

Annexure 1.3 R



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, INTEGRATION, TESTING AND COMMISSIONING OF ROLLING STOCK, COMMUNICATION BASED SIGNALLING & TRAIN CONTROL, TELECOMMUNICATION, PLATFORM SCREEN DOORS SYSTEMS AND DEPOT MACHINERY & PLANT OF LINE 5 (Phase 1 – KAPURBAWADI - KASHELI- DHAMANKAR NAKA & Phase2- DHAMANKARNAKA-BHIWANDI- KALYAN APMC) OF MUMBAI METRO RAIL PROJECT OF MMRDA INCLUDING 5 YEARS OF COMPREHENSIVE MAINTENANCE AFTER 2YEARS OF DEFECT LIABILITY MAINTENANCE PERIOD

IOCT NO: MMRDA/5/MMRP/CA-241

TENDER DOCUMENTS

PART- I

SECTION –3 (R)

EVALUATION AND QUALIFICATION CRITERIA (EQC)

Feb-2024

**MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
Metro PIU, 1st Floor, A-wing, Old Administrative Building,
Bandra-Kurla-Complex, Bandra(E), Mumbai–400051,India**

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Bidding Documents for RSTPD System	
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A. Technical Part**1. Qualification**

This Qualification Criteria contains the financial and experience criteria that a Tenderer must meet and/or demonstrate, and which the Employer shall use to determine whether the Tenderer is qualified to carry out the work.

This is divided as follows

1. Eligibility
2. Historical Contract Non-performance
3. Financial Criteria
4. Technical Criteria
5. Others

The Eligibility and Technical Qualification Criteria are to be read together with the description under Eligibility Experience and Tender Documents. The information to be provided in relation to each requirement and the definitions of the corresponding terms are included in the respective Tenderer Qualification Forms.

For reference project to be eligible for submission in support of the experience requirement, the tenderer shall either have

- Undertaken the project as single entity or
- Undertaken the project as a partner in JV;

1.2 Qualification Criteria

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
Eligibility							
1.1	Nationality	Nationality in accordance with ITT Subclause 4.4.	Must meet requirement		Must meet requirement		Forms – 1.1 and 1.2
1.2	Conflict of Interest	No conflicts of interest in accordance with ITT Subclause 4.2.	Must meet requirement		Must meet requirement		Qualification Eligibility Form 1.4
1.3	Bank Eligibility	Not having been declared ineligible by the Bank as per ITT 4.5	Must meet requirement		Must meet requirement		Qualification Eligibility Form & Undertaking Cum Indemnity Bond 1.4 and Form 1.5
1.4	State-Owned Enterprise or Institution of the Recipient country	Meet conditions of ITT 4.6	must meet requirement	must meet requirement	must meet requirement	not applicable	Form 1.4

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
2.2	Suspension Based on Execution of Tender Securing Declaration by the Employer	Securing Declaration pursuant to ITT 4.7 and ITT 19.	Must meet requirement		Must meet requirement		Qualification Eligibility Form 1.4
2.3	Pending Litigation	Tenderer's financial position and prospective long-term profitability is still sound. All pending litigation will be resolved against the Tenderer to be certified by the bidder.	Must meet requirement	N/A	Must meet requirement	N/A	
3. Financial Eligibility Criteria:							
3.1	Average Annual Turnover	Average Annual Turnover: The average annual turnover of last FIVE financial years shall not be less than <u>INR 22,000 Millions.</u>	Must meet requirement			Lead Member must meet requirement	Form – 3.2(Annexure – 1.4 R of Addendum 3)
		A price adjustment can be					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		applied to Annual Turnover notes sr no. 4 3).					
3.2	Profitability	Profit after Tax should be Positive for “Any Three Years” out of last five consecutive financial years. The profit shall not be negative for last two consecutive financial years.	Must meet requirement		Must meet requirement		Form – 3.1(Annexure – 1.4 R of Addendum 3)
3.3	Financial Resources	The Tenderer must demonstrate access to, or availability of, financial resources such as liquid assets or lines of credit Or Working Capital other than any contractual advance payments net of current commitments to meet cash-flow requirement of INR. 5,540 Millions.	Must meet requirement		Must meet requirement as per member share in JV		Forms – 3.1, 3.3a, 3.3b, 3.3c and 3.3 d (Annexure – 1.4 R of Addendum 3)

