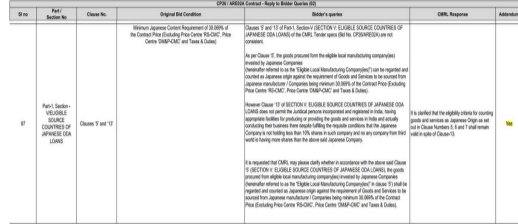
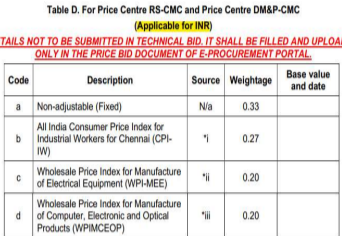


CP26 / ARE02A Contract - Reply to Bidder Queries (03)

Sl no	Part / Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
1	Part-1/ Section-IV/ Bidding Forms	Clause No.4.2/Pricing Summary	Allowable Apportionment for Price Centre RS-CMC [30% of Lumpsum Price (Rolling Stock)]	Please refer Sr. No. 1 of our letter No. CAF/CMRL/ARE02A/2023-24 dated 19-01-2024 & 24-01-2024	Tender Condition Prevails	No
2	Part-1/ Section-IV/ Bidding Forms	1.2-Letter of Price Bid/ Table D	Price variation for the Maintenance Price centre	Please refer Sr. No. 2 of our letter No. CAF/CMRL/ARE02A/2023-24 dated 19-01-2024 & 24-01-2024	Tender Condition Prevails	No
3	Corrigendum 04	Bid Submission Due Date	Last Date & Time of Submission / uploading of Bid (Online Only): 21 Feb 2024 till 15:00 Hrs.	We request CMRL to kindly extend Bid due date till 18 March 2024 as requested vide our letter No. CAF/CMRL/ARE02A/2023-24 dated 19-01-2024 & 24-01-2024	Corrigendum-06 will be issued to extend the bid submission deadline.	No
4	Reply to Bidder's Query Sr. No. 87	Part-1/Section V/ELIGIBLE SOURCE COUNTRIES OF JAPANESE ODA LOANS/Clause 5,6,7 & 13	It is clarified that the eligibility criteria for counting goods and services as Japanese Origin as set out in Clause Numbers 5, 6 and 7 shall remain valid in spite of Clause-13.	In 'reply to Bidder's Query', it is mentioned that CMRL has issued addendum to supersede Clause No. 5,6,7 over Clause No. 13. However, we are unable to find any addendum against inline with Bid query response for Sr. No. 87. Accordingly, we request CMRL to kindly revise Bid condition inline with Bid Query response. 	CMRL's previous reply to this bidder query (published to CPP on 19/01/24) is sufficient to provide clarity to bidders. For avoidance of any doubt, no Addendum has been invoked.	No
5	Part-1/Section IV/ Bidding Forms	2 (D)/Schedule of Adjustment Data/ & Addendum 02/Annexure 03/Table 4.4.12 & 4.4.17	Table D For Price Centre RS-CMC and Price Centre DM&P-CMC  & 4.4.12 PRICE CENTRE 'RS-CMC' & 4.4.17 PRICE CENTRE 'DM&P-CMC'	In Addendum 02 dated 19-01-2024, CMRL has allowed Bidder to quote Price Centre RS-CMC & DM&P-CMC in JPY along with INR. However, 'Price variation / Price Adjustment for RS-CMC & DM&P-CMC has not been updated for JPY currency in Section IV/Bidding Forms/Clause 2/Table D For Price Centre RS-CMC and Price Centre DM&P-CMC. CMRL is requested to kindly revise the Table D for JPY currency also.	Bidders' may refer to <u>Part-1/Section IV/ Bidding Forms Clause 3.2.7</u> where it is already clarified that Price Adjustment towards RS-CMC and DM&P-CMC is not applicable on Foreign Currencies (JPY & FC) portions. The weightages have been revised, refer to Addendum_03 S/N 1	Yes
6	Part-1/Section II/BDS/ITB 11.2	ITB 11.2(B) Bid Security	As per ITB 11.2(B) Bid Security it is stated that Bid Security / EMD: As per Clause BDS 21 below. Shall be Paid by BG / NEFT / RTGS / Demand Draft / SWIFT. Scanned copy of BG / NEFT / RTGS / DD / SWIFT to be uploaded online at the time of bid submission. If EMD is submitted in the form of Bank Guarantee, it shall be as per format given in bid documents, from a Scheduled Commercial Bank as defined in Section 2(e) of RBI Act 1934 or from any Japanese Bank as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI). Bidders should ensure submission of the original bank guarantee / DD by person / post / courier at the office of the Employer at the address specified in the Bid document within Seven (07) days after the bid submission due date.	It is our understanding that Bid Security can be submitted in the form of 'Physical Bank Guarantee' issued by Scheduled Commercial Bank in line with requirement specified in BDS/ITB 11.2 (B). Further, Bidders need to submit scan copy of Bid Security on procurement portal and 'Original Bid Security' in the form of 'Bank Guarantee' to be submitted to CMRL with in 07 days after the Bid submission due date. Kindly Confirm our understanding.	Bidders' may refer to Part-3 PCC to GCC Clause 1.1.4.14 for further clarification.	No
7	Part-1/Section IV/ Bidding Forms	10. Form of Bid Security	Form of Bid Security (Bank Guarantee)	We note that Form 10/Bid Security (Bank Guarantee) does not specify Bank Guarantee validity date and Schedule Commercial Bank suggested to insert the following after 2nd last paragraph of Form of Bid Security (Bank Guarantee). Notwithstanding anything contained herein: A) Our liability under this Bank Guarantee shall not exceed [insert amount in words, (insert amount in figures)] only. B) This Bank Guarantee shall be valid up to [insert bid security validity date]. C) We are liable to pay this guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon a written claim or demand on or before [insert bid security validity date]. Above suggested paragraph was also specified in the recent DMRC/RS17 Tender.	Tender Condition Prevails	No
