix D	No
269	Part 2 – Section VI A	2.14.1 (e)	Table 2-7: Rolling Stock Design Performance Requirements	Service braking rate from 80kmph to standstill for <b>tare (AW0) train</b> on level tangent track may please be specified.	There is no specific Service Braking Rate criteria for AW0 in ERTS. It shall therefore be better than the performance at (seating plus standees @ 6 passengers/sq.m)	No
270	Part 2 – Section VI A	2.14.1 (e)	Table 2-7: Rolling Stock Design Performance Requirements	Service brake & emergency brake rate shall be specified as <b>either instantaneous/average</b> for clear understanding.	Refer Addendum SI. 27 Refer Addendum SI. 28	Yes
271	Part 2 – Section VI A	2.14.2.2	During the rescue operation of a train with a burst MR pipe; a healthy assisting train (in AW0 load condition) shall be capable of rescuing a failed train (in AW4 load condition) with its parking brakes applied. The coupled AW0~AW4 consists shall be capable of starting and accelerating up a worstcase gradient of 4% and be able to reach a speed of 20 kmph in restricted manual mode. This coupled rake of healthy and defective consists shall be able to ascend any combination of gradient and/or curve as may be necessary to reach the next station to allow passengers to deboard. The healthy train shall thereafter be able to push the defective train (with its load now reduced to AW0, but with parking brakes still applied) as far as necessary to reach the Depot. <b>The wheels of the train with parking</b> <b>brakes applied shall rotate without sliding under all operating</b> <b>conditions.</b> The Contractor shall demonstrate that this requirement is met during main line type testing. Wheel temperatures shall be monitored during testing using thermocouples that are mounted on every wheel with parking brakes applied during the opting much and on every wheel with	Push-out requirement will limit the safety against rolling under worst case as per ERTS Clause 2.14.3.6, 2.14.3.7 & 12.8.1. Since the clause is contracdictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detremental to the rolling stock during operation which may result in wheel flat / track damage. In view of the above,CMRL may please review and update the ERTS clause suitably.	Tender Condition prevails.	No
272	Part 2 – Section VI A	2.14.3.2	For a normal operation of service brake (nominal 1 m/s2) on level track from maximum speed, the rake shall brake to a standstill from 80kmmh in 247m (+0, -10%) under any Loading Conditions up to AW4. The Contractor shall demonstrate by providing calculations of the minimum adhesion level, required to achieve the stopping distance. <b>Upon receipt of signal</b> <b>to Brake Control Unit, the application of service brake time should be less than 300 msec.</b>	ERTS clause 12.18.1 (a) requires application of service brake maximum time to be 2 sec which is contracdictory to the requirement of this clause. CMRL may please review and update the clause suitably.	The stated requirements do not contradict as they are different. It is clarified that:- The 2sec requirement refers to the overall response time; including the time needed to achieve 90% BCP. Whereas, the endpoint of the 300ms duration is when the brakes system first starts to apply the service brakes. Tender Condition Prevails.	No
273	Part 2 – Section VI A	2.15.10.10	The associated EP brake unit shall be of the energize-to-release type and shall contain all the pneumatic items necessary to control all applications of the friction service brakes and emergency brakes.	Generally "service brakes are energize to apply type". CMRL may please review and update the clause suitably.	Bidder has misunderstood the tender condition. It is not suggesting that all EP valves in the ACU brake unit must be an "energize-to-release type". It normal practice that this fail-safe requirement only applies to the emergency EP valve.	No
274	Part 2 – Section VI A	2.17.3.9	Door Operation Noise produced by simultaneous operation of all saloon doors on one side of the car shall not exceed 72dBA during the sliding operation and 75dBA for the locking / unlocking, measured on the fast meter scale. This should be measured at all points in the car 300mm from the doors and 1000mm above the floor during train stationary condition.	CMRCL requested to change the door Operation Noise produced by simultaneous operation of all saloon doors on one side of the car shall not exceed <b>75dBA</b> during the sliding operation and <b>78dBA</b> for the locking / unlocking as followed in Mumbai metro project.	Refer Addendum 01 S/N 31	Yes
275	Part 2 – Section VI A	2.25.10 (b) v	Ambient (summer) conditions to be maintained outside the car. Ambient temperature, humidity and air speed of outside car shall be monitored as per EN 14750-2. Energy Consumption test shall be conducted at an air <b>speed of 40 kmph</b> .	Ambient (summer) conditions to be maintained outside the car. Ambient temperature, humidity and air speed of outside car shall be monitored as per EN 14750-2. Energy Consumption test shall be conducted at an air speed of 0-5 kmph. Globally only one lab available to conduct the tests at the speed of 40 kmph. CMRL is requested to change the air speed to 5 kmph. (Effect of external air speed on the heat load is very minimum compare to other heat load.)	Refer Addendum 01 S/N 32	Yes
276	Part 2 – Section VI A	2.25.11(b) v	Doors shall be opened and closed as detailed for a round trip and passenger load throughout the Round Trip (including terminal detention) shall be AW3.	Doors shall be opened and closed as detailed for a round trip and passenger load throughout the Round Trip <b>(excluding terminal detention)</b> shall be AW3. There will be no passenger load in terminal station turnaround	Tender Condition prevails.	No



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277	Part 2 – Section VI A	2.26.1 (i)	The car interior shall have resistance to fire and conform to EN 45545 (Part 1 to 7), Category 4- A, Hazard level HL3 <b>and BS 6853</b> Code of practice for fire precautions in the design and construction of passenger carrying rakes or any other approved international standards.	BS 6853 is withdrawn and superseded by EN 45545. Hence, BS 6853 to be deleted.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
278	Part 2 – Section VI A	2.26.1 (iv)	The vehicle floor shall provide a fire barrier of 30 minutes duration tested in accordance with EN45545 Part 1 to 7 ( <b>Category 4-A</b> , Hazard level HL3) latest editions	As per EN 45545-3 for Category 4 the fire barrier duration is 15 minutes. Extract from the standard is shown below.	Tender condition prevails.	
279	Part 2 – Section VI A	3.3.1	fire resistance as required by either NFPA 130, BS 6853, EN 45545 or the Japanese Fire Standards, and Chapter 19	Floor Fire barrier duration to be updated as 15 minutes. Fire resistance requirement to be as per EN 45545 standard for railway application. BS 6853 is superceeded and to be deleted.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
280	Part 2 – Section VI A	3.4.7.9	The total floor structure shall provide an effective fire barrier for a minimum of 30 minutes as per BS 6853, or equivalent	As per the standard EN 45545-3, the fire barrier criteria is E15 & I15 for operation category 4. hence, the fire barrier duration 30 minutes to be revised as 15 minutes.	Tender condition prevails.	No
281	Part 2 – Section VI A	3.4.9.1.1	All glazing shall be of toughened glass and shall comply with DIN 52306 (impact strength) and EN 1288 (bending strength). Structural requirements for rail vehicle structures shall be design and tested conforming with GM/RT2100, UIC 566, EN 12663-1	The requirement of all glazing shall be of toughened glass is contradicting with the clause 3.4.9.1.4 where it is mentioned Body-side windows shall comprise two panes of glass with outer laminated glass and inner nonshattering toughened glass. For the impact strength and bending strength DIN 52306 and EN 1288 is asked. Refering to ERTS clause 1.1.1 - acceptable design standards, the strength of the glass will be as per IS 2553 as followed in other Metros in India.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
282	Part 2 – Section VI A	3.4.9.1.6	All glazing materials shall meet the requirements of clause 19.13	At ERTS clause 19.13 the float glass and tempered glass selection is specified as per ASTM C 1036, FS-DD-G-451, SAE-AMS-G-25667, MIL- G-25667. Refering to ERTS clause 1.1.1 - acceptable design standards, the glass specification will be as per IS 2553 asfollowed in other Metros in India.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
283	Part 2 – Section VI A	3.4.9.3.1	The cabs shall have watertight look-out glasses on both lateral sides of each emergency operator's desk area; <b>look-out glasses shall be of the same construction as the body side windows</b> .	As the lookout glass construction to be same as body side window, the cab window will be fixed type.	Tender condition prevails.	No
284	Part 2 – Section VI A	3.4.9.4.1	The windshield design shall be a two piece design with glazing and shall be clear in colour. The glazing material shall be laminated glass and it shall comply to IS 2553 or any International Standard. Structural requirements for rail vehicle structures shall be design, tested and conform with GM/RT2100, UIC 566, EN 12663-1, UIC 651, EN 15152	The requirement of two piece windshield design is contradicting with the requirement of detrainment door at the middle. The windshield design will be three piece.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
285	Part 2 – Section VI A	3.4.9.4.5	The glazing of emergency detrainment door at the middle of windshields shall be aesthetically aligned to give a continuous appearance when viewed from outside. At least three such designs may be submitted for CMRL's review and approval	With the detrainment door at middle, the windscreen (windshield) will be three piece design.	Tender Condition Prevails The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
286	Part 2 – Section VI A	3.6.3.1	Stanchions and handrails shall be provided to aid passengers when boarding, moving throughout the car, or standing throughout their journey. Structural requirements for rail vehicle structures shall be design and tested conforming with GM/RT2100, UIC 566, EN 12663-1	CMRL to specify the stanchion to be single or two or three arm.	Tender Condition Prevails The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
287	Part 2 – Section VI A	3.6.3.2	Stanchions shall be arranged in two rows. They shall be placed in longitudinal rows. Stanchions shall not be placed in the centre isle of the passenger compartments. Stanchions in the middle may be replaced by handrails	The requirement of two rows of stanchions in longitudinal row is not clear. Provide sketch of the stanchion and handrail arrangement expected by CMRCL.	Tender Condition Prevails The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No
288	Part 2 – Section VI A	3.6.3.6	Two longitudinal rows or three of grab straps shall be installed	Requirement is not clear. CMRCL to give sketch for the requirement.	Three longitudinal rows for grab straps shall be installed	No
289	Part 2 – Section VI A	3.6.5.8	The seats shall conform to EN 15663.	EN 15663 is Railway Applications- Vehicle reference masses. This standard defines a reference masses at rail vehicle level and applicable for car weight estimation. Hence, the clause to be deleted.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
290	Part 2 – Section VI A	3.6.5.14.3	Seats shall meet the requirements of UIC 564-2 or equivalent	UIC 564-2 is test method for determining the fire resistance of rigid non- thermoplastic materials. As the seat has to be stainless steel as per clause 3.6.5.1, this clause to be deleted.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
291	Part 2 – Section VI A	3.6.5.15.4	Behaviour of seats at static, fatigue, vibrations, impact stress shall be design, tested as per NFF 31-119 and indentation test shall be design, tested as per ISO 2439. The indentation hardness shall be similar to industry standards. The indentation hardness and depth shall be measured first be tested initially and then at 80,000 cycle intervals	The load criteria is already specified by CMRCL at clause no. 3.6.5.8 as " Each bank of seats shall be mounted on a totally enclosed plinth, capable of carrying an evenly distributed load equivalent to the number of seated passengers per seat bank times the weight of a passenger times a load factor of two (2) without damage or permanent deformation". Hence, the clause 3.6.5.15.4 to be deleted. Further, the NFF 31-119 standard is applicable for the transverse seating arrangement with a maximum of 3 single seats adjacent to each other. The extract of the standard for single seat is as shown below: <b>3 Definitions</b> The following definitions are applicable to the requirements of this standard: <b>3.1 Single seat</b> Seat having a fixed or adjustable seat component and a fixed or adjustable backrest component. It can have one, two or three single seats that are adjacent to each other. The seating arrangement in this tender is longitudinal with 7 single seats adjacent to each other. As per the standard definition for the single seat, the NFF 31-119 is applicable for maximum 3 seats. Hence, the NFF 31- 119 is not applicable.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No