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
3.4	Net worth	The net worth of the bidder should be at least INR 2,770 Millions in last audited financial year.	Must meet requirement		Must meet requirement as per member share in JV		Forms – 3.1, 3.3a and Form - 3.3b(Annexure – 1.4 R of Addendum 3)
3.5	Available Bid Capacity (ABC)	ABC to be greater than INR 18,465 Millions	Must meet requirement			Lead Member must meet Hundred percent (100%) of the requirement and other partner to meet the requirement as per their share of participation.	Form – 3.4(Annexure – 1.4 R of Addendum 3)
		ABC = 2xAxN-B where					
		A = Average Annual Turnover for last FIVE Financial Years;					
		N = Number of years prescribed for completion of the Design & Build Period					
		B = Value of existing commitments and on-going works to be executed during the Design & Build Period					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
4. Technical Criteria(Refer Note 8 in case of Project executed in foreign currency)							
4.1	General Experience -	Experience under the Construction projects in the role of Individual contractor/ lead member of JV/ as JV Member for at least last 10 years from the date of submission of bid.	Must meet requirement			Lead Member meet requirement	Form – 4.1 (Annexure 1.15 of Addendum 1) and RPC 1
		• At least ONE Similar works[#] satisfactorily and Substantially completed ⁹ of minimum value <u>INR 14,770 Millions</u>					
		OR					
		• At least TWO Similar works[#] satisfactorily and Substantially completed ⁹ of minimum value <u>INR 9,233 Millions</u> each.					
		OR					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		<ul style="list-style-type: none"> At least THREE Similar works[#] satisfactorily and Substantially completed^oof minimum value <u>INR 7,390 Millions each</u> 					
		<p>Notes for General Experience:</p> <p>i) An escalation shall be applied to General Experience from the date of completion certificate to arrive at the updated value (refer table below notes Sr.no.3).</p> <p>ii) Multiple work Packages/ contracts awarded by the same Employer within the same municipal limits in a single year will be treated as</p>					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		a single work. iii) #Similar Work- For a project to qualify as an Eligible Project under General Construction Experience, it shall be Metro, Railway, Suburban EMUs, MEMU, LRT anywhere in the world					
4.2 Specific Experience in Key activities							
4.2 A	Specific	AND					Form -4.2

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
	Experience in Key activities – <u>Manufacturing of EMU/ MEMU/ Metro cars</u>	Bidder shall have designed, manufactured and supplied stainless steel/ Aluminium/ Corten Steel/ steel EMU/ MEMU/ Metro cars (i. e. Metro, Suburban EMUs, MEMU) during last Ten (10) years	Must meet requirement OR Must meet through the Specialist sub-contractor			Any one partner must meet the requirement Or Must meet through the Specialist sub-contractor	(Annexure 1.15 of Addendum 1) & RPC 1 Annexure – 1.9 R of Addendum 3 MoU with the Specialist Sub-Contractor
		i) 105 nos of cars in a single contract					
		OR					
		ii) 66 nos of cars each in TWO contracts					
		OR					
		iii) 52 nos of cars each in THREE contracts					
4.2B	Specific Experience in Key activities System Integrator	Bidder shall have successfully delivered Similar works# including supply, installation testing and commissioning and	Must meet requirement OR			Any one partner must meet the requirement	Form – 4.2 RPC 1 Form 5.3 Memorandum of Understanding

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		integration of Rolling stock, signalling and telecommunication works in last TEN (10) years from the date of submission of Bid	Must meet through the Specialist sub-contractor			Or Must meet through the Specialist sub-contractor	for Specialised Sub-Contractor (Rolling Stock/ System Integrator) (Annexure – 1.9 R of Addendum 3)
		At least ONE work satisfactorily and Substantially completed ⁹ of minimum value INR 14,770 Millions or more more(cost of work includes Rolling stock and S&T considered for integration) OR					
		At least TWO works satisfactorily and Substantially completed ⁹ of minimum value INR 9,233					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Millions each (cost of work includes Rolling stock and S&T considered for integration) OR					
		At least THREE works satisfactorily and Substantially completed⁹ of minimum value INR 7,390 Millions each (cost of work includes Rolling stock and S&T considered for integration)					
4.3 Available Bid Capacity-Manufacturing ABCM (Rolling Stock)							
4.3	Available Manufacturing Capacity ABCM (Rolling Stock)	Both ABCMO and ABCMC calculated as per the below formulae shall be independently equal to or more than the bidders quantity - <u>72 cars</u> The ABCMO (Ordered) and ABCMC (Existing commitments) calculated as	Must meet requirement OR Must meet through the Specialist sub-contractor			Rolling Stock Manufacturer must meet the requirement as a Member of JV OR Must meet	Form 3.5, 3.6 & 3.7(Annexure 1.4 R of Addendum 3)