8	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT dated January 2024	2.25.10 b 2.25.11 b 7.6.3	2.25.10 b) SEC of VAC for a 3-car train (Say 'SECH' Wh/GTKM) 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 speed of 40 5 kmph. vi. Loading Condition: Heat load of AW4 numbers of persons as per EN 14750-1, throughout the round trip including the terminal turnaround time. 2.25.11 b) Validation of "SECH-declared": 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 AW4. 7.6.3 An average temperature of 25°C and relative humidity of 60% shall be automatically maintained within the saloon and emergency operator's desk areas that are under AW4 loading. The system shall be rated to fulfill this requirement until an outside ambient design condition of 38°C & 65% RH in summer, and 35°C & 80% RH in winter.	The conditions for SEC of VAC is defined at summer ambient conditions of 38°C & 65% RH and with heat load corresponding to AW4 passenger load. (Previously the heat load was specified to be met for AW3 passengers, which is modified to AW4 in Addendum2). The conditions specified are severe and based on our analysis, the SEC values specified in the tender can't be achieved in these conditions. Generally the maximum temperature and humidity doesn't occur simultaneously and furthermore such ambient conditions occur at non-peak traffic hours where the passenger loading is less. It is requested to reduce the ambient conditions for the purpose of SEC of VAC to 38°C & 36.2% RH along with passenger heat load of AW3.	Refer to: Addendum_03 S/N 3 Addendum_03 S/N 4 Addendum_03 S/N 9	Yes
9	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	17.1.10	New Clause 17 1 10 to be added after 17 1 9: In case of any change in the place of manufacture (either trainsets or major subsystems) then related type tests shall be repeated.	A new clause has been added in Addendum 02 which requires the type tests to be repeated in case of change of place of manufacture. The tender allows for some cars to be manufactured outside and mandatory indigenous manufacturing of minimum 75% of the cars. Thus asking for repeat of type tests due to change of place of manufacture is not justified. Furthermore, type tests are done to validate the design and hence shouldn't be repeated in case of change of place of manufacture. Requested to delete this clause.	Bidders may refer to <u>Part-2 Section VI-A Clause 17.1.3</u> where it is already clarified that the Contractor may propose test waivers where there are reasonable justifications.	No
10	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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— at least 48" corner to corner. The use of multiple screens joined together shall not be accepted.	The DRMD unit size has been increased in Addendum02. It is submitted that DRMD unit of maximum 36.6 inches can be accommodated above the door due to other door equipment behind. It is requested to thus change the size to 36.6inches.	Tender Condition Prevails	No

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Sl no	Part / Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
11	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	2.29	<p>2.29 FLEET DESIGN FAMILIARITY AND CONSISTENCY</p> <p>2.29.1 The Contractor shall ensure that interior aesthetics, configuration and colour schemes (including PIS Displays and Media) shall as far as reasonably practicable follow similar concepts to those that have already been adopted on earlier introduced Chennai Phase-II fleets.</p> <p>2.292 To ease the challenge of upholding Operator familiarity with multiple fleet types; the Contractor shall apply best endeavours to ensure the layout of Human Machine Interface (HMI) and Communications Control Head (CCH) are broadly similar to earlier introduced Chennai Phase-II fleets.</p>	<p>Since this contract is different with earlier introduced Chennai Phase-II fleets and will take much time and cost to follow similar concepts, please consider to either delete it or revise it as following:</p> <p>2.29 FLEET DESIGN FAMILIARITY AND CONSISTENCY</p> <p>2.29.1 The Contractor shall ensure that interior aesthetics, configuration and colour schemes (including PIS Displays and Media) shall as far as reasonably practicable follow similar concepts to those that have already been adopted on earlier introduced Chennai Phase-II fleets <u>or other Indian project.</u></p> <p>2.292 To ease the challenge of upholding Operator familiarity with multiple fleet types; the Contractor shall apply best endeavours to ensure the layout of Human Machine Interface (HMI) and Communications Control Head (CCH) are broadly similar to earlier introduced Chennai Phase-II fleets <u>or other Indian project.</u></p>	<p>For avoidance of any doubt it is clarified that the intent of this Clause to allow the Contractor and Employer to agree on a level of customisation (to be agreed on during design phase) without exceeding what is reasonable and practicable; within the context of this design and build Contract.</p> <p>Tender Condition Prevails</p>	No