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292	Part 2 – Section VI A	3.6.22	All internal panels (side panels, ceiling panels, end-ceiling panels, inspection cover panels, door coving panels, ceiling coving panels, etc) shall be of aluminium material with proven record in Metro/ EMU application. Coating system shall be proposed by the Contractor shall be proven and conform to the requirements in clause 3.6.1.21, subjected to CMRL approval. Flatness of Aluminium side panels shall be controlled within 0.5 mm per 1m length. The Contractor shall ensure adequate measure have been taken to prevent and mitigate the risk of bi-metallic corrosion and rattling. Suitable damping and Insulation shall also be provided to reduce noise and thermal conductivity especially at metal-to-metal contact points.	GFRP panels shall be permitted to use wherever complex shape contours in interior panels are present . It is very difficult to manufacture complex shape with aluminium material.	Tender condition prevails.	No
293	Part 2 – Section VI A	3.14.5.4	At closing speeds of 10 kmph to 25 kmph, the coupler shall absorb the additional energy within its sacrificial elements for AW2 loading condition. The couplers shall progressively collapse bringing into play the anti-climb protection which shall remain fully engaged and operational under the action of vertical shear loads (upwards and downwards) equivalent to half the Crush Loading Condition Car weight. For survival zone during collision scenario, the requirements of EN15227 Section 6.3 shall apply, or an equivalent analysis, if approved by CMRL.	As per 3.14.5.3, the coupler be shall able to absorb energy without permanent damage upto 10kmph with AW2 loaded condition. But, as per ERTS 3.14.5.4, the coupler shall absorb the additional energy within its sacrificial elements(means without permanent damage) from 10km/h to 25km/h. Both these 2 clauses are contradicting to each other. As per OEM recommendations, couplers can absorb energy without permanent damage max. upto 10-15km/h. Couplers alone cannot absorb energy upto 25km/h but it can absorb energy in combination with side crash absorbers in the carbody upto 25km/h. CMRL is requested to delete this statement "At closing speeds of 10-kmph to 25 kmph", or rephrase the statement as "The coupler shall absorb the additional energy beyond the 10kmph by sacrifacing its elements for AW2 loading condition".	Refer Addendum 01 S/N 33	Yes
294	Part 2 – Section VI A	3.14.6.1	The Contractor shall perform and submit a stress analysis report of the carbody structure and equipment supports for equipment weighing over 150 Kg prior to commencing manufacture of any carbody structural parts.	CMRL is requested to rephrase the clause to consider the stress analysis for support and equipment brackets carrying load of more than 500kg.	Tender condition prevails.	No
295	Part 2 – Section VI A	3.14.6.7	The mounting fasteners and support structures for equipment weighing more than 68 kg shall be analysed using design loads specified in the applicable standards.	CMRL is requested to rephrase the clause to consider the stress analysis for support and equipment brackets carrying load of more than 500kg.	Tender condition prevails.	No
296	Part 2 – Section VI A	3.14.9	Crashworthiness The carbody structure shall be designed according to European standard EN 12663 category PIII and crash scenarios defined in EN 15227 (Category CII), or as described below. The end of each car shall have two corner posts, two collision posts and an anti-climbing device. In lieu of corner posts and collision posts the Contractor may propose a service proven collision buffer system that meets the requirements of EN 15227. For crash scenarios (under standard EN 15227 the car loading shall be taken as AW2).	EN 15227 directs to consider only 50% of seated passenger mass to calculate collision mass. Consideration of AW2 mass will lead to additional kinetic energy. Anslysis will be carried out as per EN 15227.	Refer Addendum 01 S/N 35	Yes
297	Part 2 – Section VI A	3.14.10.1	<ul> <li>A crash energy absorption ("large deflection") analysis of the car shall be made and submitted to assess the energy absorbing properties of the structure. The Contractors shall submit a detailed report showing all the results of the analysis for CMRL's review and approval. Crashworthiness analysis shall be conformed for all train configuration mentioned this contract and in clause 2.2.12.</li> <li>This analysis is required to show that the car crushes in from the end and does not affect the occupied volume. The analysis shall be based on the following scenarios: <ul> <li>(i) one 3-car train in AW2-loading condition, traveling at 25 kmph, impacts another 3-car train similarly AW2 loaded Condition, which is standing still with friction brakes applied on level, tangent track so that the anti-climbing mechanisms engage.</li> <li>(ii) one 3-car train in AW2-loading condition, traveling at 25 kmph, impacts another 3-car train similarly AW2 loaded Condition, which is standing still with unbraked on level, tangent track so that the anti-climbing mechanisms engage.</li> <li>(iii) one 6-car train in AW2-loading condition, traveling at 25 kmph, impacts another 6-car train similarly AW2 loaded Condition, which is standing still with priction brakes applied on level, tangent track so that the anti-climbing mechanisms engage. (Trainsets configuration defined as per clause 2.2.12)</li> <li>(iv) one 6-car train in AW2-loading condition, traveling at 25 kmph, impacts another 6-car train similarly AW2 loaded Condition, which is standing still with unbraked on level, tangent track so that the anti-climbing mechanisms engage. (Trainsets configuration defined as per Clause 2.2.12)</li> <li>(v) one 6-car train in AW2-loading condition, traveling at 25 kmph, impacts another 6-car train similarly AW2 loaded Condition, which is standing still with unbraked on level, tangent track so that the anti-climbing mechanisms engage.</li> <li>• Compression load developed by the longitudinal frame members designed for crushing.</li> <li></li></ul></li></ul>	EN 15227 has load cases for Crashworthiness analysis like (i) Collision between identical cars (ii) Over riding of cars etc (iii) Deccleration limits The load cases brought out in EN 15227 covers all requirements for assesment of new cars with guideline and acceptance critera. in view of the above CMRCL is requested to ammend the clause to consider the load cases as per EN 15227	Refer Addendum 01 S/N 36 Refer Addendum 01 S/N 37 Refer Addendum 01 S/N 38 Refer Addendum 01 S/N 39	Yes
298	Part 2 – Section VI A	3.14.10.2	following collision scenario and crashworthiness components, the following collision scenario and crashworthiness criteria may apply, or those which comply with the cited international standards: Crashworthiness analysis shall be conformed for all train configuration mentioned this contract and in clause 2.2.12. a. Collision Scenario: 1. One 3-car trainset loaded to AW2 operating on level tangent track and moving at velocity V, impacts a similar, 3-car trainset loaded to AW2 stationary trainset which has all friction brake systems applied with a wheel/rail coefficient of friction of 0.3. 2. One 3-car trainset loaded to AW2 operating on level tangent track and moving at velocity V, impacts a similar, 3-car trainset loaded to AW2 stationary trainset which is unbraked. 3. One 6-car trainset loaded to AW2 operating on level tangent track and moving at velocity V, impacts a similar, 6-car trainset loaded to AW2 stationary trainset which has all friction brake systems applied with a wheel/rail coefficient of friction of 0.3. 3. One 6-car trainset loaded to AW2 operating on level tangent track and moving at velocity V, impacts a similar, 6-car trainset loaded to AW2 stationary trainset which has all friction brake systems applied with a wheel/rail coefficient of friction of 0.3. (Trainsets configuration defined as per clause 2.2.12)	EN 15227 has load cases for Crashworthiness analysis like (i) Collision between identical cars (ii) Over riding of cars etc (iii) Deccleration limits	Refer Addendum 01 S/N 40 Refer Addendum 01 S/N 41 Refer Addendum 01 S/N 41	Yes

4. One 6-car trainset loaded to AW2 operating on level tangent track and moving at velocity V, impacts a similar, 6-car trainset loaded to AW2 stationary trainset which is unbraked. (Trainsets configuration defined as per clause 2.2.12)

Refer Addendum 01 S/N 43



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			<ul> <li>b. Crashworthiness Criteria: The Contractor shall submit predicted values for the following in respect of AW2 loading condition. The Contractor shall submit a detailed technical proposal and analysis to specify the following in respect of the AW2 loaded vehicle collision scenario defined above in clause 3.14.10.2 a:</li> <li>(i) The maximum collision speed at which there is no structural damage to the car body and the coupler.</li> <li>(ii) The minimum collision speed at which the coupler energy absorption device fails.</li> <li>(iii) The minimum speed at which actual structural damage commences.</li> <li>(iv) The maximum speed at which the cab structural collapse features deform completely, without damage to the main car body structure.</li> </ul>	consider the load cases as per EN 15227		
299	Part 2 – Section VI A	3.14.10.5	Electrical equipment and wiring shall be configured in a manner that precludes any electrical shock hazard to passengers, operators, or rescue personnel for the collision scenarios defined in clause 3.14.10.2. Compressed air systems and associated lines for these shall be configured to minimize the possibility of rupture and fire for the collision scenario in clause 3.14.10.2	EN 15227 directs to consider closing speed of 25 kmph for analysis purpose, study on eventualities above closing speed of 25 kmph is not covered under EN 15227.Request to ammend the clause suitably by adding closing speed in the clause.	Tender condition prevails.	No
300	Part 2 – Section VI A	4.2.9	To meet emergency requirements of clearing a disabled train by a healthy train, the couplers of ARE02a trainsets shall be totally compatible for providing safe mechanical and pneumatic coupling with electrical head (only for rescue operation) with ARE03a / ARE04 trainsets (in accordance with the interface requirements detailed in (Appendix-C). Complying auxiliary power requirements specified in clause 9.10 and also complying with clause 4.6.	CMRL is requesed to share the Pin details to be provided for E-head and Type of coupler, to have compatibility with ARE03a/ARE04 trainsets. Constaints may arise in compability and interoperabaility (Design) with coupler head of ARE03a/ARE04 trainsets, as coupler supplier for ARE03a/ARE04 and for ARE02a may be different. CMRL is requested to rephrase the sentence.	Tender condition prevails.	No
301	Part 2 – Section VI A	6.7.2.8	Once the device has been activated to the 'emergency release' position, the device shall be mechanically latched in that position, and shall require the use of the reset key to reset back to the 'normal' position. The reset function shall also be available from TCMS / OCC.	CMRL to delete "The reset function shall also be available from TCMS / OCC". Reset is possible only manually by visiting to the device / door physically.	Tender condition prevails.	No
302	Part 2 – Section VI A	6.9	DUAL MODE DETRAINMENT DOOR	Because of dual mode of Detrainment door, OEM is not able to meet the technical requirements specified Viz. load, deployment time, provision of windscreen etc. CMRCL is requested to change the dual mode detrainment door requirement to train to track mode.	Tender condition prevails.	No
303	Part 2 – Section VI A	6.9.1	Dual Mode Detrainment Doors shall be provided in the first and last car for emergency egress of passengers in one (1) of two (2) modes of operation.	Because of dual mode of Detrainment door, OEM is not able to meet the technical requirements specified Viz. load, deployment time, provision of windscreen etc. CMRCL is requested to change the dual mode detrainment door requirement to train to track mode.	Tender condition prevails.	No
304	Part 2 – Section VI A	6.9.6	The detrainment door shall be an aesthetically pleasing design which ensures a clear view of the track from driving car. The door shall aesthetically harmonize with front and side lookout glasses of the emergency operator's desk, shall not block the front view and shall give a look of single glass.	CMRL is requested to remove windscreen glass from Detrainment Door. For train to train mode of operation Plug type door is considered , Detrainment door OEM proposing not to provide windscreen.	Tender condition prevails.	No
305	Part 2 – Section VI A	6.9.7	The material of front-end detrainment Door glass shall meet the specifications in clause 3.4.9.4 and 5.3. The visibility of the joint between the detrainment door and windshield look out glass shall be bare minimum.	CMRL is requested to remove windscreen glass from Detrainment Door. For train to train mode of operation Plug type detrainment door is considered , Detrainment door OEM proposing not to provide windscreen.	Tender condition prevails.	No
306	Part 2 – Section VI A	6.9.9	The clear width of the detrainment doorway and width of the ramp when operated shall be a minimum 700mm with a headroom not less than 1900mm.	CMRL is request to reduce the width of the Ramp to 600mm due to design constraints. Being a standard gauge and UTO train, more numbers of equipment's are coming in cab area.	Tender condition prevails.	No
307	Part 2 – Section VI A	6.9.10	The Contractor shall ensure that the detrainment door should not jam in the event of a train collision.	CMRL is requested to delete the clause. Detrainment Door being a FRP item will not withstand the tarin collision load.	Tender condition prevails.	No
308	Part 2 – Section VI A	6.9.12	The detrainment ramp shall have full length longitudinal handrail and fluorescent material marking on both sides of passenger egress direction. The ramp shall be designed for load of 500 kg/m <sup>2</sup> or more and it shall not sag during the evacuation process. The ramp angle shall not be more than 16.5 degrees. The ramp shall also be suitably supported to ensure there is no tilting on straight or curved sections of track.	CMRL is request to reduce the design load of the ramp to 300kg/m <sup>2</sup> . As per Detrainment door OEM, dual mode ramp can be designed to load of 300kg/m <sup>2</sup> . With only train to track mode OEM is able to design Ramp for load of 500 kg/m <sup>2</sup> .	Tender condition prevails.	No
309	Part 2 – Section VI A	6.9.17	The complete opening of the detrainment door and placing of ramp by an untrained passenger shall not take more than 1 minute. The Contractor shall demonstrate the complete detrainment door opening and closing operation as part of type test.	CMRL requested to change the opening of the detrainment door to 2 minute. Detrainment door OEM is proposing 2 minutes for both train to track and train to train operation.	Tender condition prevails.	No
310	Part 2 – Section VI A	7.4.3	The air discharge velocities at any outlet grille, shall not create noise disturbing the passengers and shall vary progressively as per EN14750. <b>Minimum air discharge velocities at any outlet grille shall not be less than 0.5 m/s measured at 300mm below ceiling</b> . The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. The minimum volume of fresh air supplied by the artificial ventilation shall be 2.5 liters per second per passenger at AW4 Load. This air shall be filtered. The Contractor may propose design improvements to the above parameters for CMRLs' review and approval.	The air discharge velocities at any outlet grille, shall not create noise disturbing the passengers and shall vary progressively as per EN14750. <b>Minimum air discharge velocities at any outlet grille shall not be</b> <b>less than 0.5 m/s measured at 300mm below ceiling.</b> The air intake velocity at the re-circulation and exhaust grilles shall not exceed 3m/s. The minimum volume of fresh air supplied by the artificial ventilation shall be 2.5 liters per second per passenger at AW4 Load. This air shall be filtered. The Contractor may propose design improvements to the above parameters for CMRLs' review and approval. Velocities will be followed as per standard EN14750	Tender condition prevails.	No
311	Part 2 – Section VI A	7.4.5.6	In the event of Smoke or fire being present outside the train, arrangements shall be made to prevent the products of combustion being introduced into the saloon and emergency operator's desk areas by shutting off the fresh air inlets and operate in a 100% re-circulation mode. Irrespective of any smoke, in the event that there is a total loss of 110 V dc power supply to the VAC modules (and therefore no emergency ventilation) the ducting devices shall default to this condition of 100% re-circulation.	Clarification required for the following clause content: Irrespective of any smoke, in the event that there is a total loss of 110 V dc power supply to the VAC modules (and therefore no emergency ventilation) <b>the ducting devices shall default to this condition of</b> <b>100% re-circulation.</b> We understand that, when there is total loss of 110V DC supply HVAC unit will not be functional. Hence recirculation is not possible. CMRL is requested to recheck the clause requirement and define what is "Ducting device"	CMRL clarifies that in case of total loss of 110 Vdc power supply failure, the ducting devices (E.g. fresh air damper) shall be closed and default to 100% re- circulation. Tender Condition Prevails.	No
312	Part 2 – Section VI A	7.4.6.3	During ventilation, the system shall deliver 100% fresh air, and circulate return air throughout the emergency operator's desk area and saloon.	Clarification required for the following clause content: During ventilation, the system shall deliver 100% fresh air, and <b>circulate</b> <b>return air</b> throughout the emergency operator's desk area and saloon. It not required to recirculate the return air during ventilation with 100% fresh air. CMRL is requested to recheck the clause requirement and clarify. The heater shall be installed to <b>condition the fresh air intake and</b> for reheating to control humidity.	Tender condition prevails.	No
313	Part 2 – Section VI A	7.5.2	The heater shall be installed to condition the fresh air intake and for reheating to control humidity.	As per the specification requirement heating is not required to control internal saloon temperature. Hence requirement installation of heater to	Refer Addendum 01 S/N 47	Yes

		humidity inside the saloon.	
		CMRL is requested to recheck the clause requirement.	