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		<p>per the formulae shall be</p> $ABCMO = (1.1 \times P \times NM) - (Q)$ $ABCMC = (2 \times P \times NM) - (Q+R)$ <p>(Refer note - Annexure - 1.11 of Addendum 1)</p> <p>P = Maximum no. of EMU cars (other than trams) manufactured in the proposed plant in any consecutive 12 months during the last five (5) years. In case the Bidder proposes a new manufacturing plant the value of "P" shall be as declared by the Bidder in the</p>				through the Specialist sub-contractor	

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		<p>bid;</p> <p>NM = No. of years in which supply is to be made [NM = 730 days) in this case];</p> <p>Q = No. of EMU cars (other than trams) to be manufactured in the proposed manufacturing plant under existing on-going ordered quantity including orders being executed for its associated group of companies (works in hand) to be completed during next 730 days) starting from the twenty-eight days prior to Bid submission</p> <p>R = No. of EMU cars (other</p>					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		than trams) committed to be manufactured in the proposed manufacturing plant against existing Commitments i.e. bids already submitted but not finalized including the commitments made by the associated group of companies, wherein 'EMU Cars' are to be sourced from the proposed manufacturing Plant excluding 730 days) the quantity committed in various Bids which are under evaluation.					
5	Collateral Warranties & MoU						
5.1	Design Engineering and integration	Provide proposed organization structure for undertaking the project and CV's of key staff members or Collateral	Must meet requirement Or Must meet	Must meet requirement Or			Design Consultant/s: Form at Sr no 30 of 4A Bidding Forms

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Warranty of Consultant/s.	through Design/ Integration Consultants	Must meet through Design/ Integration Consultants			(Form of Undertaking to Provide Collateral Warranties) Form 5.1 for Collateral Warranty to be provided after issue of LOA
5.2	MoU to provide Collateral Warranty with OEM of Critical equipment with <u>proven experience*</u>	• Propulsion System & TCMS			N/A		Form 5.2A MoU to be provided from OEM 1) Form 5.2 for Collateral Warranty OEM / Specialist Sub Contractor (Annexure – 1.10 of Addendum 1) after issue of LOA
		• CBTC Signaling System: GoA2					
		• Platform Screen doors					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
							2) Form 4.3 for Proven Experience
5.3	Comprehensive Maintenance Undertaking	The Bidder along with the Specialist Sub-contractor and the OEM of the Critical Equipment listed above in Sr.no. 5.2 shall give an undertaking for Comprehensive maintenance till end of the contract.	Must meet requirement	Must meet requirement			Form 5.3 for MoU's with the Specialist Subcontractor (Annexure – 1.9R of Addendum 3) & Form 5.2 for Collateral Warranty to OEM/ Specialist Sub Contractor (Annexure – 1.10 of Addendum 1)

Notes:

1. If the Bidder/ OEM (Original Equipment Manufacturer) doesn't have design experience, then Design consultant can be appointed with requisite experience of at least two (2) Metro Railway Projects and collateral warranty for Design Consultant shall be submitted.
2. (a)* Proven Experience means: Design, Supply, Installation, Testing and Commissioning experience for the System/ Sub-

system/equipment in similar type of works in at least two Projects of Metro Railway / High-speed Rail/MRT/EMU/MEMU/LRT anywhere in the world and shall be in Satisfactory operation as on date of submission of bid. The necessary documents duly signed by the concern employer shall be part of Tender submission. Without Documentary evidence of experience, the bid may be rejected.

2 (b). Undertaking and MoU of Collateral warranties shall be submitted by the OEMs (Original Equipment Manufacturer) in case the sub-systems as mentioned in clause 5.2 above are not manufactured by the Bidder.

3. ** An escalation rate per annum may be applied to the annual Turnover & Sr no 4 Technical Criteria as per below table-

Financial Year	INR	Foreign currency
FY 2014-15	1.999	1.423
FY 2015-16	1.851	1.369
FY 2016-17	1.714	1.316
FY 2017-18	1.587	1.265
FY 2018-19	1.469	1.217
FY 2019-20	1.360	1.170
FY 2020-21	1.260	1.125
FY 2021-22	1.166	1.082
FY 2022-23	1.080	1.040
FY 2023-24	1	1.00

4. The Annexure 1.9 "MoU with the Specialist Contractor" & "Form 5.2A MoU to be provided from OEM" will be converted to Collateral

Warranties after issue of LOA.