12	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	6.9	Dual Mode Detrainment Door	Letter BEML/PrC/RJ/ARE02A/24/5 dated 22-01-2024 has requested deletion of the requirement for the Detrainment Door to operate in Train-to-Train evacuation mode.	Tender Condition Prevails	No
13	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	2.29	<p>2.29 FLEET DESIGN FAMILIARITY AND CONSISTENCY</p> <p>2.29.1 The Contractor shall ensure that interior aesthetics, configuration and colour schemes (including PIS Displays and Media) shall as far as reasonably practicable follow similar concepts to those that have already been adopted on earlier introduced Chennai Phase-II fleets.</p> <p>2.292 To ease the challenge of upholding Operator familiarity with multiple fleet types; the Contractor shall apply best endeavours to ensure the layout of Human Machine Interface (HMI) and Communications Control Head (CCH) are broadly similar to earlier introduced Chennai Phase-II fleets.</p>	<p>Since ARE02A tender will be different compared to existing Chennai Phase-II fleets, maintaining fleet design familiarity and consistency will require to follow same design and maintain same source which will affect project schedule, cost and may also lead to IPR issues. Also, replicating the similar performance and compatibility is practically not possible.</p> <p>In view of the above, as the following requirements are open ended and subjective in nature, request to delete the requirements or revise as below:</p> <p>" 2.29 FLEET DESIGN FAMILIARITY AND CONSISTENCY</p> <p>2.29.1 The Contractor shall ensure that interior aesthetics, configuration and colour schemes (including PIS Displays and Media) shall as far as reasonably practicable follow similar concepts to those that have already been adopted on earlier introduced Chennai Phase-II fleets <u>or other Indian Metro Rolling Stock projects.</u></p> <p>2.292 To ease the challenge of upholding Operator familiarity with multiple fleet types; the Contractor shall apply best endeavours to ensure the layout of Human Machine Interface (HMI) and Communications Control Head (CCH) are broadly similar to earlier introduced Chennai Phase-II fleets <u>or other Indian Metro Rolling Stock projects"</u></p>	<p>For avoidance of any doubt it is clarified that the intent of this Clause to allow the Contractor and Employer to agree on a level of customisation (to be agreed on during design phase) without exceeding what is reasonable and practicable; within the context of this design and build Contract.</p> <p>Tender Condition Prevails</p>	No
14	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	14.12	ENERGY CONSUMPTION MEASUREMENTS	HVAC energy measurement (Powering, Coasting & Braking) may be deleted as the HVAC being the major load of Auxiliary Power Supply (SIV) and Energy consumption measurements are measured at SIV ((Powering, Coasting & Braking). Request to amend the clause accordingly.	Tender Condition Prevails	No
15	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	12.2.10 (h)	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 contradictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detrimental 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
16	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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 contradictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detrimental 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
17	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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 contradictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detrimental 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.	Tender Condition Prevails	No
18	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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 contradictory with above mentioned clauses, it is requested to remove push-out brake requirement. Otherwise it may be detrimental 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.	Tender Condition Prevails	No
19	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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.	<p>Voltage/Wave form of electronic circuit is proprietary information and cannot be shared.</p> <p>Based on prior experience, OEMs will only provide standard documents. Intellectual Property like flow charts, signal flows, logic, PCB details and interpretation of signal etc. will not be shared by sub-contractor/OEMs.</p> <p>Clause may be reviewed and updated accordingly.</p>	<p>For avoidance of doubt: the tender condition is only requesting that this information be provided for dedicated test points on the PCBs.</p> <p>Tender Condition Prevails</p>	No