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314	Part 2 – Section VI A	7.6.8	Saloon Pressure: The VAC supply air blower fan shall pressurize the car passenger area. In car stationary with all doors closed and vestibules blocked condition, the value of interior static pressure shall be between <b>25 and 40 Pa.</b>	Saloon Pressure: The VAC supply air blower fan shall pressurize the car passenger area. In car stationary with all doors closed and vestibules blocked condition, the value of interior static pressure shall be min <b>10 Pa</b> <b>in AW4 loading condition.</b> Positive pressure will be manitained inside the Saloon. Increased saloon pressure has no positive impact on comfort condition	Tender Condition prevails.	No
315	Part 2 – Section VI A	7.11.2	The Contractor shall ensure that the overall design of the VAC System; is able to tolerate the extremely dusty and humid environment which prevails in Chennai to the extent that there is no necessity to clean VAC filters before 12,500 kms or within fewer than 30 days train running; whichever is lower. Minimum expected life of filter shall be 100,000 km. The effectiveness of VAC filters shall be adequate enough to ensure that dust deposition in the air ducts is minimal and won't create cause to need to clean the ducts between major overhauls.	The Contractor shall ensure that the overall design of the VAC System; is able to tolerate the extremely dusty and humid environment which prevails in Chennai to the extent that there is no necessity to clean VAC filters <b>before 5000 kms or within fewer than 15 days train running;</b> whichever is lower. Minimum expected life of filter shall be 100,000 km. The effectiveness of VAC filters shall be adequate enough to ensure that dust deposition in the air ducts is minimal and won't create cause to need to clean the ducts between major overhauls. In practice and as per our experience in the previous project, filter cleaning frequency is 15 days or 5000km whichever is earlier. OEM also suggest the filter cleaning frequency of 15days or 5000km to avoid blockage	Tender Condition prevails.	No
316	Part 2 – Section VI A	11.2.13	There shall be sufficient clearance (but not less than 25 mm between the bogie and car body to allow the car to operate with a deflated secondary suspension system such that damage does not occur at maximum operating speeds under conditions of maximum loading and maximum wheel and suspension system component wear, including creeping or settling.	The criteria for maintaining clearance of not less than 25mm between bogie and carbody is not established. In view of the above The clause may please be modified as by providing reference international standard Or The clause may please be modified as " There shall be sufficient clearance between the bogie and car body".	Tender Condition prevails.	No
317	Part 2 – Section VI A	11.3.3 (b)	b. The Contractor shall demonstrate that the bogie assembly design is compatible with the <b>collision requirements</b> of these Technical Specifications.	The clause may please be deleted since collision requirements talks only about carbody as per EN15227 which is tested and proved with crashworthiness or the clause may please be updated with the relevant standard.	Tender Condition prevails.	No
318	Part 2 – Section VI A	11.3.5(a)	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.	It may please be noted that the traction motor and gear transmission are rigidly mounted to the bogie frame and dynamic effetcts due to inertia is not applicable for rigidly mounted bodies and hence may need not be considered for calculation. Therefore the portion of the clause stating "The dynamic effects due to the inertia of the motors and transmission shall also be simulated" may please be deleted.	Tender Condition prevails.	No
319	Part 2 – Section VI A	11.4.10 (e)	The service life of rubber bonded metal components / rubber of spring type primary suspension shall be not less than <b>12 years</b> and shall be warranted for the same.	The Clause may please be modified as recommended by OEMs : The service life of rubber bonded metal components / rubber of spring type primary suspension shall not be less than 8 years and shall be warranted for the same.	Tender Condition prevails.	No
320	Part 2 – Section VI A	11.4.11 (d)	Hydraulic dampers of suitable capacity shall be provided symmetrically to control and limit the vertical and lateral oscillation of the car body. The damping factors are to satisfy this provision. The damping factor in vertical mode, by wedge test, when tested using a wedge of 18 mm thickness should 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. No leakages of any kind shall be permitted. <b>The design life of the dampers shall be minimum 10 years.</b>	The subject clause is contradicting with the ERTS clause 11.2.4 with regard to the life of dampers. Clarity may please be provided with respect to the same.	Tender Condition prevails.	No
321	Part 2 – Section VI A	11.4.18	The design of the bogie, including the wheel profile, shall prevent the generation of high Lateral to Vertical force (L/V) ratios on any wheel that could result in derailment under all track conditions defined in Chapter 2, and at all permitted car speeds over the CMRL alignment, up to 10% above the maximum speed permitted, <b>the L/V ratio shall not exceed</b> <b>1.0</b> under railhead coefficient of friction conditions up to and including 0.5. Yard operation and deflated secondary suspension conditions shall also be considered.	As per EN 14363 standard, L/V ratio up to 1.2 is permitted, hence the highlited portion of the clause may please be modified as follows: <b>"the L/V ratio shall not exceed 1.2</b> "	Tender Condition prevails.	No
322	Part 2 – Section VI A	11.4.18.1	The Contractor shall submit calculations to confirm that the derailment quotient <b>Y/Q shall not exceed 1.0</b> under the most adverse conditions, where Y & Q are the instantaneous lateral force on the wheel flange and the instantaneous vertical load on that wheel tread respectively under the most adverse conditions.	Bogie testing will be done inline with EN 14363 and the standard calls for Y/Q ratio not to exceed 1.2. Hence the subject clause may please be modified as follows: The Contractor shall submit calculations to confirm that the derailment quotient <b>Y/Q shall not exceed 1.2</b> under the most adverse conditions, where Y & Q are the instantaneous lateral force on the wheel flange and the instantaneous vertical load on that wheel tread respectively under the most adverse conditions.	Tender Condition prevails.	No
323	Part 2 – Section VI A	11.4.18.2	The bogies rotational resistance (X factor) test under inflated and deflated air spring conditions would be carried out at the manufacturer's works under tare conditions, the value of which should not exceed 0.08 at rotational speed of 0.8 degrees / second. The rotational resistance shall neither cause excessive flange wear nor cause any possibility of flange climbing but shall be adequate to avoid bogie hunting on straight track. <b>The Contractor shall show by analysis that no flange climbing occurs on any curve and moving at all possible speeds</b> . Test shall be conducted in accordance with clause 17.5.2.11	The highlighted portion of the clause may please be clarified. Analysis means simulation or testing may please be explicitly specified.	Analysis means simulation	No
324	Part 2 – Section VI A	11.4.18.3	The Dynamic Analysis, to evaluate the running behaviour of the cars with the proposed bogie design, <b>shall be carried out by means of theoretical calculations</b> applying multi-body simulation techniques.	The requirement of theoritical calculations means software simulations. Please clarify.	Yes.	No
325	Part 2 – Section VI A	11.4.19	The Contractor shall submit a detailed dynamic model to demonstrate the running behaviour and performance characteristics of the proposed service proven bogie design. (CDRL11-8)	The requirement in the clause is not clear. Generally, a vehicle dynamics analysis report will be submitted. Dynamics model comes under IPR and may not be feasible to share. In view of the abobe, the clause may please be elaborated with regard to the dynamic model requirment along with a reference standard or the clause may please be deleted.	Simulation study report.	No
326	Part 2 – Section VI A	11.4.20 (c)	<b>Flexibility coefficient calculation</b> & test be performed conforming to EN 14363. The Contractor shall measure the following but not limited to flexibility coefficient, roll angle, roll height, lateral movement.	The highlighted portion of the clause may please be clarified with respect to calculations requirement. However it may please be noted that the test will be performed inline with EN14363.	Tender Condition Prevails.	No
327	Part 2 – Section VI A	11.6.4 (a)	In addition to the bogie loading identified in this section, the contractor shall ensure that the bogies are capable of surviving the collision scenarios specified in ERTS clause 3.14.9 without detaching from the car or deforming in a manner that will penetrate the passenger compartment. Equipment supports shall also <b>be designed to prevent equipment from</b> <b>becoming projectiles.</b>	Portion of the ERTS clause stating "Equipment supports shall also be designed to prevent equipment from becoming projectiles" is open without any reference to standards, methodology and criteria, in general for bogie system and especially for equipment supports. In view of the above, ERTS may please be updated providing the reference to an international standard or requested to delete the portion of the clause.	Refer EN 15227. Tender Condition Prevails.	No
328	Part 2 – Section VI A	11.9.2	The wheel tread shall be of the wear adapted wheel profile S 1002 / h28 / e32.5 / 6.7% as defined in EN 13715. The Contractor shall undertake a wheel-rail interaction / simulation study to optimally derive all other wheel parameters within the range permitted by the <b>SOD</b> . <b>Track parameters</b> are specified in the Interface Requirements ( <b>Appendix-C</b> ) and the alignment drawings. [The Contractor may propose an alternative SOD compliant wheel profile for CMRL's consideration if there are strong justifications to demonstrate improvements over the above-mentioned profile].	With regard to the interoperability clause 2.2.26, requested to confirm if the SOD, track parameters and alignment (as installed) for ARE02A will be same as that of ARE03A and ARE04 contracts.	Tender Condition Prevails.	No

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329	Part 2 – Section VI A	11.9.4	"The wheel and suspension shall be optimized to minimize squealing in curves, track curves are 120m on mainline and 100m on depot. <b>This must be confirmed by test.</b> "	Portion of the ERTS clause stating "This must be confirmed by test." is open without any reference to standards, methodology and criteria. In view of the above, ERTS may please be updated providing the reference to an international standard or requested to delete the portion of the clause.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
330	Part 2 – Section VI A	11.11.4	Control of the WFL System shall be entirely TCMS based. Activation of the oil spray cycle shall be based on the train location. <b>TCMS shall</b> <b>adjust the cycle duration / quantity of oil deployed based on the</b> <b>train approach speed and degree of curve at that location etc.</b>	Adjusting cycle duration / quantity of WFL oil spary by TCMS in not a pratical solution. The subject clause is having variables such as train approach speed which is very difficult to predict and doesn't follow a pattern. Also, this requirement will contradict with interoperability clause 2.2.26 with regard to train location. In viewof the above, the portion of the clause stating "TCMS shall adjust the cycle duration / quantity of oil deployed based on the train approach speed and degree of curve at that location etc." may please be deleted.	Tender Condition Prevails	No
331	Part 2 – Section VI A	11.11.5	Spray cycles shall be configured to custom profiles for each curve location that is stored on a TCMS database. Each WFL location profile shall be programmable via TCMS to allow for fine adjustment, which the Contractor is required to optimise during service trails.	More clarity on what are the requirements for the custom profiles may please be detailed out. This is possible only if the required custom profile details are shared along with the tender documents. Requested to share the custom profiles or delete the clause.	Tender Condition prevails.	No
332	Part 2 – Section VI A	11.11.8	The health status of the WFL System; including oil-levels in the reservoir tanks shall be available in TCMS. System Isolation shall also be possible through TCMS in case of malfunction.	There is no proven solution available to display dynamic oil levels in the reservoirs. Hence, requested to update the clause as below "TCMS will display the oil level low signal when the oil level drops below the set minimum limit"	The Bidder's understanding is correct.	No
333	Part 2 – Section VI A	11.11.9	Pneumatic piping shall be stainless steel (grade SUS316LTP) conforming to JIS3459. Oil tanks shall be stainless steel, easily accessible for refilling and <b>include a vertical sight glass with a scale.</b>	The highlighted portion of the clause refers to include a vertical sight glass with a scale. It may please be noted that the proven WFL solutions available provides oil with high viscosity which is of grease grades. Hence, the oil may stick on the inner walls of the sight glass hindering the visibility. Hence provision of sight glass will not give the actual level in the reservoir. In view of the above the clause may please be modified suitably.	Tender Condition prevails.	No
334	Part 2 – Section VI A	11.12.2	All wheels of bogies shall have derailment detection device. A derailment detection device can reduce the escalation of accident consequences to passengers and property, even in the event of partial train derailment. The derailment detection device shall monitor all running axles, and when activated, it shall apply the emergency brake. The detection of derailment shall be automatically reported to the OCC as an emergency message and shall be recorded by the TCMS	As no proven solution applicable in metro applications are available as on date, details regarding the type of derailment detection and monitoring system such as condition monitoring/real time monitoring etc and the technology (Mechanical impact/ Radio frequency/Laser technology etc) may also please be clearly defined. Also the location of the derailment detection device may please be clearly specified indicating reference to any standard in use for the mentioned application. As the mentioned requirement will also add up to the cost of the project and hence the clause may please be suitably modified.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No
335	Part 2 – Section VI A	12.2.3 (g)	Wheel slip and slide protection	Wheel slip is controlled by propulsion and is not in the scope of brake system. The clause may be updated as Wheel slide protecion by removing slip from brake system scope.	Tender Condition prevails.	No
336	Part 2 – Section VI A	12.2.7	The brake system shall comply to UIC 544-1 regarding Braking Performances.	The clause may be rephrased as "The brake system shall comply to UIC 544-1 <b>or EN 13452-1</b> regarding Braking Performances."	Refer clause 2.2.23. Tender Condition Prevails.	No
337	Part 2 – Section VI A	12.2.10 (d)	Under conditions of a dragging parking brake for a minimum distance of 3 kilometers at a speed of 10 kmph, no damage shall be caused to the braking system or any bogie component, with the exception of abnormal shoe wear. Detailed figures to be provided during preliminary design stage.	Dragging requirement will limit the safety against rolling under worst case as per ERTS Clause 2.14.3.6, 2.14.3.7 & 12.8.1. Since the clause is contracdictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detremental to the rolling stock during operation which may result in allow wheel flat / track damage. In view of the above, CMRL may please review and delete the ERTS clause.	Tender Condition prevails.	No
338	Part 2 – Section VI A	12.2.10 (i)	The Spring Applied Parking Brake (SAPB) shall be an integral part of the friction brake actuation system. Brake actuators shall be sufficient to permit push-through without any wheel damage.	Dragging requirement will limit the safety against rolling under worst case as per ERTS Clause 2.14.3.6, 2.14.3.7 & 12.8.1. Since the clause is contracdictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detremental to the rolling stock during operation which may result in allow wheel flat / track damage. In view of the above, CMRL may please review and delete the ERTS clause.	Tender Condition prevails.	No
339	Part 2 – Section VI A	12.3.6	Flexible hoses shall be kept to a minimum and be proven in metro train operation. The Contractor shall submit proposals to increase the integrity of the air supply system against rupturing of inter-car flexible hoses. <b>Burst hose protection shall be provided for hoses</b> . Armored hoses or a double hose burst protection valve shall be provided in the flexible connections in the parking brake piping along with test reports in compliance with the latest international standard for acceptance by CMRL.	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 <b>inter-car flexible</b> hoses" to provide more clarity.	Tender Condition prevails.	No
340	Part 2 – Section VI A	12.3.13	The air supply from the compressor(s) shall be controlled under all operating conditions by high and low-pressure governor switches.	This clasue is contradicting with clause 12.4.5 which says "TCMS shall control cut in and cut out of the compressors based on the feedback of a pressure transducer / governor fitted to the MR pipe." CMRL may please review and update the clause suitably.	Tender Condition prevails.	No
341	Part 2 – Section VI A	12.3.15	The Contractor shall ensure that the pressure leakage from the train under static condition shall not exceed 1 bar / hour. This function shall be tested at contactor's manufacturing facility. The contractor shall ensure this requirement is met throughout the entire design life. Any trends of deterioration of pneumatic integrity shall be remedied by the Contractor through an appropriate modification.	As per international standard (IEC 61133) and practice, the pressure shall not drop below the minimum value compatible with the proper functioning of all the equipment within 20 min. CMRL may please review and update the clause suitably.	Tender Condition prevails.	No
342	Part 2 – Section VI A	12.4.5	A pressure governor for each compressor shall be provided, which shall be capable of withstanding a pressure not less than the 'open' pressure of the safety valve without damage or deterioration. <b>TCMS shall control cut in and cut out of the</b> <b>compressors based on the feedback of a pressure transducer /</b> <b>governor fitted to the MR pipe</b> . Pressure transducers, switches and governors shall be of proven reliability that was demonstrated in previous EMU metro operations. The Contractor shall furnish the reliability figures during the design stage.	Please note Pressure governor/Pressure Switch is a controlling device and cannot be controlled by TCMS. TCMS shall execute the compressor management based on feedback from pressure sensor/transducer only. Please update the clause as below "TCMS shall control cut in and cut out of compressor based on feedback of pressure <b>transducer/sensor</b> fitted in MR pipe."	Tender Condition prevails.	No
343	Part 2 – Section VI A	12.4.12	Correct functioning and running hours of compressors shall be monitored and recorded by TCMS. A maintenance alarm shall be generated in TCMS if the net air consumption exceeds a given criteria that will be agreed during design stage. The related parameter shall be adjustable.	Please note there is no such proven system of determining the air consumption of train in service. CMRL may please review and update the clause suitably.	Tender Condition prevails.	No
344	Part 2 – Section VI A	12.4.13.6	A proven regenerative type of air dryer using desiccant and of a suitable capacity shall be provided between the air compressor and the main reservoir. The air dryer shall be preceded by an automatic drain valve, which collects and discharges the bulk of the moisture in the compressed air, before it enters the air dryer. The air dryer shall have IP65 protection.	For oil free compressors it is not required to provide an automatic drain valve before air dryer. CMRL may please review and update the clause suitably.	Tender Condition prevails.	No
345	Part 2 – Section VI A	12.5.6	All reservoirs shall have an associated automatic drain device and, where applicable, an additional manual device for venting / draining the contents of the reservoir.	As per standard practice in Indian metros, only main reservoir will have provision of automatic drain valve and all other reservoirs will have manual drain cocks. CMRL may please review and update the clause suitably.	Tender Condition prevails.	No