5. The Bidder may submit multiple MoU's with OEM of Critical Equipment listed in Sr.5.2
6. The Bidder shall associate with ONLY ONE "Specialist Sub-contractor" for Sr. 4.2(A) and ONLY ONE "Specialist Sub-contractor" for Sr. 4.2(B) for meeting the "Specific Experience Requirements".

The Specialist Sub-contractor for Rolling Stock / Specialist Sub-contractor System Integration shall associate with ONLY ONE Bidder for "DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, INTEGRATION, TESTING AND COMMISSIONING OF ROLLING STOCK, COMMUNICATION BASED SIGNALLING & TRAIN CONTROL, TELECOMMUNICATION, PLATFORM SCREEN DOORS AND DEPOT MACHINERY & PLANT OF LINE 5 (Phase 1 – KAPURBAWADI - KASHELI - DHAMANKAR NAKA & Phase 2 -DHAMANKAR NAKA - BHIWANDI- KALYAN APMC) OF MUMBAI METRO RAIL PROJECT OF MMRDA INCLUDING 5 YEARS OF COMPREHENSIVE MAINTENANCE AFTER 2 YEARS OF DEFECT LIABILITY MAINTENANCE PERIOD"

The same specialist Sub-Contractor for Rolling Stock / Specialist Sub-contractor System Integration cannot become either JV partner or specialist Sub-Contractor with any other "Bidder" for the said works.

7. For sample Calculation of Sr. 4.3 Available Bid Capacity-Manufacturing ABCM (Rolling Stock) please refer Annexure-1.11 of Addendum 1
8. Incase if project is executed and valued in foreign currencies, the project value shall be calculated at the RBI / SBI TT Selling Rate published by the Reserve Bank of India / State Bank of India on the date of project completion as mentioned in the project completion certificate.

Example:

Work completed of USD 1,000,000 on 31st October 2022 (Date and Amount as per completion certificate issued by the employer).

Considering the conversation rate of 1 USD = 82.39 INR (RBI rate on 31st October 2022).

Value of work in INR = 1,000,000 X 82.39 = 8,23,90,000 INR (INR 8.24 Crores.)

Escalation factor to be applied as 1.04 for foreign currency Calendar Year 22 (CY 22) as per escalation table below.

Value of work after escalation = 8,23,90,000 X 1.04 = 8,56,85,600 INR (INR 8.57 Crores.)

9. Substantial Completion means 80% or more Financial Progress (certified by the Chartered Accountant/ Auditor) of the works satisfactorily completed.

2. Evaluation of Technical Part

2.1 Technical Evaluation

As per ITT31, relevant factors have been considered to arrive at technical score for evaluation: _

2.2 Determination of Technical Score.

The E-Tender Submissions will be evaluated against the technical merit criteria set out in the Tender Data Sheet of this ITT in consideration of the information provided in accordance with Section 4B.

The Employer will assess responsiveness of each tender against the technical criteria presented in clause 2.4 Technical Score below. The total marks for evaluation will be 100 marks. Out of these 100 marks. Minimum marks for the qualifying technical criteria shall be 75 out of 100.

As a result of the Technical evaluation, the Bids which are Technically responsive shall be short listed. The 'Price Bids of the technically responsive bidders only shall be opened on the date of opening of Price Bids to be informed to all Technically responsive Bidders. Conditional bids shall not be accepted and shall be rejected outright.

2.3 TECHNICAL PART SCORING METHODOLOGY

To Evaluate with respect to overall score given to technical factors as Specified inTDSITT31.2

Score (of the total score for the factor/subfactor as applicable	Description	Remarks
0 %	Required feature is absent; no relevant information to demonstrate how the requirement is met	

Score (of the total score for the factor/subfactor as applicable)	Description	Remarks
25 %	Required feature is present with deficiencies such as in sufficient or information that lacks clarity	
50 %	Sufficient information to demonstrate how the requirement will be met	
75 %	Sufficient information to demonstrate that the requirement will be marginally exceeded	
100 %	Sufficient information that significantly exceed the requirement/proposal contributes to significant value addition	