20	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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.	<p>With wheel diameter 860mm (new) and worn as 780mm, the feasible height of water level is 75mm above rail level. The clause shall be modified as below:</p> <p>The Traction Equipment mounted on the under-frame shall be designed to permit propulsion of the train at 10 km/h through water up to a depth of 75mm above rail level. Traction equipment shall be made splash proof in accordance with International Standards.</p>	<p>Refer to:</p> <p>Addendum_03 S/N 2</p>	Yes

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Sl no	Part / Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
21	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	2.8.1	The Kinematic Envelope of the Car shall be in accordance with Schedule of Dimensions in Appendix D. The Contractor's calculations of the static and kinematic envelope of the vehicle shall be calculated in accordance with UIC 505 and/or equivalent International Standard. The vehicle and attached equipment shall be designed to operate within the Kinematic Envelope shown in Appendix D, under all worst conditions of speed, passenger load, sway, roll, side play, wear, including wheel and rail wear and failures other than structural failures on level tangent track. The method and details of the calculations shall be submitted for the approval of CMRL as a separate design submission.	The choice of KE calculation is left for the rolling stock supplier as the validity of the simulation is done through physical tests. Hence the clause may please be modified as below: The Kinematic Envelope of the Car shall be in accordance with Schedule of Dimensions in Appendix D. The Contractor's calculations of the static and kinematic envelope of the vehicle shall be calculated in accordance with UIC 505 and/or equivalent International Standard. The vehicle and attached equipment shall be designed to operate within the Kinematic Envelope shown in Appendix D, under all worst conditions of speed, passenger load, sway, roll, side play, wear, including wheel and rail wear and failures other than structural failures on level tangent track. The method and details of the calculations shall be submitted for the approval of CMRL as a separate part of design submission.	Tender Condition Prevails	No
22	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.2.8	The bogie design shall minimize flange contact especially on curves on all tracks to minimize wheel and rail wear.	The profiles of rail & wheel are standard ones and hence flange contact cannot be eliminated. Hence the clause may please be modified as below: The bogie design shall enable the cars to maneuver sharpest curve safely	Tender Condition Prevails	No
23	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.4.10.e	The Helical springs shall be designed for the lifetime of train / carbody. Helical springs shall be designed and tested as per EN 13298 and EN 13906. The service life of rubber bonded metal components / rubber of spring type primary suspension shall be not less than 12 years. The Contractor shall ensure that the chosen supplier provides a warranty for the same.	The life of primary springs of helical type cannot be 35 years as similar to train/carbody. Such requirement is technically not feasible. Also, all rubber components under permanent loading tend to develop creep which requires replacement of the part. Hence the clause may please be modified as below: Helical springs shall be designed and tested as per EN 13298 and EN 13906 or equivalent international standard. The service life of rubber bonded metal components / rubber spring type primary suspension shall be not less than 8 years. The Contractor shall ensure that the chosen supplier provides a warranty for the same.	Refer to: Addendum_03 S/N 12	Yes
24	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.5.3.f	Coupling shall not have resonance noise during coasting.	The clause may please be deleted as noise of the gearbox is measured along with traction motor and separating the coupling noise is not practically possible.	Tender Condition Prevails	No
25	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.8.2	A way side mounted axle bearing temperature measurement system shall be provided and fitted in situ by the Contractor in all CMRL corridors where the bogies are expected to ply . The cost of these systems shall be deemed to be included in the quoted price. The equipment details shall be submitted to CMRL during design stage, for approval.	The clause may please be modified as below: A wayside hot axle box detection system shall be provided and fitted in situ by the Contractor in CMRL corridors-3, 4 & 5. The cost of these systems shall be deemed to be included in the quoted price. The equipment details shall be submitted to CMRL during design stage, for approval.	Refer to: Addendum_03 S/N 13	Yes