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346	Part 2 – Section VI A	12.5.7	All drain cocks that are fitted shall be easily accessible and the drain cock handles shall point downwards when in the <b>closed</b> position.	Generally, if the handle is inline with direction of flow, the cock condition is termed as open. And perpendicular to the flow is termed as closed. In view of above, the clause may be rephrased as " All drain cocks that are fitted shall be easily accessible and the drain cock handles shall point downwards when in the <b>open</b> position."	Tender Condition prevails.	No
347	Part 2 – Section VI A	12.6.5	In the event of a failure of the dynamic brake, the friction brake shall be capable of carrying out <b>three (3)</b> consecutive emergency brake applications from maximum speed down to standstill of a rake in the Crush Loading condition. The rake shall be deemed to then accelerate at its maximum rate up to maximum speed after each stop.	Three consecutive emergency brake at maximum speed and crush loading will lead to temperatures beyond the acceptable limits. Therefore the requirement may please be changed as "In the event of a failure of the dynamic brake, the friction brake shall be capable of carrying out <b>two</b> (2) consecutive emergency brake applications from maximum speed down to standstill of a rake in the Crush Loading condition. The rake shall be deemed to then accelerate at its maximum rate up to maximum speed after each stop."	Tender Condition prevails.	No
348	Part 2 – Section VI A	12.6.8.3	The electric regenerative brake shall be independent for each Motor Car and faults on one car shall not adversely affect the braking performance on the other car. Each Bogie of the rake shall have independent Brake Electronics with independent Electro Pneumatic brake control. <b>Detection</b> <b>of Wheel slip &amp; Wheel slide and its protection control shall be per</b> <b>individual axle based</b> .	Wheel slip is controlled by propulsion and is not in the scope of brake system. CMRL may please review and update the clause suitably for brake system scope.	Tender Condition prevails.	No
349	Part 2 – Section VI A	12.6.8.10	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. The enclosed lockable boxes shall be made of stainless steel.	All the pneumatic control equipment and safety valves will not be mounted in enclosed lockable boxes Hence, this clause may be reviewed and updated to "pneumatic control equipment and valves having electrical contact or switches shall be mounted in the enclosed lockable boxes	Tender Condition prevails.	No
350	Part 2 – Section VI A	12.6.8.14	A proven speed sensor having 2 channel mounted on the cover of each axle box shall be provided for Wheel slide protection, <b>Train speed measurement</b> and for any other function decided by CMRL during the design phase.	Speed sensor provided by brake system OEM will be used only for WSP application. Clause may be reviewed and updated for removal of requirement of Train speed measurement from the scope of brake system. Also, "for any other fucntion" is a very generic requirement. CMRL may please review and update the clause with specific requirement or may be deleted.	Tender Condition prevails.	No
351	Part 2 – Section VI A	12.6.9.11	Complete friction brake system shall be tested on Brake dynamo-meter and validated during field tests.	<ul> <li>Brake dynamometer test is applicable for the following equipments/items only:</li> <li>•brake disc or wheel</li> <li>•brake pads or blocks</li> <li>•brake caliper or tread brake unit</li> <li>For requirement to be specific, CMRL may please review and update the</li> </ul>	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
352	Part 2 – Section VI A	12.7.1 (d)	During braking, if the dynamic braking is operating and is providing all the required effort, the BCU shall maintain sufficient EP brake pressure to keep the brake block close to the wheel tread and/or disks but shall not contribute to any braking effort or cause wear to the pads.	ERTS clause suitably. It is not recommend to keep pre-pressure provision as this can lead to negative implications on brake pad wear or glazing effect which will reduce the friction coefficient. Since all the braking parameters are already defined, this requirement may lead to poor performance. CMRL may please review and delete the clause.	Tender Condition prevails.	No
353	Part 2 – Section VI A	12.8.5	The parking brake force on individual axles shall not be so large as to inhibit emergency rake recovery or to give rise to locked wheels during recovery. The maximum wheel / rail adhesion level to be assumed for the "push-out"requirement shall be 0.16	Push-out requirement will limit the safety against rolling under worst case as per ERTS Clause 2.14.3.6, 2.14.3.7 & 12.8.1. Since the clause is contracdictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detremental to the rolling stock operation which may result in wheel flat / track damage. In view of the above, CMRL may please review and delete the clause.	Tender Condition prevails.	No
354	Part 2 – Section VI A	12.8.9	It shall be possible to mechanically release individual SAPB's using release levers located inside the saloon of each car. This provision is specified to allow staff attending failed trainsets (E.g. where the MR feed to SPAB(s) has been lost) the possibility to release any SAPB on the train; without limitations caused by insufficient clearance for access to the exterior of the train.	The clause is contradicting the requirement of ERTS 2.15.7.3 & 12.6.8.12. CMRL may please review and update the clause.	Refer Addendum 01 S/N 30 Refer Addendum 01 S/N 50	Yes
355	Part 2 – Section VI A	12.9.2	The below listed pressure information shall be shared to TCMS and the same shall be displayed in RSC consoles of OCC, DCC & BCC. a) The pressure in all suspension reservoirs b) The pressure in all reservoirs of train c) The pressure in all brake cylinders d) The pressure in all parking brake units e) The pressure in pantograph regulator f) The pressure in all Vacuum Circuit breakers g) The pressure of Air Generation unit at different stages h) The pressure of Auxiliary compressor (used for raising pantograph)	These requirements are not an optimal system for a rolling stock. Only critical systems pressure shall be monitered at TCMS. Other interlocks via Pressure switches will be monitered by TCMS in case of any failure. CMRL may please review and update the clause suitably.	Tender Condition Prevails.	No
356	Part 2 – Section VI A	12.15.5	The Contractor shall interface with ARE03a / ARE04 Contractor(s) to ensure that full compatibility of train rescue functionality is achieved. The same shall be demonstrated during at type test stage	With regard to the interoperability clause 2.2.26, requested to confirm if the SOD, track parameters and alignment (as installed) for ARE02A will be same as that of ARE03A and ARE04 contracts.	Tender Condition Prevails.	No
357	Part 2 – Section VI A	12.17.1	The build-up of pneumatic brake force shall be jerk limited (for changes in brake demand) to increase passenger comfort. The jerk limitation shall be 0.7+0.05 m/s3. This limit shall also be respected at the time of final stoppage also.	Stopping jerk is not in scope of brake system and it needs to be controlled by the train operator and / or signaling supplier. Clause may be reviewed and updated for removal of stopping jerk control from the scope of brake system.	Tender Condition Prevails.	No
358	Part 2 – Section VI A	12.19.1	The brakes system shall comply with the following SIL levels: Emergency Brakes $\rightarrow$ SIL 4; Service Brake, <b>Train Speed information</b> , Wheel Slide Protection, Holding brake application & Feedback $\rightarrow$ SIL 2;	Device used for train speed measurement is used by brake system OEM is for WSP application only. CMRL may please review and update the clause for removal of requirement of Train speed measurement from the scope of brake system.	Tender Condition Prevails.	No
359	Part 2 – Section VI A	14.2.4	All the End Devices shall support dual-homing type or any latest technology type of Ethernet connections to ECN via physically independent ports to increase system reliability and availability. All digital and analogue Input / Output interfacing with TCMS (directly or via an interface unit) shall also be fully redundant. In any case, the Contractor shall maintain full system availability, in case of single point failure of any TCMS component or communication link, and the vehicle operation shall not be affected.	It is requested to modify the clause as below "All the End Devices shall support dual-homing type or any latest technology type of Ethernet connections to ECN via physically independent ports or <b>by any alternate means</b> to increase system reliability and availability"	Tender Condition Prevails.	No
360	Part 2 – Section VI A	14.9.5 (a)	Single Point Upload of all software of the train a) Single point uploading of software (for all sub-systems connected with TCMS) shall be possible via <b>TCMS nodes</b> . In-case of sub-supplier's equipment like Saloon Doors, PAPIS & CCTV, VAC, CI, APS, Brake system, etc. also, single point uploading of software and downloading of faults on unit / car / train basis shall be ensured from TCMS only.	Single point uploading of software can be done through network switch. Request to rephrase the clause as following: a) Single point uploading of software (for all sub-systems connected with TCMS) shall be possible via TCMS nodes <b>or through suitable network</b> <b>switch</b> . In-case of sub-supplier's equipment like Saloon Doors, PAPIS & CCTV, VAC, CI, APS, Brake system, etc. also, single point uploading of software and downloading of faults on unit / car / train basis shall be ensured from TCMS only.	Refer Addendum 01 S/N 53 Refer Addendum 01 S/N 54	Yes
361	Part 2 – Section VI A	14.9.5 (b)	Single Point Upload of all software of the train b) The overall time required for uploading the software for all subsystems shall not be more than <b>10 minutes</b> for each complete sub-system of train and the same shall be demonstrated. (Ex. In case of doors sub-system, the time requirement is collectively for all doors of one train)	Single point uploading of software can be done through network switch. Request to rephrase the clause as following: b) The overall time required for uploading the software for all subsystems shall not be more than <b>30 minutes</b> for each complete sub-system of train and the same shall be demonstrated. (Ex. In case of doors sub-system, the time requirement is collectively for all doors of one train)	Refer Addendum 01 S/N 53 Refer Addendum 01 S/N 54	Yes

362	Part 2 – Section VI A	14.11.2 (n)	If fault data downloading is interrupted somehow, it should resume from the same point, at which it was interrupted.	Clause may be rephrased as following "If fault data downloading is interrupted somehow, <b>downloading will</b> <b>start from beginning</b> "	Refer Addendum 01 S/N 55	Yes
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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
363	Part 2 – Section VI A	17.5.2.3.3	Vertical Load Testing a) For this test, all doors of the car including detrainment door shall be installed. The doors shall be fully operational and all thresholds, seals, and weather stripping shall be in place.	Testing with doors in fully operational condition will be carried out during vehicle level type test at customer site.	Tender Condition Prevails.	No
364	Part 2 – Section VI A	17.5.2.3.3	b) The test car shell shall be supported on bogies and shall be loaded to have the equivalent total weight of the complete ready-to-run car (AW0) minus the weight of the bogies.	Test cars will be mounted on special test rig during the testing with safety precautions. Placement of cars on bogie is not recommended. Request to ammend the clause suitably.	Refer Addendum 01 S/N 58	Yes
365	Part 2 – Section VI A	17.5.2.3.3	c) One seat frame of each type shall be mounted in the car shell at the time the vertical load test is conducted on the car shell. To these seat frames, a load of 350 lbs shall be applied at the midpoint of each occupant position in a vertical downward direction and it shall be shown that there is no excessive sidewall deformation.	A movable loading system will be used during the testing , installation of seats cannot be accommodated as the load has to be raised and lowered for various load cases. EN 12663 has guidelines to carryout tests on vehicle bodies. Seats and doors are extra fitments to the carbody and the objective of the carbody tests is to asess the intigrity of the shell structure. In view of the aobe it is request to ammend the clause suitably.	Tender Condition prevails.	No
366	Part 2 – Section VI A	17.5.2.3.3	e) The vertical deflection of the car shell shall be measured at each of the three load cases. The doors shall be operated electrically through their full open and close cycles at each of the load cases. The door leaf opening and closing times shall be measured and recorded. If the vertical deflection of the car shell prevents any door from operating at the specified speeds, or show any signs of binding, then the Contractor shall perform corrective action on the car structure or door elements, as required, to ensure that the doors can operate as specified. If corrective action is necessary, then the vertical load test shall be repeated in its entirety.	Testing with doors in fully operational condition will be carried out during vehicle level type test at customer site.Requested t ammend the ERTS clause suitably.	Tender Condition prevails.	No
367	Part 2 – Section VI A	17.5.3.4.2	Brake System Endurance Qualification Test A complete friction brake system including the electronic control unit shall be subjected to and shall successfully complete an endurance test of one half million cycles of normal apply and release applications. Brake reaction forces shall be simulated on the actuators.	Please clarify on the number of cycles for endurance test stated as "one half million cycles" means 0.5 million cycles or 1.5 million cycles.	Refer Addendum 01 S/N 59	Yes
368	Part 2 – Section VI A	17.5.3.4.3	Brake System Environmental Qualification Test A test setup in an approved environmental laboratory shall be made to simulate the worst-case climatic conditions to be encountered during revenue service and shall include conditions of rapid temperature and humidity fluctuations. Each cycle shall be completed within 30 seconds. During environmental testing, system function, ambient temperature, and humidity shall be recorded.	Conventionally, major components of brake system will be tested for environmental qualification individually. In view of the above, CMRL may please review and update the ERTS clause suitably to provide more clarity.	Refer clause 17.5.3.(a). Tender Condition Prevails.	No
369	Part 2 – Section VI A	17.5.4.8.10	Parking Brake Test A parking brake system test shall be performed on one three car rake. Design compliance with Chapter 2 shall be demonstrated by measuring the force required to move the train with the parking brake applied. The test shall be performed with bedded-in brake shoes. Push out test shall be performed in dry condition to prove clause 12.8.5. During this test, all wheels should rotate and shall not slide.	Push-out requirement will limit the safety against rolling under worst case as per ERTS Clause 2.14.3.6, 2.14.3.7 & 12.8.1. Since the clause is contracdictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detremental to the rolling stock operation which may result in wheel flat / track damage. In view of the above, CMRL may please review and delete the ERTS clause suitably.	Tender Condition prevails.	No
370	Part 2 – Section VI A	19.2.7 (v)	Urethane foam	CMRCL at clause 3.4.7.3 specified the floor structure shall be floating type. CMRCL to clarify for the floor cushioning required for floating floor which material to be considered.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No
371	Part 2 – Section VI A	19.13	Glass	At ERTS clause 19.13 for the float glass and tempered glass selection is specified as per ASTM C 1036, FS-DDG-451, SAE-AMS-G-25667, MIL- G-25667. Refering to ERTS clause 1.1.1 - acceptable design standards, the glass specification will be as per IS 2553 as followed by Metro corporation in India.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
372	Part 2 – Section VI A	19.20.3	High-quality hard clay shall be used as a filler. No limestone shall be used in the compound	Floor covering Material composition will be made by the floor covering manufacturer to conform the fire safety requirment as per EN 45545. CMRCL may review the clause and delete.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
373	Part 2 – Section VI A	19.20.5	The rubber flooring material shall comply with FS-SS-T-312 and the flame and smoke test requirements of clause 19.61.	Fire safety standard to be corrected as EN 45545 as asked at clause no. 2.26.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> 133	No
374	Part 2 – Section VI A	19.20.9	The floor covering shall be permanently secured to the plymetal sub-floor with a CMRL approved adhesive and as recommended by the flooring manufacturer	Plymetal floor board is not specified in the floor structure clause no. 3.4.7.3. The floor board material to be confirmed by CMRL.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No
375	Part 2 – Section VI A	19.61	Flammability and smoke emission	The complete clause to be corrected as per the fire safety standard EN 45545 as asked at clause no. 2.26.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
376	Part 2 – Section VI A	19.18.4 19.25.2.4 19.13	MIL-C-7438 MS-21044 MIL-N-25027 FS-DD-G-451 MIL-G-25667 SAEAMS-G-25667 SAE J673	Request CMRL to delete these standards. and specify only the International standards list at Appendix B	Tender Condition prevails.	No
377	Part 2 – Section VI A	19.54.3 (i)	Dry heat test: The dry heat test shall be conducted for class T3 and temperature shall be considered 80°C against 70°C specified in IEC/EN. An extra performance check at 95°C shall also be carried out for 10 minutes over temperature value. LCD / LED display units may be tested at 70°C and an extra performance check at 85°C shall also be carried out for 10 minutes over temperature value	Brake electronic devices only comply EN standard. That means +70°C permanently and +85°C for max. 10 minutes according to the temperature profile defined in the norm. With a longer time at T>+70°C the functioning of the electronic equipment is not guaranteed. Hence this requirement may be changed as <b>given for standard IEC clause without increasing the temperature</b>	Tender Condition prevails.	No
378	Part 2 – Section VI A	19.55.6	The Contractor shall furnish the following information in respect of printed circuit boards as part of contract: a) Voltage and/or waveform expected at each critical test point. b) Instructions for carrying out testing and troubleshooting and the function of each circuit block. c) Block Diagram and functional descriptions of the PCBs. d) Connection or interfacing diagrams for the printed circuit boards and assemblies.	Voltage/Wave form of electronic circuit is proprietary information and cannot be shared. 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. CMRL may please review and update the clause.	Tender Condition prevails.	No