2.4 Technical Score

Item	Description	Form Number	Marks
1	Bidders Technical Proposal -		20
1.1	Site Organization	BTP-1	1
1.1.1	Minimum Key Personnel	BTP-1A	0.5
1.1.2	Minimum Key Personnel	BTP-1B	0.5
1.2	Form PER - 1 Proposed Personnel	BTP-2	4
1.2.1	Form PER – 2: Resume of Proposed Personnel		1
1.2.2	Form PER - 3: Details of Proposed Design Consultant		3
1.3	Outline Quality Plan	BTP-3	1
1.4	Method of Statement	BTP-4	1
1.5	Requirements for Proposed Design Submission Programme and Project Management	BTP-5	1
1.6	Environmental, Social, Health and Safety Methodology	BTP-6	1
1.7	Outline works plan	BTP-7	1
1.8	Contractor's Equipment	BTP-8	1
1.9	Proposed Subcontractors and/or Manufacturers for Major Items of Plant and Services	BTP-9.1	1
1.9.1	Proposals for Equipment's / Sub-systems to be manufactured /subcontracted in India	BTP-9.2	1

Item	Description	Form Number	Marks
1.10	Maintenance Services (Defect Liability Maintenance Period	BTP-10.1	1
1.11	Maintenance Services (Comprehensive Maintenance)	BTP-10.2	1
1.12	System Integration management Plan	BTP – 11.1	10
2	Technical Information for Rolling Stock		25
2.1	Attachment-1 Table-1 Service Experience of Cars and Equipment.	BTP-12A	0.5
2.1.1	1(A)MDBCF of major sub-systems (Service Experience)	RPC 1 (1A)	0.5
2.1.2	1(B)MTTR of major sub-systems (Service Experience)	RPC1 (1B)	0.5
2.1.3	Attachment II, Table-2 Service Experience of Car body constructed as per Proposed Technology	BTP-12A	0.5
2.1.4	Attachment II, Table-3 Service Experience of Proposed Bogie	BTP-12A	0.5
2.1.5	Attachment II, Table-4 Service Experience of the Propulsion Equipment	BTP-12A	0.5
2.1.6	Attachment II, Table 5, Proforma for Commissioning details of cars to be submitted separately with Table-2, Table-3 & Table-4	BTP-12A	0.5
2.2.1	Attachment-II Table-1 Design Data of Cars and Equipment 1(A)-Vehicle Body	BTP-12A	0.5
2.2.2	Attachment-II Table-1 Design Data of Cars and Equipment 1(B)-Bogies	BTP-12A	0.5
2.2.3	1(C)Predicted Values of Ride Quality	BTP-12A	0.5
2.2.4	1(D)Pneumatic, Air Supply and Brake System	BTP-12A	0.5
2.2.5	1(E) Door System	BTP-12A	0.5
2.2.6	1(G)Pantograph	BTP-12A	0.5
2.2.7	1(H) Vacuum Circuit Breaker	BTP-12A	0.5
2.2.8	1(I)Lighting Arrestor (Metal Oxide Gapless)	BTP-12A	0.5
2.2.9	1(J)Explosion Proof Potential Transformer	BTP-12A	0.5
2.2.10	1(K) Current Transformer	BTP-12A	0.5
2.2.11	1(L) 25 kV cable with HV bushing (no straight through joint shall be allowed in the cable)	BTP-12A	0.5
2.2.12	1(M)Transformer	BTP-12A	0.5
2.2.13	1(N) Power Converter-Inverter	BTP-12A	0.5
2.2.14	1(O) Traction Motor	BTP-12A	0.5
2.2.15	1(P)Neutral Section Detector	BTP-12A	0.5
2.2.16	1(Q)Auxiliary Converter-Inverter (IGBT based)	BTP-12A	0.5
2.2.17	1(R)Battery Charger	BTP-12A	0.5