26	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.5	The wheel hubs shall be provided with a bore hole to ensure hydraulic assist wheel take-off. Wheels are balanced according to requirements of UIC.	Wheels designed as per EN standards will be balanced as per EN standard. Hence the clause may please be modified as below: The wheel hubs shall be provided with a bore hole to ensure hydraulic assist wheel take-off. Wheels shall be balanced according to requirements of EN/UIC or another equivalent international standard.	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" Tender condition prevails.	No
27	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.6	Wheelsets shall be provided with a Noise Damping System; capable of reducing both "rolling noise" and "curve squeal". The Contractor shall propose a service proven design for CMRL's approval no later than pre-final design stage.	Bogies with disc brake system inherently produce less noise compared to without disc brake. Also, for such a bogie, no noise damping feature can be added. Therefore, the clause may please be modified as below: Efforts shall be made to reduce the squealing in curves by ensuring the correct alignment of wheel flange lubricator installed in the train.	In accordance with ERTS Clause 17.1.3 the Contractor may (during design stage) request a waiver if there are sufficient justifications for not providing rolling noise damping if disc brakes are proposed. Tender Condition Prevails.	No
28	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.10	The Contractor shall submit procedures for testing of a free-standing assembled wheel set and for testing of a wheel set in site under a car. It shall include location of testing and refer to test standards	The clause may be suitable modified to specify the kind of tests being envisaged	It is clarified that the Contractor shall propose an appropriate list of tests to be carried out on free-standing (E.g. not installed on a Bogie Frame) wheelsets in accordance with applicable standards for CMRL's review and acceptance. Inclusion of electrical resistance testing between each wheel, measurement of the wheel profiles and inspection of the axles will be mandatory.	No
29	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.15	Wayside Hot Axle Box Detection (HABD) System The Contractor shall provide a wayside HABD System conforming to BS EN 15437 and in accordance with the following requirements: -	The clause may please be modified as below: The Contractor shall provide a wayside HABD System in accordance with the following requirements: -	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" Tender condition prevails.	No
30	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.15.c)	The HABD System shall interface with STC for accurately identifying the Rake number, wheelset number and side of any axle box and other necessary details. Further, HABD system shall interface with Other Designated Contractors related to Space, Power and other requirements.	The clause may please be deleted as identification of train can also be done through RFID based systems or camera-based systems etc which is dependent on vendor proposal.	An RFID system might compromise the intent of Clause 11.9.15(h) which was added via Addendum-02. This requires the HABD system to be fleet agnostic. Tender Condition Prevails	No
31	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.15.d)	The combined System shall be capable of generating custom warnings, alarms in OCC, BCC & DCC and be able to integrate with AMMS (RS Contractor supplied) to automatically generate Work Orders. The Rolling Stock Contractor shall be responsible for the overall systems integration.	Alarms will be generated at the OCC from where the information can be sent to ATC for necessary action via signaling. Hence the clause may please be modified as below: The proposed HABD system shall generate alarms in case of detection in OCC. The server & necessary workstation along with software in OCC shall be in the scope of Contractor	Tender Condition Prevails	No
32	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.15.h)	The HABD System provided by the Contractor shall be fleet agnostic (E.g. it shall be fully capable of detecting axle box temperatures and triggering OCC alarms in the event of defects arising on any passenger Rolling Stock fleet type that is serving corridors 3 and 5 of the Chennai Phase-II network). The Contractor shall propose suitable validation tests (for all planned fleets) as part of the Master Test Plan in accordance with ERTS Clause 17.2.2 for CMRL's review and acceptance.	Fleet agnostic HABD system will render the wayside system to be an onboard system which is a contradictory requirement. The clause may please be modified as below: The HABD System provided by the Contractor shall trigger OCC alarms in the event of defects arising on any passenger Rolling Stock serving corridors 3 and 5 of the Chennai Phase-II network. The Contractor shall propose suitable validation tests as part of the Master Test Plan in accordance with ERTS Clause 17.2.2 for CMRL's review and acceptance.	Tender Condition Prevails	No