Sino	Part/	Clause No.	CP26 / AREU2A Contract -	Reply to Bidder Queries	CMPL Posponso	Addondum
51110	Section No	Clause No.				Addendum
379	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.2.1.1	Both driving cab and signaling equipment room shall be Airconditioned.	Adequate capacity DG power will be provided to put both cabins in AC Mode.	Agreed	No
380	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.2.3.5 (a)	The vehicle must be equipped with proven compressed EP type with microprocessor air brake including	Air Brake system clause 3.2.3.5 (a) and 3.2.3.5 (e) are contradictory. i.e., If UIC requirements as per Clause 3.2.3.5 (e) are to be met, EP brake system with microprocessor as per Clause 3.2.3.5 (a) will not comply as master controller will not have the required positions as mention in clause 3.2.3.5 (e). Hence, Please clarify Brake system for CMRL CMV, will have to be with Microprocessor Controlled EP Brake system with Brake pipe controlled Back-up Brake similar to the one in Motro cars OP Conventional	It is clarified that the principal braking system shall be a microprocessor Controlled EP type with spring applied parking brakes (SAPB) similar to passenger rolling stock. In addition, the vehicle shall also be equipped with a Brake-Pipe controlled Back-up Brake system. This requirement is mandatory to enable full compatibility with coupled tool wagons.	No
381	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.2.3.5 (e)	The CMV shall be fitted with gradual release air brakes. The brake system shall be of UIC approved type and shall meet all UIC requirements. It shall have the following distinct positions: I. Release positions. II. Minimum reduction position III. Full service position IV. Emergency position	Pneumatic brake system with Brake pipe control with capability to apply Emergency Brake only from the signal coming from CBTC (No service Brake possible).	Refer Addendum 01 S/N 73	Yes
382	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.4.6.1	Coupler shall be provided on either ends of CMVs which shall be same as provided in the rolling stock.	CMRL to consider Automatic Coupler without electrical head to be free supply.	Tender condition prevails	No
383	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.4.10.1 (a)	The wheel tread shall be of the wear adapted wheel profile S 1002 / h28 / e32.5 / 6.7% as defined in EN 13715.	Proven Wheel Profile to RDSO drawing no. 91146 (Latest Revision) will be provided similar to earlier supplied CMV's to various metros. The clause may please be reviewed and change it accordingly.	Refer Addendum 01 S/N 74	Yes
384	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.4.11.1	Cabin Door: One sliding door (entry and exit) shall be provided at the rear end of the cabin to enable easy entry of operator.	As Airconditioned to be provided in both the driving cab's. Sliding door will not be suitable & cannot achieve airtightness even after sealing. Hence, Hinge doors with concealed Glass will be better than the sliding doors. The clause may please be reviewed and change it accordingly.	Agreed. However suitable door may be provided to maintain the air-condition inside the cabin	No
385	PART- 2 : SECTION VI B: ERTS-DM&P	3.4.11.3 (a) Windows:	The window guides, and sills shall be of FRP, and shall be as per RDSO of Technical			
386	CMV PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.4.11.3 (b) Windows:	Requirement (STR), C- 9502 (Latest Revision) Glass window frames and louvers shutters shall be of FRP as per RDSO 9403 (Latest Revision).	As per clause 3.2.1.1 "Airconditioned" to be provided in both the driving cab's and signaling equipment room. Windows with guides and louvers shutters will have a air gap for circulation & not suitable for AC Cabins, instead concealed Glass window will be provided.	Agreed. However suitable design FRP window may be provided to maintain the air-	No
387	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.4.11.3 (c) Windows:	Frames, guides and sills should be manufactured from sheet compound (SMC) to RDSO spec. C-8409 (Latest Revision)	The clause may please be reviewed and change it accordingly.	condition inside the cabin	
388	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.6.1 Fire Extinguisher	Two Clean Agent type fire extinguisher of 5 kg capacity shall be provided in each cab.	6 Kg capacity Fire Extinguisher will be provided in place of 5 Kg capacity in each cabin.	Tender Condition Prevails.	No
389	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.18.1 (b) Page-3-16	The minimum height of the platform shall be 3 meters and extendable upto 5.5 meters. The platform shall be capable of 180 deg. rotation.	In order to attain extended height of <b>5.5 meters</b> , the minimum height of the platform to be <b>3.3 meters not 3 meters</b> from Rail level. The platform with minimum height of <b>3.3</b> meters & extended <b>to 5.5</b> meters from rail level is already supplied to DMRC (4 nos.) and working satifactory. Hence, the clause may please be reviewed and change to "The minimum height of the platform shall be <b>3.3 meters</b> ".	Tender Condition Prevails.	No
390	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.19 Page-3-17	The pantograph of CMV shall be provided same as rolling stock . Scale marking shall be provided on the pantograph for measuring stagger. The pantograph pan shall be solidly earthed to body. It shall be provided with a proper arrangement to keep it locked down when not in use.	CMRL to consider Pantograph to be free supply.	Tender Condition Prevails.	No
391	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.26.1.1 Speed Certificate	The Supplier shall interface with concerned statutory authorities to obtain the certificates viz provisional speed certificate, oscillation trial test report and final speed certificate after oscillation trials at his cost. It shall also be ensured that there are no infringements to Schedule of Dimension of SG of CMRL.	BEML will support & provide all relevant drawings / documents related to CMV required for obtaining speed certificate & CRS inspection. BEML will not interface directly with concerned statutory authorities for obtaining speed certificates.	Refer Addendum 01 S/N 75	Yes
392	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.30.6 Interface Requirements	The CP26/ARE02A Contractor shall provide the Signalling Contractor the acceleration and braking rates of the CMV. The Guaranteed Emergency Braking rate shall also be provided to the signalling Contractor for incorporating in his design.	Please be noted, CMV is with 4 axles. if STC contractor requires GEBR conditions of CMV same as Metro train i.e., In CMV one axle as unbraked (Free Axle) in four axles, CMV is losing 25% of the brake effort	Agreed. Achievable GEBR shall be provided	No
393	PART- 2 : SECTION VI B: ERTS-DM&P CMV	3.30.18.1 (11)	INTERFACE- Division of Responsibility         11       Guaranteed Emergency Rate(GEBR)         STC Contractor shall share the logics used for GEBR       CP26/ARE02A shall furnish value of GEBR to STC Contractor.	axles will be providing much better brake performance than CMV. So, Brake performance of CMV with four axles cannot be compared with Metro train with multiple axles under same GEBR condition. Hence, CMV with Conventional Pneumatic brake system as per UIC requirement or EP brake system with microprocessor air brake, considering CMV with 4 axles, the calculated GEBR value will be comparable and it cannot be compared with metro train. Please clarify the GEBR assumptions for CMV for checking the feasibility.	Agreed. Achievable GEBR shall be provided	No
394	Part 2 / Section VI C	1.1.9	Designated Depot(s) refers to (i) Madhavaram Depot, which is the principal site for all heavy maintenance AND (ii) further Satellite Depot(s) (mostly for inspection, cleaning activities and Corrective Maintenance).	Number and location of satellite depots shall be defined in the tender for maintenance cost estimation.	The number of satellite depots shall be capped at one (1) at any one time. Refer to Addendum 01 S/N 76	Yes
395	Part 2 / Section VI C	1.1.10	The location of the Satellite Depot(s) shall be designated by CMRL. However, CMRL may at its sole discretion instruct the Contractor (by giving 60 days' notice) to deploy their maintenance operations at further Satellite Depot facilities. The Contractor shall comply with the deployment request without any cost implications to CMRL.	Number and location of satellite depots shall be defined in the tender for maintenance cost estimation	The number of satellite depots shall be capped at one (1) at any one time. <b>Refer to Addendum 01 S/N 77</b>	Yes
396	Part 2 / Section VI A	1.4.3	Based on operational requirement, rakes may have to be operated in GoA2 mode with driver / in GoA3 mode with attendant / in GoA4 (UTO). However, the Phase 2 project is planned with operations in GoA4 (UTO) from the initial passenger service inauguration itself	There is the mentioned that the "Phase 2 project is planned with operations in UTO (GoA4) from the initial passenger service inauguration itself.". However, is there any possibility that the initial passenger service operation will be started with the GoA2 like other UTO Projects in India?	There is currently no plan to phase-in initial revenue operations in GoA2. The requirement is for GoA-4 to be possible from the outset. Tender condition therefore prevails.	No