Item	Description	Form Number	Marks
2.2.18	1(S)Battery	BTP-12A	
2.2.19	1(T)HVAC Unit	BTP-12A	0.5
2.2.20	1(U)Train Control Management System (TCMS)	BTP-12A	1
2.2.21	1(V)Contactors	BTP-12A	0.5
2.2.22	1(W)Main Relays	BTP-12A	0.5
2.2.23	1(X) MCB	BTP-12A	0.5
2.2.24	1(Y)Isolating Switches	BTP-12A	0.5
2.2.25	1(Z)Cables	BTP-12A	0.5
2.2.26	1(AA)Cab Equipment	BTP-12A	0.5
2.2.27	1(AB)Lighting Equipment	BTP-12A	0.5
2.2.28	1(AC)Illumination Equipment	BTP-12A	0.5
2.2.29	1(AD) Auxiliary Machines (compressor Motor)	BTP-12A	0.5
2.2.30	1(AE) Auxiliary Machines (transformer oil pump)	BTP-12A	0.5
2.2.31	1(AF)Auxiliary Machines (radiator fans motors)	BTP-12A	0.5
2.2.32	1(AG)Auxiliary Machines (Power Convertor-Invertor Cooling Fan Motor if used)	BTP-12A	0.5
2.2.33	1(AH)Auxiliary Machines (Auxiliary Invertor-Cooling Fan Motor if used)	BTP-12A	0.5
2.2.34	1(AI)Pantograph Auxiliary Compressor	BTP-12A	0.5
2.2.35	1(AJ)Pantograph Auxiliary Compressor Motor	BTP-12A	0.5
2.2.36	1(AK)Communication System	BTP-12A	0.5
2.2.37	1(AL)Proposed MDBCf of major System	BTP-12A	0.5
2.2.38	1(AM)Proposed MTTR of major System	BTP-12A	0.5
2.2.39	1(AN)Interior and exterior Noise Levels	BTP-12A	0.5
2.2.40	1(AO)Submission of Specific measures taken to minimize energy consumption for VAC	BTP-12A	0.5
2.2.41	1(AP)Submission of All SIL level of all subsystem equipment	BTP-12A	0.5
2.2.42	1(AQ)Desktop Type Driving Simulator as per ERGS	BTP-12A	0.5
2.2.43	1(AR)Design Life as per Attachment-3	BTP-12A	0.5
2.3	Confirmation of Submission of Design Details including Drawings		10
2.3.1	1(B)General Vehicle Layout	BTP-12A	1
2.3.2	1(C)Propulsion & Auxiliary System Design	BTP-12A	0.5
2.3.3	1(D) Car Body	BTP-12A	0.5
2.3.4	1(E)Bogies	BTP-12A	0.5

Item	Description	Form Number	Marks
2.3.5	1(F)Pneumatic, Air Supply and Brake System	BTP-12A	1
2.3.6	1(G)Door System	BTP-12A	1
2.3.7	1(H)HV & Propulsion Equipment	BTP-12A	0.25
2.3.8	1(I)Auxiliary Supply Equipment	BTP-12A	0.25
2.3.9	1(J)HAVC Unit	BTP-12A	0.25
2.3.10	1(K)Train Control Management System	BTP-12A	0.5
2.3.11	1(L)CAB Equipment	BTP-12A	0.25
2.3.12	1(M)Control Equipment	BTP-12A	0.25
2.3.13	1(N)Light & Illumination Equipment	BTP-12A	0.25
2.3.14	1(O)Communication System	BTP-12A	0.25
2.3.15	1(P)Fire Protection measures	BTP-12A	0.5
2.3.16	1(Q)Auxiliary Convertor-Inverter (IGBT based)	BTP-12A	0.5
2.3.17	1(R)Life Cycle Cost	BTP-12A	0.25
2.3.18	1(S)Manufacturing Plan	BTP-12A	0.5
2.3.19	1(T)Spares	BTP-12A	0.25
2.3.20	1(u)Special Tools, Testing and Diagnostic Equipment	BTP-12A	0.25
2.3.21	1(V)Special Jigs Fixtures and Gauges	BTP-12A	0.5
2.3.22	1(W)Desk Top Type Simulator	BTP-12A	0.5
3	Technical Information for Signaling & Train Control System		12
3.1	Table-01-S&TC	BTP-12B	5
3.2	Headway Simulations	BTP-12B1	7
4	Technical Information for Telecommunication System		8
4.1	Technical Information for Telecommunication System	BTP-12C(i)	1
4.2	Information regarding performance of the offered Equipment's elsewhere (Telecommunication System	BTP-12C (ii)	0.5
4.3	Public Address System (PAS)	BTP-12C1	0.5
4.4	Passenger Information Display System (PIDS)	BTP-12C2	0.5
4.5	Master Clock System	BTP-12C3	0.5
4.6	Centralized Digital Recording System (CDRS)	BTP-12C4	0.5
4.7	TETRA Radio System	BTP12C5	1
4.8	Telephone System	BTP12C6	0.5
4.9	CCTV	BTP12C7	0.5
4.10	Fiber Optic Transmission System (FOT	BTP12C8	1