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33	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.16	The Contractor shall furnish the extreme maintenance limits for wheels according to UIC standard. The Contractor shall provide a re-profiling program in order to optimize the life span during the design stage and it shall be verified during the operation.	Wheels designed as per EN standards will be subject to criteria mentioned in the EN standard making UIC standard non-applicable. Hence the clause may please be modified as below: The Contractor shall furnish the extreme maintenance limits for wheels as per applicable EN/UIC or another equivalent international standard. The Contractor shall provide a re-profiling program in order to optimize the life span during the design stage and it shall be verified during the operation.	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" Tender condition prevails.	No																
34	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.29	Wheels, axles, gears, etc., shall be mounted using cold pressure and fits specified in the standard. Axle roller bearing may be mounted in the journal by induction heating. A wheel and axle mounting procedure, complying with standards shall be submitted for CMRL approval.	The clause may please be deleted as mounting procedure of gears, or wheels on axles are internal & technical know-how of the supplier which is not possible to be provided.	Tender Condition Prevails	No																
35	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.30	Axles shall be of hot-rolled steel, normalized and tempered after rough machining, shall provide suitable strength, and shall have a design fatigue life of at least 35 years.	Manufacturing of axles shall be as per applicable EN/UIC or any other international standard. Hence the clause may please be modified as below: The axles shall not fail in service	Tender Condition Prevails	No																
36	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.31	Finished axles shall, at a minimum, conform to the physical property requirement of Standards and Recommended Practices.	The clause may please be deleted as previous clause 11.9.12 & 13 already specifies the applicable standard for the same requirement	Tender Condition Prevails	No																
37	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	11.9.33	Wheel disc and axle shall be subjected to type tests as per UIC 812 and UIC 811 / EN 13260, EN 13261 & EN 13262. Test procedure for wheel, wheel set and axle along with test results shall be submitted for CMRL.	The clause may please be deleted as type test specification shall be part of design submission program wherein the details of type & routine tests will be mentioned along with pass fail criteria as per applicable standard. Type test in general not be necessary for proven supplier experience & equipment.	Tender Condition Prevails	No																
38	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	7.6.3	VAC design conditions given in ERTS: An average temperature of 25°C and relative humidity of 60% shall be automatically maintained within the saloon and emergency operator's desk areas that are under AW4 loading. The system shall be rated to fulfill this requirement until an outside ambient design condition of 38°C & 65% RH in summer, and 35°C & 80% RH in winter.	Justification: Bidder would like to inform that climatic conditions (38°C & 65% RH in summer, and 35°C & 80% RH in winter) specified in the draft specification for VAC design in clause 7.6.3 are very high and will not occur in Chennai city as per last 50 years data. Whenever, temperature increases, RH reduces and vice versa. Same has been verified with reliable weather data sources and hereby proposing for Employer's review. Designing VAC by considering the conditions mentioned in draft specification will have a cascading effect on operating costs (due to increase in power consumption) and maintenance costs. Amendment Requested for clause 7.6.3: An average temperature of 25°C and relative humidity of 60% shall be automatically maintained within the saloon and emergency operator's desk areas that are under AW4 loading. The system shall be rated to fulfill this requirement for the climatic conditions shown below. <table border="1"> <thead> <tr> <th>Climatic condition</th> <th>External Conditions</th> <th>Internal Conditions</th> <th>Passenger Loading</th> </tr> </thead> <tbody> <tr> <td>Climatic condition 1</td> <td>37.3°C and 40% RH</td> <td>25°C, 60% RH</td> <td>AW4</td> </tr> <tr> <td>Climatic condition 2</td> <td>31.3°C and 80% RH</td> <td>25°C, 60% RH</td> <td>AW4</td> </tr> <tr> <td>Climatic condition 3</td> <td>34°C, 65% RH</td> <td>25°C, 60% RH</td> <td>AW4</td> </tr> </tbody> </table>	Climatic condition	External Conditions	Internal Conditions	Passenger Loading	Climatic condition 1	37.3°C and 40% RH	25°C, 60% RH	AW4	Climatic condition 2	31.3°C and 80% RH	25°C, 60% RH	AW4	Climatic condition 3	34°C, 65% RH	25°C, 60% RH	AW4	Refer to: Addendum_03 S/N 8	Yes