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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
397	Part 2 / Section VI A	2.2.12	Automatic coupler with mechanical, pneumatic, and electrical head shall be provided at the front end of each DMC cab. For the 3-Car rake configuration, semi-permanent couplers shall be provided between the DMC and the Trailer Car. Both automatic and semi-permanent couplers shall comply the requirements specified in Chapter 04. Semi-permanent mechanical, pneumatic and jumper cables shall be used between the DMC and TC for the 3-Car consist configuration shown below. 3-Car rake: *DMC + TC + DMC* (67% Traction power) Operation of Trainsets that are formed of 6-cars shall be achievable through two (2) possible configuration options: (i)The future provision of a single Consist trainset comprised of the following rake configuration *DMC + TC + MC + MC + TC + DMC* (67% traction power) (ii) Multi-Consist trainset comprising of two (2) coupled 3-car consists having configuration *DMC + TC + DMC* *DMC + TC + DMC* (67% traction power) Notes: • The symbol * denotes a fully automatic coupler (with electrical head) • The symbol + denotes a semi-permanent coupler. • DMC denotes Driving Motor Car • TC denotes Trailer car (with pantographs) • MC denotes Motor Car	Please clarify whether design and quotation proposal for future 6-car provision is required for both single Consist trainset and 6-car multi- consist configuration (DMC + TC + MC + MC + TC + DMC , DMC + TC + DMC* *DMC + TC + DMC ). Or is the quotation of 6-car multi-consist configuration( DMC + TC + DMC* *DMC + TC + DMC ) to be provided as an option?	Tender condition, CMRL clarifies the following:- "Multi-consist Train Configuration" refers only to a 6-car train rake that is formed of two coupled 3-car consists. It is <u>not</u> a future design provision as trainsets delivered under this Contract must be capable of running in this mode from the time of revenue service inception. Accordingly, trains are to be tested in Multi-consist configuration during service trails (as required by ERTS Clause 2.2.31(c). Whereas, the operation of 6-car trainsets that are formed of the following configuration *DMC + TC + MC + MC + TC + DMC* is a future design provision (as they involve the inclusion of an MC car which is not part of the scope of this Contract). The Contractor is only required to ensure that the proposed design is compatible with this configuration, so the Employer has the flexibility to procure additional cars under a separate Contract at future	No
398	Part 2 / Section VI A	2.2.26	<ul> <li>The Contractor shall identify and implement any design and/or interface Works required to ensure the ARE02a Rolling Stock fleet achieves the following objectives for interoperability:-</li> <li>a) The fleet shall serve all three (3) corridors of the CMRL Phase-2 network</li> <li>b) Be capable of running in mixed traffic operational diagrams; alongside up to two (2) additional fleet variants of passenger Rolling Stock as well as maintenance vehicles</li> <li>c) Have limited cross-compatibility with other passenger Rolling Stock fleets (ARE03a/ARE04) to the extent that is defined by the technical requirements elsewhere in this Contract (E.g. emergency train rescue requirements).</li> <li>d) Complies with any other interoperability requirements identified during the course of coordinated interface Works with other Designated Contractors (as defined in Appendix-C) or as may be required to ensure the safe operation of the railway.</li> </ul>	Compatibility between the Rolling Stocks of different corridors - Compatiblity cannot be ensured, if rolling stock suppliers are different since On-board Systems and external interfaces with way-side systems will be different. It is understood that coupled train operation (different fleet) for revenue service is not required as per ERTS. e.g.: (DM-T-DM)+(DM-T-DM). The interface between different subsystem suppliers of different rolling stock for the communication between operators of two trians as per cl. no. 9.10 will be complicated to meet the requirement of cl. no. 2.2.26 c). As emergency trian rescue being a degraded mode, same shall be managed through handheld radio In addition, the Rake manufactured for Line 4 under the Phase 2 contract (ARE03a) will not couple with the Rake designed for other Lines (ARE02a/ARE04) to make the connection between TCMS/PAPIS- CCTV/other on-board Communication Consist Networks. <b>Please clarify/confirm.</b>	Without prejudice to the original Tender condition, CMRL clarifies the following:- It is clarified that the interoperability required between different fleets when coupled together is only for performing an emergency train rescue at low speed. Accordingly, it is not envisaged that the subsystems mentioned by the bidder (E.g. TCMS/PAPIS-CCTV/other on-board Communication) will need to be part of that scope.	No
399	Part 2 / Section VI A	2.2.31	Multi-Consist Configuration a) The functionality of all Train subsystems shall be fully available when Trainsets are operated in a 6-car multi-consist configuration. b) Hardware & Software of all subsystems (including but not limited to Traction system, APS system, PAPIS & CCTV system, TCMS system, Pneumatic & Brake system, Saloon Door system, VAC system, Trainlines, Signalling system, Telecommunication system, PSD system, etc) shall be automatically reconfigure as required whenever a coupling or decoupling command is initiated by OCC or the Train Operator. c) The Contractor shall submit the design proposal for multi-consist configuration during Preliminary design stage. All technical requirements shall be addressed during Pre-final design stage and tested at the CMRL site to the full satisfaction and approval of CMRL.	Please clarify whether design and quotation proposal for future 6-car provision is required for both single Consist trainset and 6-car multi- consist configuration (DMC + TC + MC + MC + TC + DMC , DMC + TC + DMC* *DMC + TC + DMC ). Or is the quotation of 6-car multi-consist configuration( DMC + TC + DMC* *DMC + TC + DMC ) to be provided as an option?	Without prejudice to the existing tender condition, CMRL clarifies the following:- The bid price shall be based on 70 trainsets of the following configuration:- <b>DMC + TC + DMC</b> Any of the above mentioned 3-car trainsets shall be able to couple to together and operate as a single 6-car trainset ( <b>DMC + TC + DMC* *DMC +</b> <b>TC + DMC</b> ) The same is referred to as multi- consist configuration throughout the Tender document. The bidder is <u>not</u> required to quote for future provision DMC + TC + MC + MC + TC + DMC as a part of this bid submission. The only requirement is to ensure future technical compatibility with this configuration.	No
400	Part 2 / Section VI A	19.36.11	Stranding and conductor construction for all wires and cables 0.75 mm2 Cross sectional area of conductor and larger shall comply with NEMA- WC7. Stranding and conductor construction for all wires and cables of 0.75 mm2 Cross sectional area of conductor and larger shall comply with AAR S-501 or ICEA S-66-524, as is appropriate for the application, Class I or equivalent for general-purpose Car body wire, and ASTM B174, Class K for flexible wire between the Car body and electric coupler or bogie-mounted equipment	Stranding and conductor construction for all wires and cables 0.75 mm2 Cross sectional area of conductor and larger shall comply with NEMA- WC7 or Equivalent international standards applicable for Rollingstock application as per standard industry practice Stranding and conductor construction for all wires and cables of 0.75 mm2 Cross sectional area of conductor and larger shall comply with AAR S-501 or ICEA S-66-524, as is appropriate for the application, Class I or equivalent for general- purpose Car body wire, and ASTM B174 or Equivalent international standards applicable for Rollingstock application as per standard industry practice., Class K for flexible wire between the Car body and electric coupler or bogie-mounted equipment.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
401	Part 2 / Section VI A	19.38.2	Rubber, thermosetting, irradiated, cross linked polyolefin and thermoplastic-insulated wire and cable shall comply with the electrical and physical requirements of NEMA WC3, NEMA WC5, and NEMA WC7	Rubber, thermosetting, irradiated, cross linked polyolefin and thermoplastic-insulated wire and cable shall comply with the electrical and physical requirements of NEMA WC3, NEMA WC5, and NEMA WC7 or international standards like EN 50264(Part 1 to 3) and EN 50306(Part 1 to 4) or Equivalent standards applicable for Rollingstock application as per standard industry practice.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
402	Part 2 / Section VI A	19.39.2	Wire and cables up to and including of 10mm2 Cross sectional area of conductor shall pass the test specified in of AAR S-501, Section 5.9.4.	Wire and cables up to and including of 10mm2 Cross sectional area of conductor shall pass the test specified in of AAR S-501, Section 5.9.4. or EN 50305 or Equivalent international standards applicable for Rollingstock application as per standard industry practice.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
403	Part 2 / Section VI A	19.39.3	16 mm2 and larger shall pass the test specified in IEEE 383, Section 2.5.	16 mm2 and larger shall pass the test specified in IEEE 383, Section 2.5.or EN 50305 or Equivalent international standards	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
404	Part 2 / Section VI A	19.44.1	CONNUMICATIONS WIRE AND CABLE Communications wire and cable shall consist of twisted pairs of not less than 0.75 mm2 Cross sectional area of conductor soft annealed, tinned copper. 9.4.2 Emergency loads or Safety loads or essential loads shall include	Communications wire and cable shall consist of twisted pairs of not less than 0.5 mm2 Cross sectional area of conductor soft annealed, tinned copper.	Tender Condition Prevails.	No
405	Part 2 / Section VI A	9.4.2	<ul> <li>but not be limited to:</li> <li>a) All Safety Critical circuits (e.g. emergency brake);</li> <li>b) Passenger door controls / operation.</li> <li>c) All exterior lighting of train.</li> <li>d) All exterior &amp; interior indicating lights of train.</li> <li>e) Cab interior lights.</li> <li>f) Complete saloon lighting (100% lights)</li> <li>g) Complete communication equipment.</li> <li>h) ATO / ATP / UTO (GoA4) train borne signaling &amp; telecom equipment control.</li> </ul>	f) In case of emergency, 100% lighting may not be required and it increases Battery sizing as well. Hence 9.4.2 (f) may please be ammended as " <b>Emergency lighting"</b> (50% of saloon lights) in-line with recent metro tenders in India.	Tender Condition Prevails.	No



			CP26 / ARE02A Contract -	- Reply to Bidder Queries		
SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
406	Part 2 / Section VI A	10.11.21	<ul> <li>The Contractor shall hire reputed Power system analysis Design</li> <li>Consultant with the approval of CMRL and provision shall be made for arranging minimum three presentations by design Consultant to CMRL.</li> <li>The Role of the Power System analysis Design consultant is as below but not limited to,</li> <li>a) Power system Design Analysis shall be performed for all Corridors of Phase 2 considering (ARE02A contract 70 trains, ARE03A contract 26 trains &amp; ARE04A contract 42 trains) 138 trains of 3 car configuration.</li> <li>b) Power system Design Analysis consultant along with Rolling Stock Contractor shall Interface with Railway Electrification, Power Supply Contractor to comply the Design requirements of CMRL Phase 2 project.</li> <li>c) The proposed consultant shall be an ISO certified having proven previous experience in Power System Analysis.</li> </ul>	Please provide the following details covering ARE02A, ARE03A and ARE04A and Corridors 3, 4 & 5:- i)Electrical Network Details ii)Station details iii)TSS/SSP/SP Schematics iv)Track chainage details v)Junction/Crossing Station chainage details vi)TSS/SSP/SP Chainage details	Shall be obtained by the Contractor during their interface Works after Contract award.	No
407	Part 2 / Section VI A	10.11.15	Four (4) trains shall be instrumented (in accordance with EN 50463) with separate Power Quality measuring instruments, data acquisition systems and power analyser (with provision for permanent installation and shall have necessary in-built software / analysis tool) to measure, record and analyse the power quality parameters. This instrument shall also have memory storage for minimum 15 days of testing data. The measurement with these instruments shall include but not limited to Time, kW, kVAR, kVA, THD, TDD, Total pf and Displacement pf. The instruments supplied shall have the adequate capability of measuring and data acquisition to analyse higher order harmonics (up to 50th) and measure power quality parameters mentioned above with minimum accuracy of 0.1% and sampling rate of 100 kHz. Details of instruments shall be finalized during design stage. Other trains shall also have necessary provisions (suitable space, wiring etc.) for installation and recording power quality parameters as per above.	<ul> <li>The Energy Measurement System described by the EN 50463:2017 series provides measurement and data suitable for billing and may also be used for energy management, e.g. energy saving.</li> <li>The Energy Measurement System EMS provides measurement of the consumed and regenerated active energy of a railway traction unit. If the traction unit is designed for use on AC traction systems the EMS shall also provides measurement of reactive energy. The EMS generally consists of the five main functions: <ol> <li>Voltage Measurement Function VMF,</li> <li>Current Measurement Function CMF,</li> <li>Energy Calculation Function ECF</li> <li>Data Handling System DHS</li> <li>Communication Function EMS - DCS</li> </ol> </li> <li>From the above, it is understood that EN 50463 basically dictates the Energy Measurement of the train or its units for the purpose of metering and billing.</li> <li>However, the clause 10.11.15 calls for Harmonics recording upto 50th Order with sampling rate of 100k per sec with accurancy of 0.1%.</li> <li>Considering the above, please remove the compliance requirement to EN 50463 for power quality measuring system.</li> </ul>	Tender Condition Prevails.	No
408	Part 2 / Section VI A	10.11.16	If Contractor proposes to measure the power quality parameters as mentioned in above Para, through TCMS (it is preferred). In such case, TCMS shall have the adequate capability of measuring and data acquisition to analyse higher order harmonics (up to 50th) and measure power quality parameters mentioned above with minimum accuracy of 0.1% and sampling rate of 100 kHz. Also, a suitable power analyser, software / analysis tool shall be built in. However, final approval will be provided by CMRL by comparing both proposals.	Please keep the 'Power quality parameters measurement through TCMS' as 'an option' instead of 'preferred'.	Tender Condition Prevails.	No
409	Part 2 / Section VI A	ERTS 13.13.5	In addition to the cameras provided inside the saloon, the Contractor shall install cameras outside the saloon to monitor the track, OHE, pantograph and platforms of each station.	Whether the following are part of the clause? (i) Digital Line scan camera basedTrack condition monitoring systems (ii) Digital Line scan camera basedOHE condition monitoring systems and (iii) Current Collection Performance Measurement System	No.	No
410	Part 2 / Section VI A	13.2.15	All memory storage system shall be Solid State Disk (SSD) or Micro SD card or other latest technology available subject to CMRL approval.	Required storage type is to be clearly specified (no options to be provided to the bidder) as it effect the bidding cost drastically.	The bidder shall propose in line with the stated requirements. Tender condition prevails.	No
411	Part 2 / Section VI A	13.7.1.5	Control of all displays in a train shall be possible from the TCMS, OCC, BCC and DCCs.	Control of all displays in a train shall be possible from the <b>CCH</b> , OCC, BCC and DCCs.	Tender Condition Prevails.	No
412	Part 2 / Section VI A	13.7.1.14.2	Each DRMD unit shall be a single display screen with a stretched aspect ratio. The minimum dimensions shall be 965mm x 183mm. The use of multiple screens joined together shall not be accepted.	Viewing area of the display to be mentioned instead of overall dimensions. Clause may be updated accordingly.	It is clarified that the specified dimensions shall be taken to mean the viewing area.	No
413	Part 2 / Section VI A	13.7.1.15.1	LCD with LED backlit displays or any latest better technology displays shall be provided at both ends of the train above the windshield and side displays shall be provided on each side of the carbody (each covering a full window length) to indicate the destination station and route information. The message shall be displayed in both English and Tamil simultaneously.	LED displays are preferred as external displays as LCDs cannot be viewed in the sunlight. Clause may be updated accordingly.	Tender Condition Prevails.	No
414	Part 2 / Section VI A	13.7.1.15.4	The exterior display size shall be approved by the CMRL during design stage.	Required matrixes and LED pitch to be mentioned.	Tender Condition Prevails.	No
415	Part 2 / Section VI A	13.7.1.16.1	6 no's of LCD with LED backlit displays or any latest better technology displays of size not less than 65 cm x 40 cm shall be provided inside each coach at an appropriate location. The display location and specification shall be submitted for CMRL approval.	Please specifiy the area mentioned in Viewing area or total display area. Clause may be updated accordingly.	It is clarified that the specified dimensions shall be taken to mean the viewing area.	No
416	Part 2 – Section VI A	Appendix C – Interfaces- 14.1	OTHER ROLLING STOCK CONTRACTOR	It is suggested to interface for other Rolling Stock information through Employer (CMRL) and not to consider them as designated contractor. It is requested to update the relevant clauses accordingly.	Tender Condition Prevails.	No
417	Part 2 – Section VI A	19.52.3	Very low current relays (1 Amp and less) shall have gold-plated, silver- alloy contacts.	The following change is suggested. Very low current relays (1 Amp and less) shall have gold-plated / silver- alloy contacts.	Tender Condition Prevails.	No
418	Part 2 – Section VI A	19.51.5	Breaker current rating shall be clearly visible after installation and shall comply with NEMA AB1, ANSI C37.13, C37.14, or C37.16.	Breaker current rating shall be clearly visible after installation and shall comply with NEMA AB1, ANSI C37.13, C37.14, or C37.16 or practices followed in other Metro Rolling Stock.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
419	Part 2 – Section VI A	19.52.4	Low-current and very low-current relays that have not been proven in rail service shall comply with MIL-R-5757.	Low-current and very low-current relays that have not been proven in rail service shall comply with MIL-R-5757 or practices followed in other Metro Rolling Stock.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
420	Part 2 – Section VI A	19.52.5	Higher-current relays and contactors that have not been proven in rail service shall comply with MIL-R-6106.	Higher-current relays and contactors that have not been proven in rail service shall comply with MIL-R-6106 or practices followed in other Metro Rolling Stock.	For queries related to Engineering Standards, bidders may refer to the response already provided against <b>S/N</b> <b>133</b>	No
421	Part 2 / Section VI A	13.8.4	The automatic announcement function shall use locally stored predefined digital messages and shall broadcast these messages to passengers automatically at designated track locations by means of location and direction information derived from signaling system and also an <b>independent Rolling stock vehicle locator system</b> . Overriding automatic messages by manual message triggering by the operator shall also be possible.	We would like to clarify what is "independent Rolling stock vehicle locator system" refering to?	This is a failover feature to be provided by TCMS. Further details shall be decided during design stage. Tender Condition Prevails.	No