Item	Description	Form Number	Marks
4.11	IT System	BTP12C9	0.5
4.12	Access Control System	BTP12C10	0.5
4.13	Fault Reporting system (FRS	BTP12C11	0.5
5	PSD (Platform Screen Door)		9
5.1	Technical Information for Platform Screen Door (Half Height & Full Height) System	BTP-12D(i)	1
5.2	Information regarding performance of the offered Equipment elsewhere ((Platform Screen Door System(Half Height & Full Height) System)	BTP-12D(ii)	1
5.3	PSD (Platform Screen Door) Hazard Data Sheet	BTP-12D-1	1
5.4	DOOR CONTROL UNIT (DCU)	BTP-12-D-2	2
5.5	PSD Local Control Panel (PSL)	BTP-12-D-3	1
5.6	Door Driving Mechanism	BTP-12-D-4	2
5.7	Installation Methodology	BTP-12-D-5	1
6	Depot MEP		6
6.1	Technical Information & Proposals for DEPOT MACHINERY & PLANTS	BTP-12-E	1
6.2	Under Floor Wheel Lathe (UFWL)-Table-1 DMP		1
6.3	Automatic Train Wash Plant (ATWP) Table-2 DMP		1
6.4	Battery Operated Rail cum Road Shunter (RRM)-Table-3 DMP		0.5
6.5	Synchronized Pit Jacks (SPJ)Table-4 DMP		1
6.6	Synchronized Mobile Lifting Jacks (MLJ)-Table -5 DMP		0.5
6.7	Diesel Operated Railroad Relief Rescue Vehicle with Rescue Equipments-Table-6 DMP		1
6.8	Deleted		0
6.9	Deleted	Form-6	0
6.10	Form of Bid	Form-14	0
	TOTAL		100

B. Financial Part

1. Provision for Development of Domestic Industry (ITT 39) - Not Applicable

2. Evaluation of Financial Part (ITT40)

Financial Evaluation methodology has been explained in ITT40

Comparison of Bids-

The Employer shall compare all substantially responsive Bids to determine the **Lowest evaluated Bid**, in accordance with the ITT Clause 40

Evaluation of Price Bid will be based on:

1. Total Lumpsum Bid Price
2. Cost Savings for Specific Energy Consumption (SEC) for Rolling Stock

SEC Cost will be Calculated based on:

- a) The SEC of Rolling Stock proposed by the bidder shall not exceed 50Wh/GTKM.
- b) The cost Savings with reference to SEC will be calculated as per Formula given below;

'NRT' : Number of round trips considered per train per day (considered as '6')
 'T' : Electricity Tariff per unit (considered as INR 7.53 per unit)
 'NT' : Total number of trains (considered as '22' trains)
 'L' : Life of stock in years (considered as '35' years)
 Dy : Number of days in revenue operation in year (considered as 345 days)
 'E' : $Dy \times NRT \times L \times T \times NT = 345 \times 6 \times 35 \times 7.53 \times 22 = 1,20,02,067$
 'W' : Gross weight of train under loading condition of (114 passengers / car)
 (296.5T) 'RTD' : Round trip distance of entire corridor. i.e. 48.9 km
 SECD : Specific Energy Consumption of Rolling Stock quoted by the particular bidder under Evaluation.

SECB: Benchmark Specific Energy Consumption 50Wh/GTKM

K: Present worth factor (based on 8% interest for 35 years) Formula: $P = (((SECD - SECB) / 1000) \times E \times W \times RTD \times K) / 35$

Example:

If bidder under evaluation has quoted SEC as 49 then the cost Saving for SEC will be calculated as under;

$$P = ((49-50)/1000) \times 1,20,02,067 \times 296.5 \times 48.9 \times 11.65 / 35P = \text{INR} 5,79,22,524.8/-$$

$$K = \text{Present worth factor (8\% interest 35 years)} = \frac{((1+0.08)^{35}-1)}{0.08((1+0.08)^{35})} \\ = 11.65$$

Cost Saving will be done based on above formula during financial evaluation for the difference in the values quoted by different bidders.

The sum of Lumpsum Bid Price and cost Saving due to SEC will be considered for Financial Evaluation of the Tenders.