Climatic condition	External Conditions	Internal Conditions	Passenger Loading																			
Climatic condition 1	37.3°C and 40% RH	25°C, 60% RH	AW4																			
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Climatic condition 3	34°C, 65% RH	25°C, 60% RH	AW4																			
39	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	7.4.1	VAC design conditions given in RFP: In order to minimize energy consumption, fresh air intake volume control shall be based on coach load weight signal. The fresh air intake shall be taken as minimum 2.5 liter per sec per passenger at AW4 condition. The proposal of levels of opening of fresh air dampers shall be finalized during detailed design stage with the approval of CMRL.	Justification: Bidder would like to inform that fresh air flow proposed 2.5 liter per sec per passenger (9m3 per hour per passenger) is higher than international standard recommendations and Indian metro project requirements. This will lead to higher VAC sizing and lead to increase in the power consumption and SECH. We request Employer to consider 2.22 liter per sec per passenger (8m3 per hour per passenger) as fresh air flow. Amendment Requested for clause 7.4.1: In order to minimize energy consumption, fresh air intake volume control shall be based on coach load weight signal. The fresh air intake shall be taken as minimum 2.22 liter per sec per passenger (8m3 per hour per passenger) at AW4 condition. The proposal of levels of opening of fresh air dampers shall be finalized during detailed design stage with the approval of CMRL.	Refer to: Addendum_03 S/N 5	Yes																
40	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	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.	Justification: Bidder would like to inform that fresh air flow proposed 2.5 liter per sec per passenger (9m3 per hour per passenger) is higher than international standard recommendations and Indian metro project requirements. This will lead to higher VAC sizing and lead to increase in the power consumption and SECH. We request CMRL to consider 2.22 liter per sec per passenger (8m3 per hour per passenger) as fresh air flow. Amendment Requested for clause 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 2.22 liter per sec per passenger (8m3 per hour 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.	Refer to: Addendum_03 S/N 6 Addendum_03 S/N 7 Addendum_03 S/N 8	Yes																
41	Part 2 VI ERTS-RS-SYSTEM REQUIREMENT	7.6.11	The fresh air intake shall be taken as minimum 2.5 liter per second per passenger for AW4 condition in cooling mode	Justification: Bidder would like to inform that fresh air flow proposed 2.5 liter per sec per passenger (9m3 per hour per passenger) is higher than international standard recommendations and Indian metro project requirements. This will lead to higher VAC sizing and lead to increase in the power consumption and SECH. We request CMRL to consider 2.22 liter per sec per passenger (8m3 per hour per passenger) as fresh air flow. Amendment Requested for clause 7.6.11: The fresh air intake shall be taken as minimum 2.22 liter per sec per passenger (8m3 per hour per passenger) for AW4 condition in cooling mode	Refer to: Addendum_03 S/N 10	Yes																

CP26 / ARE02A Contract - Reply to Bidder Queries (03)

Sl no	Part / Section No	Clause No.	Original Bid Condition	Bidder's queries	CMRL Response	Addendum
42	Part 2 VI ERTS-RS- SYSTEM REQUIREMEN T	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.	Justification: Bidder would like to inform that there shall be provision for the operator or maintainer to offset the Saloon internal set temperature value w.r.t Auto mode set temperature through DDU. This will ensure comfort is met in all operating conditions for passengers. Amendment Requested in clause 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. It shall be possible to set an offset value from the target interior temperature through DDU. Offset shall be possible from +2°C to -2°C in steps of 0.5°C. Offset shall be proposed by car builder for Employer's approval. The offset value shall be retained even after train shutdown.	Refer to: Addendum_03 S/N 11	Yes