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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
422	Part 2 / Section VI A	13.13.6	All the interior and exterior cameras shall support for a video resolution of minimum 1920x1080 HD and minimum 30 frames per second, minimum illumination of 0.3 lux (color), iris control, minimum 90 dB wide dynamic range (WDR) and Power Over Ethernet (POE) compliant. Cameras shall be of proven design in railway applications. The recordings from these cameras must be clear in dark, daytime, night-time and in all hours of operation even in case of nonavailability of any exterior lighting. All the train cameras shall be Infra-red type or latest better type. Camera and Recorder shall comply CCTV Industry standards like onvif. The Visual images from each camera shall be recorded in non-volatile memory without any limitation of repetitive writing of the data. Each camera shall have recording capacity for at least 7 days. The records shall be easily downloadable.	We would like to clarify that the infra red requireement will only be for external pantograph camera and not mandatory for all internal saloon camera?	Infra red is required for all cameras and should be inbuilt. As per tender condition. Tender condition prevails.	No
423	Part 2 / Section VI A	13.13.8	In case of activation of PEI in any of the car by passenger, the camera recording focusing the PEI shall be displayed on the CCTV monitoring screen available in OCC, BCC & DCC and also in TCMS of the specific train. The cameras shall have inbuild zoom function. It shall be possible to filter, zoom and select images in off line mode for investigation purpose. The images shall be with time stamping and it shall be possible to link them with respective location of train.	We would like to clarify the "in-build zoom function" refers to zooming on a recorded video for investigation purposes?	Correct. Digital zoom is acceptable.	No
424	Part 2 / Section VI A	13.13.17	Cameras, NVR, Video management software's etc. shall implement band width optimization techniques like multicast transmission, modern codecs (e.g. H.265 or higher) for the efficient and reliable use of wireless network bandwidth available	We would like to clarify on the codec requested of H.265, if the contractor can propose with codec of H.264 and H.264+?	H.265 is required as it has higher compression. Tender condition prevails.	No
425	Part 1, -Section - IV	Bidding Forms 4.4.11	PRICE CENTRE 'RS-H' – TRAINING AND MANUALS. RS-H0 - i) the site of an Operating Railway (must be part of a network that has provided GoA-4 / UTO operations for a period >10 years)	The following change is suggested. Part-1, Section - III - EQC - 2.5 - 5 TCMS - Form Sys-5 - "The proposed system shall be in satisfactory revenue operation for <u>minimum three (3) years</u> in GoA4 trains, in a country other than the country of origin of manufacturer or in India, at the time of bid submission." 14.1.2 Proven Design Basic architecture and hardware of TCMS proposed to be implemented / used by the Contractor should already be functioning in Metros since last <u>more than three years in revenue service</u> and shall be compliant with latest version of international norms. PRICE CENTRE 'RS-H' – TRAINING AND MANUALS. RS-H0 - i) the site of Employer's Site/Depot an Operating Railway (must be part of a network that has provided GoA-4 / UTO operations for a period > 3 10 years)	Tender Condition Prevails.	No
426	Part 1, -Section - II	ITB 1.2	(e) "Joint Venture" or "JV" means any combination of two or more firms in the form of a joint venture, consortium, association or other unincorporated grouping under an existing agreement or with the intention to enter into such an agreement supported by a formal Letter of Intent.	In case of JV/consortium, please specify the minimum percentage of particpation of the member who brings in the qualification credentials.	Refer Addendum 01 S/N 111	No
427	Part 2 / Section VI A	1.4.3	Based on operational requirement, rakes may have to be operated in GoA2 mode with driver / in GoA3 mode with attendant / in GoA4 (UTO). However, the Phase 2 project is planned with operations in GoA4 (UTO) from the initial passenger service inauguration itself	There is the mentioned that the "Phase 2 project is planned with operations in UTO (GoA4) from the initial passenger service inauguration itself.". However, is there any possibility that the initial passenger service operation will be started with the GoA2 like other UTO Projects in India?	There is currently no plan to phase-in initial revenue operations in GoA2. The requirement is for GoA-4 to be possible from the outset. Tender condition therefore prevails.	NO
428	Part 2 / Section VI A	2.2.14	The rake shall be designed and manufactured to operate successfully within the environments of CMRL's dedicated right-of-way	The following is believed. Please confirm. - Rakes manufactured for Line 3 shall operate successfully in Line 3 - Rakes manufactured for Line 4 shall operate successfully in Line 4 - Rakes manufactured for Line 5 shall operate successfully in Line 5 Note 1. Considering the possiblity of different Rolling Stock suppliers for each Line, interchanges of Rakes to different lines many not be feasible. (If same rolling stock supplier, depending on car builder design, interchange maybe possible by updating configuration and software without hardware changes) Note 2. Considering the possiblity of different Signalling suppliers for each Line, interchanges of Rakes to different lines many not be feasible. (If same rolling stock supplier, depending on car builder design, interchange maybe possible by updating configuration and software without hardware changes) Note 2. Considering the possiblity of different lines many not be feasible. (If same rolling stock supplier, depending on car builder design, interchange maybe possible by updating configuration and software without hardware changes) In addition, it's believed that the Rake manufactured for Line 4 under the Phase 2 contract will not couple with the Rake manufactured for other Lines to make the connection between each TCMS Networks.	The bidder's understanding is incorrect. Interoperability requirements are already clearly defined in ERTS Clause 2.2.26. For avoidance of any doubt, all the fleets being procured by CMRL are required to have the capability of serving all 3 corridors; alongside rakes belonging to the two or more additional fleets. Signalling scope is packaged under a single Contract for all three corridors and was already awarded to Hitachi STS.	NO
429	Part 2 / Section VI A	2.2.26	The Contractor shall identify and implement any design and/or interface Works required to ensure the ARE02a Rolling Stock fleet achieves the following objectives for interoperability:- a) The fleet shall serve all three (3) corridors of the CMRL Phase-2 network b) Be capable of running in mixed traffic operational diagrams; alongside up to two (2) additional fleet variants of passenger Rolling Stock as well as maintenance vehicles c) Have limited cross-compatibility with other passenger Rolling Stock fleets (ARE03a/ARE04) to the extent that is defined by the technical requirements elsewhere in this Contract (E.g. emergency train rescue requirements). d) Complies with any other interoperability requirements identified during the course of coordinated interface Works with other Designated Contractors (as defined in Appendix-C) or as may be required to ensure the safe operation of the railway.	The following are believed. Please confirm. Compatibility between the Rolling Stocks of different corridors - 1. Traction System: Same hardware is possible if rolling stock supplier and interfaces (e.g. Brake system) are same (software might be different depending on design and signalling supplier requirements). Compatibility cannot be ensured if rolling stock suppliers are different since Traction Systems are different. Note 1. Coupler System: Car builder scope (Common Rescue procedure to be defined by all rolling stock contractors) Note 2. Pneumatic supply extension, Door pitch : Car builder scope Note 3. Coupled train operation for revenue service is not required as per ERTS. e.g.: (DM-T-DM)+(DM-T-DM) In addition, it's believed that the Rake manufactured for Line 4 under the Phase 2 contract will not couple with the Rake manufactured for other Lines to make the connection between each TCMS Networks.	Bidders are encouraged to refer to the Interface Specification (ERTS Appendix-C) to understand their obligations to interface with other rolling stock Contractors more precisely. Stated interface requirements shall prevail over all 3 corridors; hence there is no demarcation by geographical location. Requirements for multi-consist operation (E.g. two 3-car trainsets coupled together to form 6-car rake) are defined by ERTS Clause 2.2.31. It is clarified that there is no requirement for dissimilar trainsets from differing fleets to couple for the purpose of running in multi-consist mode, however, coupling for the purpose of performing a train rescue operation is mandatory. Brake control is required during train rescue operation. The requirements are defined by ERTS Clause 12.15.	NO
430	Part 2 / Section VI A	2.11.2	As the Chennai Metro lines will have elevated and underground portions, there may be sudden change in the ambient temperature to rolling stock. The equipment shall be designed to take care of such thermal shocks.	Please clarify the detail of thermal shock level.	CMRL has nothing further to clarify. Tender condition prevails.	NO
431	Part 2 / Section VI A	2.11.6	The Water used in Chennai for washing is likely to have a high level of dissolved matter which may aid corrosion.	Please clarify the name and concentration of the pollutant to consider the impact for equipment.	CMRL has nothing further to clarify. Tender condition prevails.	NO

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432	Part 2 / Section VI A	2.14.1 b)	The control system shall prevent line voltage oscillation and instability of the traction equipment.	catenary impedance. This requirement should be managed by the ground-side equipment and should be deleted from this section.	Refer Addendum 01 S/N 26	Yes
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SI no	Part/ Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
433	Part 2 / Section VI A	2.14.2.4	Means shall be provided to isolate locally each set of traction equipment in the rake. In case of failure of one converter, only one bogie shall be isolated and the rake shall be capable of continuing to work until the peak period is over.	How to treat the peak period and clearance of peak period during isolation? Please clarify the total maximum operating time that includes clearance of peak period after 1bogie is isolated. Also, please describe the frequency of occurence in a year.	CMRL has nothing further to clarify. Tender condition prevails.	NO
434	Part 2 / Section VI A	2.15.1.4	The controlling cab shall be the cab in which the mode selector switch is set first (in any mode other than an "Off"). The rake shall become fully operational within 5 seconds when a controlling cab, which was previously in "Standby" mode, has been activated. Refer Chapter 5.	What means fully operational ? Without giving the TBC handle demand and only activating mode selector handle, train cannot be fully operational.	All train systems are functional and the train is ready to take traction. Further details shall be finalised during design stage. Tender Condition Prevails.	NO
435	Part 2 / Section VI A	2.25.1	The Contractor shall note that 'SPECIFIC ENERGY CONSUMPTION (SEC)' shall be verified in any one corridor of Phase 2 as agreed with CMRL under conditions detailed hereafter in this clause shall not exceed 48 Wh/GTKM (watt hours per gross tonne kilometer), referred to as SECs. The Contractor shall submit detailed simulation results for all corridors of Phase 2 in Pre-Final Design stage.	In Line 5, there are some data discrepancy. After recieving the clarifitdation and finallising the simulation study, we will seek for further clarification, if any. And the following change is suggested. The Contractor shall note that 'SPECIFIC ENERGY CONSUMPTION (SEC)' shall be verified in any one corridor of Phase 2 <u>selected by the contractor based on the estimation</u> as agreed with CMRL-under conditions detailed hereafter in this clause shall not exceed 48 Wh/GTKM (watt hours per gross tonne kilometer), referred to as SECs. The Contractor shall submit detailed simulation results for all corridors of Phase 2 in Pre-Final Design stage.	Tender Condition Prevails.	NO
436	Part 2 / Section VI A	2.28	The design of Rolling stock, all its sub-systems and its relevant components in train shall support for the UTO / GoA4 in the CMRL Phase 2 corridors defined in Chapter 1. Trains shall be operated in GoA4 / UTO mode from the initial stage of commissioning and revenue operations. Hence all the feed-backs, information and train controls which are available on TCMS screen shall also be available in OCC (operational control Centre) and DCC (Depot Control Centre) for smooth operation of passenger service.	Same clarification with above. There is the mentioned that the "Trains shall be operated in GoA4 UTO mode from the initial stage of commissioning and revenue operations. ". However, is there any possibility that the initial passenger service operation will be started with the GoA2 like other UTO Projects in India?	There is currently no plan to phase-in initial revenue operations in GoA2. The requirement is for GoA-4 to be possible from the outset. Tender condition therefore prevails.	NO
437	Part 2 / Section VI A	9.2.6	The design life of the auxiliary converters shall be a minimum of 35 years and be capable of operation for a period of 18 years without major maintenance (excluding consumables).	Since PCBs and soldered components shall be replaced within 12 years. Please consider to revise it as following: "The design life of the auxiliary converters shall be a minimum of 35 years and be capable of operation for a period of 18 years without major maintenance.(excluding consumables <u>and PCBs</u> ) "	The requested change is not required as PCB's with a life span of 12 years would anyway be regarded as a consumable item. The Contractor will be required to specify the OEM rated design life of all major parts during design stage. Tender condition prevails	NO
438	Part 2 / Section VI A	9.9.8	The system for the detection and protection from earth fault currents at each individual voltage level and for each individual car shall be designed as specified in clause 9.4.5 (b).	Requirement is not completely clear. Please revise the sentence for better understanding.	CMRL has reviewed both Clause 9.9.8 as well as Clause 9.4.5 (b) and finds no anomaly.	NO
439	Part 2 / Section VI A	9.3.10	The auxiliary converter inverter AC output voltage of 3¢ supply shall be regulated within ±5% of the nominal voltage and output frequency within 48~52Hz over the full load range. At individual Auxiliary converter inverter output level, Total Harmonic Distortion (THD-V) in voltage shall be limited to 3% under all operating conditions for the individual Auxiliary Converter Inverter. Phase to phase imbalance shall not exceed more than 1% between phases. The converter shall be designed and constructed in accordance with the requirements of IEC 61287 and IEC 60146.	The following change is suggested same as other indian project. The auxiliary converter inverter AC output voltage of $3\phi$ supply shall be regulated within $\pm 5\%$ of the nominal voltage and output frequency within $48 \sim 52$ Hz over the full load range. At individual Auxiliary converter inverter output level, Total Harmonic Distortion (THD-V) in voltage shall be limited to $\underline{8}\%$ under all operating conditions for the individual Auxiliary Converter Inverter. Phase to phase imbalance shall not exceed more than 1% between phases. The converter shall be designed and constructed in accordance with the requirements of IEC 61287 and IEC 60146.	Tender Condition Prevails.	NO
440	Part 2 / Section VI A	10.8.2	The overall harmonic current levels viewed at the pantograph shall be according to clause 10.3.1. The KVA rating of the transformers shall be specified at a line voltage of 22.50 KV and shall be designed to deliver the power corresponding to the continuously rated traction motor currents, after accounting for the efficiency and the power factor of the traction motor, converter, inverter and auxiliary inverter.	Since MTr rating is specified in 10.8.8, please update ERTS10.8.2 as below. The overall harmonic current levels viewed at the pantograph shall be according to clause 10.3.1. The KVA rating of the transformers shall be specified at a line voltage of 22.50 KV and shall be designed to deliver the power according to ERTS10.8.8 corresponding to the continuously rated traction motor currents, after accounting for the efficiency and the power factor of the traction motor, converter, inverter and auxiliary inverter.	Tender Condition Prevails	NO
441	Part 2 / Section VI A	10.8.9	<ul> <li>g) Heat detectors / LHD on low voltage / high voltage terminal boxes linked to TCMS / fire detection &amp; control unit (refer clause 2.26) so that their status is monitored.</li> <li>The above information shall be logged in TCMS and shall be transmitted to RSC consoles of OCC, BCC &amp; DCC.</li> </ul>	Regarding to high voltage terminal of MTr, there is no box. Thereby, it's considered this clause is not applicable.	An LHD System will still be required to cover the mentioned electrical Terminals, regardless whether they are located in a dedicated terminal box or not. Tender condition prevails	NO
442	Part 2 / Section VI A	10.11.14	The stipulations of EN 50388 and IEC 62313 shall be complied. Further, the control system shall ensure that the train as an electrical system shall always behave as an inductive load with power factor near to unity (not leading) under all operating conditions of powering mode, regenerative braking mode and coasting mode at all passenger loads and train speeds. The Contractor shall include validation of the same as a part of combined test bed & mainline test	The following change is suggested to conduct the test with maximum load condition. The stipulations of EN 50388 and IEC 62313 shall be complied. Further, the control system shall ensure that the train as an electrical system shall always behave as an inductive load with power factor near to unity (not leading) under all operating conditions of powering mode, regenerative braking mode and coasting mode at all passenger loads and train speeds. The Contractor shall include validation of same in maximum load condition as a part of combined test bed and on mainline test.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	NO
443	Part 2 / Section VI A	10.12.11	xxix. Calculated Speed Fault	The following change is suggested. xxix. Calculated Speed Fault <u>/ Speed Sensor Fault</u>	The Calculated Speed Fault required shall be taken to include a Speed Sensor Fault. Tender Condition Prevails.	NO
444	Part 2 / Section VI A	14.1.5	SIL Compliance TCMS shall be minimum of SIL2 compliant for all vital and safety related control and monitoring functions including but not limited to the following hardware, software and control functions- at all levels etc. Any change in SIL level shall be subject to the hazard analysis and acceptance by CMRL, whose decision shall be final and binding SIL compliance for the below functions shall be submitted for review and approval of CMRL:-	The following change is suggested. "TCMS shall be minimum of SIL2 compliant for all vital and safety related control and monitoring functions determined by the Hazard Analysis according to IEC 62278 RAMS requirements. Any change in SIL level of the following hardware, software and control functions- at all levels including but not limited to hardware, software and control functionality etc shall be subject to the hazard analysis and acceptance by CMRL, whose decision shall be final and binding SIL compliance for the below functions shall be submitted for review and approval of CMRL [CDRL 14- 3]"	Tender condition prevails.	NO
445	Part 2 / Section VI A	14.2.1	(e) When cars of a train are coupled or uncoupled, the network shall automatically reconfigure itself for the new train configuration. The configuration shall identify each car in the new train by its car number.	1. TCMS network should be connected via Auto coupler other car? (We understand that coupled train operation is not required) Please check if this clause can be deleted.	The cited Clause is refers to the configuration of the cars within a single 3-car consist train rake. The coupling between cars within the same consist shall use a semi-permanent coupler / jumper arrangement. Tender Condition Prevails.	NO



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446	Part 2 / Section VI A	14.5.2	cc) Push Button record: All operations of Train operator including pressing of push buttons etc. shall be recorded with time stamp and be made available on DDU.	Please check if this clause can be updated as below (since there are many VDU buttons which might not be important to record for example, buttons for the VDU screen transition): "cc) Push Button record: All <u>important</u> operations of Train operator including pressing of push buttons etc. shall be recorded with time stamp and be made available on DDU." (At design stage, it's discussed that which push botton record is needed.)	Tender Condition Prevails.	NO	
447	Part 2 / Section VI A	14.5.5	DDU Access Control Levels The level of access to distinct screens shall be controlled for the train operator and maintenance personnel. At least three levels shall be defined which shall be user name and password protected. The details shall be reviewed by CMRL.	DDU accesss control can be based on the different types of users accessing the DDU: - Operator Mode: For Train Fleet operation - Maintainer Mode: For Train Maintenence PTU shall be used for testing and trouble shooting by connecting external laptop. PTU can also include VDU functionality and with three access levels according to the different user test engineer/maintainer etc. Test Mode extension of VDU can be provided via PTU (Portable Terminal Unit) instead of DDU. Please check if this DDU clause can be updated to " <u>at leaset Two levels</u> " instead of "At least three levels".	Tender Condition Prevails.	NO	
448	Part 2 / Section VI A	14.5.7	DDU Hardware Capacitive-touch screen-based DDU or better shall be provided as approved by CMRL. The display screen shall be of coloured Light Emitting Diode (LED) type, suitable for use in rugged railcar environment. DDU shall be equipped with brightness, sharpness, intensity and contrast controls etc.	" sharpness, intensity and contrast controls" might not be required and brightness control might be sufficient according to UIC612-01. Please check if this clause can be updated to include the standard as below: "Capacitive-touch screen-based DDU or better shall be provided as approved by CMRL. The display screen shall be of coloured Light Emitting Diode (LED) type, suitable for use in rugged railcar environment. DDU shall be equipped with brightness controls and comply with UIC612-01 or equivalant international standards."	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	NO	
449	Part 2 / Section VI A	Appendix-C 2.13.1 Table - S/N 15	STC Contractor STC Contractor to interface with RS Contractor for selection of best suited methodology i.e. bit by bit, code (1 byte) or any other.	STC Contractor "STC Contractor to interface with RS Contractor for selection of best suited methodology i.e. bit by bit, code (1 byte) or any other. These Signals should be exchanged using the Safety Data Transmission between VATC and TCMS as finalized during design stage, as TCMS shall is required to be SIL2 certified."	Tender Condition Prevails.	No	
450	Part 2 / Section VI A	2.14.2.2	During the rescue operation of a train with a burst MR pipe; a healthy assisting train (in AW0 load condition) shall be capable of rescuing a failed train (in AW4 load condition) with its parking brakes applied. The coupled AW0~AW4 consists shall be capable of starting and accelerating up a worst- case gradient of 4% and be able to reach a speed of 20 kmph in restricted manual mode. This coupled rake of healthy and defective consists shall be able to ascend any combination of gradient and/or curve as may be necessary to reach the next station to allow passengers to deboard. The healthy train shall thereafter be able to push the defective train (with its load now reduced to AW0, but with parking brakes still applied) as far as necessary to reach the Depot. The wheels of the train with parking brakes applied shall rotate without sliding under all operating conditions. The Contractor shall demonstrate that this requirement is met during main line type testing. Wheel temperatures shall be monitored during testing using thermocouples that are mounted on every wheel with parking brakes applied during the entire push-out operation.	It's considered that the condition of rescue mode with its parking brakes applied is very rare case and have a huge impact for traction motor design. In addition, high tractive effort is needed when AW0 will reasuce a failed train. At that case, adhesion ration is higher than normal tractive effort and may cause slip or slide. Thereby, please consider to revise it as following. During the rescue operation of a train with a burst MR pipe; a healthy assisting train (in AW0 load condition) shall be capable of rescuing a failed train (in AW4 load condition) with its parking brakes applied. The coupled AW0~AW4 consists shall be capable of starting and accelerating up a worst- case gradient of 4% and be able to reach a speed of 20 kmph in restricted manual mode. This coupled rake of healthy and defective consists shall be able to ascend any combination of gradient and/or curve as may be necessary to reach the next station to allow passengers to deboard. The healthy train shall thereafter be able to push the defective train (with its load now reduced to AW0, but with parking brakes still applied) as far as necessary to reach the Depot. The wheels of the train with parking brakes applied shall rotate without- sliding under all operating conditions. The Contractor shall demonstrate that this requirement is met during main line type testing. Wheel temperatures shall be monitored during testing using thermocouples that are mounted on every wheel with parking brakes applied during the entire push-out operation.	Tender Condition Prevails.	No	
451	Part-1, Section – IV, Bidding Forms	4.4.11	PRICE CENTRE 'RS-H' – TRAINING AND MANUALS. RS-H0 - i) the site of an Operating Railway (must be part of a network that has provided GoA-4 / UTO operations for a period >10 years)	Part-1, Section - III - EQC - 2.5 - 5 TCMS - Form Sys-5 - "The proposed system shall be in satisfactory revenue operation for <u>minimum three (3) years</u> in GoA4 trains, in a country other than the country of origin of manufacturer or in India, at the time of bid submission." 14.1.2 Proven Design Basic architecture and hardware of TCMS proposed to be implemented / used by the Contractor should already be functioning in Metros since last <u>more than three years in revenue service</u> and shall be compliant with latest version of international norms. PRICE CENTRE 'RS-H' – TRAINING AND MANUALS. RS-H0 - i) the site of Employer's Site/Depot an Operating Railway (must be part of a network that has provided GoA-4 / UTO operations for a period > 3 49 years)	Tender condition prevails.	NO	
452	PART-1, Section – III Evaluation and Qualification Criteria (EQC)	2.4.2(a) Specific Experience	A minimum number of 105 cars (Metro, LRT, Suburban EMUs, Train sets) must have been manufactured as a prime Contractor (single entity or JV member) during the last ten (10) years of the bid submission deadline.	<ul> <li>BHEL is into the Design, Engineering, Manufacturing of complete propulsion electrics for Locos/EMU/MEMUs/Metro etc. Also, till date more than 800 nos. Locomotives have been supplied to Indian Railways and Industries.</li> <li>This is a major concern for us and may limit us to participate in this great opportunity.</li> <li>Suitable modification as below would help us in bringing a Global OEM as a sub-contractor for design of coaches.</li> <li>Therefore, we propose change as under: -</li> <li>A minimum number of 105 Locomotives or cars (Metro, LRT, Suburban EMUs, Train sets,) must have been manufactured as a prime Contractor (single entity or JV member) during the last ten (10) years of the bid submission deadline.</li> </ul>	Tender Conditions Prevail.	No	
453	PART-1, Section – III Evaluation and Qualification Criteria (EQC)	2.4.2 (b) Specific Experience	(B) A minimum of 53 cars comprising stainless steel / steel EMU / MEMU / Metro car manufactured in India for either metro company or Indian Railways	As aforesaid above at Sr. no.(1), we propose change in the clause as under: - (B) A minimum of 53 Locomotives or cars comprising stainless steel / steel EMU / MEMU / Metro car manufactured in India for either metro company or Indian Railways.	Tender Conditions Prevail.	No	
454	PART-1, Section – III Evaluation and Qualification Criteria (EQC)	2.4.2 ( c ) Specific Experience	A minimum of 53 cars (Metro, LRT, Suburban EMUs, Train sets) must have been supplied to 1. Outside the parent company or group company (and) 2. Country other than the country of origin ( or) India	As aforesaid above at Sr. no.(1), we propose change in the clause as under: A minimum of 53 Locomotives or cars (Metro, LRT, Suburban EMUs, Train sets) must have been supplied to 1. Outside the parent company or group company (and) 2. Country other than the country of origin (or) India As aforesaid above at Sr. po. (1) we propose change in the clause as	Tender Conditions Prevail.	No	
455	Section – III Evaluation and Qualification Criteria (EQC)	2.4.2 (d ) Specific Experience	A minimum of 53 cars (Metro, LRT, Suburban EMUs, Train sets) for a period of three years shall be in satisfactory revenue operation at the time of bid submission deadline.	A minimum of 53 Locomotives or cars (Metro, LRT, Suburban EMUs, Train sets) for a period of three years shall be in satisfactory revenue operation at the time of bid submission deadline	Tender Conditions Prevail.	No	



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456	Part-3, Section – VIII Particular Conditions of Contract (PCC)	Table 1.1: Summary of Sections : Key Date - Rolling Stock	The List Summary of Sections : Key Data         A Data Charachivement of Main Key Data         The List Charachivement of Main Key Data         Construction of Main Key Data         (List Charachivement of Main Key Data         Ito 28 data         Ito 28 data         Ito 28 data         Note that Internet Note Charachive The Main Chara	Since, tender allows establishing manufacturing facility in India, and as per our assessment it requires 3 years' timeline minimum to deliver a porotype train from newly built facilities. In view of above, kindly amend prototype delivery timeline as per previous tender i.e 1095 days instead of 740 days mentioned in current tender.	Tender Conditions Prevail.	No
457	Part 2 / Section VI B	3.2 SNo2 Bogie Hoist (SPJ)	Effetive Lift : Maximum 1800mm	In the tender documents. The effective stroke for Bogie Hoist is stated maximum 1800mm. Normally 1600mm is the standard use for Metro train. Please confirm that maximum effective stroke of 1600mm is acceptable.	It is clarified that the height achieved (at the fully extended stroke) must be at least 1800mm Tender Condition Prevails	No
458	Part 2 / Section VI B	3.2 SNo2 Body Stand (SPJ)	Effetive Lift : Maximum 2700 mm	In the tender documents. The effective stroke for Body Support is stated maximum 2700mm. Normally 2400mm is the standard use for Metro train. Please confirm that maximum effective stroke of 2400mm is acceptable.	It is clarified that the height achieved (at the fully extended stroke) must be at least 2700mm Tender Condition Prevails	No
459	Part 2 / Section VI B	3.16.7 (SPJ)	Main control panels shall be fitted with door mounted electrical isolation switches for the safety of maintenance personnel.	Clause 3.16.7. Main control panel shall be fitted with door mounted electrical Isolation switches. Normally for UFLS the Isolator Switch is fitted on the Side of the main control cabinet. Please confirm that this is acceptable.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
460	Part 2 / Section VI B			Normally the Sump pump and Pit Lighting is a separate system and it is better to park these under civil work contract. Please consider.	Tender Condition Prevails Tender Condition Prevails Sump pump and Pit Lighting (LED) is within the scope of the ARE02A Contract.	No
461	Part 2 / Section VI B	6.3.2 (iii) (MLJ)	A rapid changing of the spindle nut without dismounting the jack and without additional hoists shall be possible.	Clause 6.3.2 (iii) " Dismounting the Spindle nut without additional hoists shall be possible". Normally this is not possible because you will need a crane to lift up the spindle a bit then the Lifting nut can be completely remove out.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
462	Part 2 / Section VI B	6.3.2 (v) (MLJ)	The gear torque support shall be provided with rubber bumpers. All bearings of the gear and motor shall be roller bearings.	Clause 6.3.2 (V) " Gear torque Support shall be provided with rubber bumper". It depends on different suppliers. Some suppliers has such design but not all suppliers has this design. Please consider to remove this clause.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor.	No
463	Part 2 / Section VI B	6.3.3 (iv) (MLJ)	The Safety nut shall be made of cast iron.	Clause 6.3.3 (iV) " The Safety Nut shall be made of Cast Iron" Normally the Safety Nut is prefer to be make of Bronze because when us9ing Cast Iron safety Nut the Lifting Spindle will wear out faster. Please consider to remove this clause.	Tender Condition Prevails	No
464	Part 2 / Section VI B	12.3.9 (BTT)	One operating lever shall be provided to each turntable for manual turning operation. An inbuilt provision shall be provided for storage of the lever within the Turn table.	Clause 12.3.9 "an in built provision shall be provided for storage of the lever within the Turntable" Currently only 1 of the supplier is using this design. Please consider to remove it or replase it.	The Contractor may propose the design concept for the Engineer's consideration during design stage. The Engineer's decision shall be final and binding on the Contractor. Tender Condition Prevails	No
465	Part-1, Section I & Part 1, Section IV	Part-1/Section I/ Clause 18.3 & Part-1/ Section IV/ Schedule of Payments/ Bidding Forms/ Price Centre RS-B, C, D, E & F	Part-1/ ITB/ Clause 18.3// Bidders shall provide price in each item in the manner and detail called for in the Price Schedules included in Section IV, Bidding Forms. Further, Bidders may add breakdowns of items and provide the prices in each Price Schedule included in Section IV, Bidding Forms. & Part-1/Bidding Forms/ Schedule of Payments/ Price Centre Table- RS-B, C, D, E & F:	<ul> <li>With reference to provision under clause ITB/18.3, it is our understanding that bidders may add breakdowns of items of 'Milestone Number', 'Milestone Activity', 'Apportioned Amount' and 'Period of Completion of Milestone' in the Part-1/Bidding Forms/ Schedule of Payments/ Price Centre Table-RS-B, C, D, E &amp; F for 'Each Train Set'. Kindly refer revised Bidding Forms/ Schedule of Payments/ Price Centre Table-RS-B, C, D, E &amp; F with Train set for your review and confirmation please.</li> <li>Further, we also understand that Payments for respective breakdown milestones will be made as per Completion of respective milestone. Requesting you to kindly confirm our understanding.</li> </ul>	Tender Condition Prevails	No