43	Part 2 VI ERTS-RS- SYSTEM REQUIREMEN T	7.3.16	VAC design conditions given in RFP: Temperature Distribution: Temperature difference in horizontal and vertical planes spread over full car length shall be minimal. The instantaneous saloon interior temperature at 1.1m above car floor level shall be 25°C ± 2°C at any given time. The mean saloon interior temperature at 1.1m over (taken over a roundtrip period) shall not exceed 25°C	Justification: Bidder would like to inform that mean saloon interior temperature will be impacted by door cycling, dwell time at terminal stations. Considering this bidder requests Employer to give tolerance of ± 2°C for interior mean temperature inline with EN 14750 clause 9.1.1. <div style="border: 1px solid black; padding: 2px; font-size: small;">9.1.1 Range of the mean interior temperature (T_{in}) with the respect to the interior temperature setting (T_{ic}) While the equipment functions under the nominal performance defined in Clause 7, this range shall not be greater than ± 2 K.</div> In addition, as per clause no. 3.29 of EN14750 passing by areas like Gangway and emergency driver desk are excluded from the comfort envelope. As Gangway and Emergency Driver desk areas are not intended for continuous travel, request employer to consider and specify comfort in gangway and emergency driver desk as per EN 14750. <div style="border: 1px solid black; padding: 2px; font-size: small;">3.29 comfort envelope areas normally occupied by passengers. Areas of the vehicle which are intended only for passing through are excluded from the comfort envelope (e.g. gangways).</div> Amendment Requested in Clause 7.3.16: Temperature Distribution: Temperature difference in horizontal and vertical planes spread over full car length shall be minimal. The instantaneous <u>mean</u> saloon interior temperature at 1.1m above car floor level shall be 25°C ± 2°C at any given time. The mean saloon interior temperature at 1.1m over (taken over a roundtrip period) shall not exceed 25°C ± 2°C. <u>Comfort in Gangway and Emergency Driver desk areas shall be ensured as per clause 9.2.1 of EN 14750.</u> The Contractor shall submit details during PFDR.	Tender Condition Prevails	No
44	Part 2 VI ERTS-RS- SYSTEM REQUIREMEN T	2.25.10(b)	Specific Energy Consumption for functioning of VACs of a 3-car train - ('SECH') as declared by the Contractor i.e. SECH-declared shall be validated by conducting a test on one car under following conditions in a climatic chamber: iv) Inside car temperature shall be maintained at 25°C and relative humidity of 65%. The Contractor to note that the car inside temperature before opening of the saloon doors at each station shall be within 25°C	Justification: Bidder would like to inform that mean saloon interior temperature will be impacted by door cycling, dwell time at terminal stations. Considering this bidder requests Employer to give tolerance of ± 2°C for interior mean temperature in line with EN 14750 clause 9.1.1. Amendment Requested in Clause 2.25.10 (b) (vi) : Specific Energy Consumption for functioning of VACs of a 3-car train - ('SECH') as declared by the Contractor i.e. SECH-declared shall be validated by conducting a test on one car under following conditions in a climatic chamber: iv) Inside car temperature shall be maintained at 25°C±2°C and relative humidity of 65%. The Contractor to note that the car inside temperature before opening of the saloon doors at each station shall be within 25°C.	Tender Condition Prevails	No
45	Part 2 VI ERTS-RS- SYSTEM REQUIREMEN T	2.25.10(b) (vi)	Loading Condition: Heat load of AW4 numbers of persons as per EN 14750-1, throughout the round trip including the terminal turnaround time.	Justification: Bidder would like to inform that VAC cooling capacity cum power consumption is substantially increased considering the design points given and with increased passenger load of AW4 condition. As VAC is sized with normal door cycling (dwell time) and not for door opening at terminal turnaround /detention time where lot of hot air will be inducted into Saloon, it will be challenging to meet temperature requirements as per clause 2.25.10, b, iv. Considering these challenges, Employer is requested to retain the passenger load of AW3 only for SECH demonstration. VAC will be sized for AW4 passenger loading. Amendment Requested in Clause 2.25.10 (b) (vi) : 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.	Refer to: Addendum_03 S/N 3	Yes
46	Part 2 VI ERTS-RS- SYSTEM REQUIREMEN T	2.25.10(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 AW4	Justification: Bidder would like to inform that VAC cooling capacity cum power consumption is substantially increased considering the design points given and with increased passenger load of AW4 condition. As VAC is sized with normal door cycling (dwell time) and not for door opening at terminal turnaround /detention time where lot of hot air will be inducted into Saloon, it will be challenging to meet temperature requirements as per clause 2.25.10, b, iv. Considering these challenges, Employer is requested to retain the passenger load of AW3 only for SECH demonstration. VAC will be sized for AW4 passenger loading. Amendment Requested in Clause 2.25.10 (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.	Refer to: Addendum_03 S/N 4	Yes