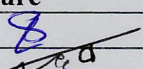
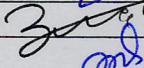






SPECIFICATION	TECHNICAL SPECIFICATION OF SUPPLY, INSTALLATION AND COMMISSIONING OF COMPLETE FURNISHING OF AC-3T GARIBRATH COACHES ON TURNKEY BASIS	MMDTS-21006 Rev-03 Date: 16.07.2022 Page 1 of 18
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Name (Sh.)	Designation	Signature	Date	Level
Satyadeo	SSE		19.09.22	Prepared
Abhinav Yadav	SME/Design-III		14.11.2022	Agreed
Lalit Kishore	Dy. CME/Design		14.11.2022	Reviewed
D. K Singh	CDE		14.11.2022	Approved

Amendment History:

Rev	Description	Date
01	1. In clause 2.1, the term complete interior furnishing has been defined. 2. In clause 5.2, alternate design provision mentioned. 3. Drawing number of 7.2.1 changed. 7.2.6 added for electrical scope of work.	27.04.2021
02	1. In clause 2.1, the number of coaches has been changed to 10 nos.	05.05.2021
03	Eligibility criteria in Clause 2 deleted.	16.07.2022


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1. Introduction:

This specification covers scope of work as Supply, installation and commissioning of complete furnishing of AC 3 Tier Garibrath Coaches by the firm on Turnkey Basis and eligibility criteria, general requirements & other guidelines regarding execution of work.

2. Deleted

3. Salient features of the coach:


- 3.1 More passenger carrying capacity of 83 Nos. compared to 69 in existing ICF design Garib Rath AC 3 Tier Coach & 72 in LHB AC-3T coach.
- 3.2 Application of anti-graffiti coating for clean and user friendly toilets.
- 3.3 Aesthetically better interior paneling and moulding.
- 3.4 Aesthetically designed, light weight, improved fire retardant modular seats & berths.
- 3.5 Individual adjustable air conditioning vent opening on each berth.
- 3.6 Under slung mounted Switch Board Cabinet.
- 3.7 Pressurized/Bio-vacuum flushing system in Toilets.
- 3.8 Superior amenities items like glass holder, snack tables, ladders, luggage racks, cabin mirror, toilet fittings, taps etc.


4. Scope of Work:

- 4.1 Scope of work in which material is to be supplied and commissioned by the Firm for coach furnishing is detailed in clause 7.1 & 7.2.
- 4.2 The firm may provide the additional requirement of back pieces to be welded by MCF for fitment of all furnishing items. Drawings of these back pieces & all items should be submitted for approval from CDE/MCF.
- 4.3 All Electrical items listed in clause 7.2 (except 7.2.5 and 7.2.6) are in the scope of the firm for supply and application in coach.
- 4.4 Contractor shall also deploy at least 01 dedicated supervisor to look after the material and also at least 01 supervisor to look after the issues related to the safety of his labour. This supervisor should train all the staff regarding the safety at work place and also maintain FAB (First Aid Box) exclusively for their work force. Names of all supervisors deployed by the firm shall be informed by the firm in writing to MCF before start of the work.

5. General requirements:

- 5.1 The Firm should ensure that majority of workman having experience in working on first prototype coach are not changed/replace till the execution of whole contract as per given PO.
- 5.2 Assembly/sub-assembly drawings mentioned in para 7.1 & 7.2 are to be adhered. Any alteration or change or any other issue shall be got approved from CDE/MCF. However, firm can also offer any superior alternate design for the scope of items. The alternate design is to be got approved from CDE/MCF before start of prototype. Only after prototype approval, bulk supply shall be required to be undertaken. Any modification arising out of change in layout shall be incorporated by the firm in bulk supply without any financial implication.


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- 5.3 MCF shall have the right to take item/assembly supplied by the firm into Audit for checking of parameters as per laid down procedure.
- 5.4 Inspection clause: Inspection for the items to be supplied and applied by contractor, i.e. para 7.1 & 7.2 items, shall be by RITES as per approved QAP.
- 5.5 All coaches to be furnished as per production plan of MCF, firm shall depute adequate manpower to ensure the production targets. Work completion of each coach should not take more than 12 days from the date of handing over the coach in furnishing shop.
- 5.6 Items to be procured from RDSO/MCF/ICF/RCF approved sources as per applicable drawings and specifications.
- 5.7 In case of any modification of drawing referred in tender condition document, the latest drawing shall be applicable and work shall be done accordingly.
- 5.8 Experience related to electrical work: Since electrical work is specialized in nature and pertaining to safety of the passenger, the tenderer shall have experience of electrical work
- 5.9 Electrical work related to production of LHB coach, MEMU, EMU, Power car or conventional coaches in Railway Production Units.
- 5.10 Firm should have valid class "A" electrical contractor license and same should be enclosed.


6. Approval Cycle:

- 6.1 The firm shall submit design, pattern & colour scheme of all interior items /assembly for approval from CDE/MCF before fitment on first prototype. Firm shall do mock-up of one cabin for approval before prototype coach.
- 6.2 If any alteration or change is required in design or on any other issue same shall be carried out as per advice of MCF. Any change/modification in layout shall be incorporated by the firm in bulk supply without any financial implication.
- 6.3 All the approved assemblies shall be fitted on first prototype coach. Only after prototype approval, bulk supply required to be undertaken.

6.4 Time Schedule:

S.N	Activity	Responsible Agency	No of days
1	Tender finalization	MCF	T
2	Submission of prototype sample of all items & mock-up of one cabin	Firm	30
3	Approval of prototype	MCF	7
4	Completion of First prototype coach	Firm	21
5	Approval of first prototype coach	MCF	7
6	Total no of days for turn out of first approved prototype coach		T+65


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7. Scope of work where Sub-assemblies are to be supplied and applied in coach by Firm:

7.1 Mechanical Items (latest alteration will be applicable):


#	Description of items	Qty/Coach	Drawings
i	Layout drawing no. (For reference)	---	LE90067 Alt-b EH90001 alt-nil
ii	Flooring Arrangement: PVC flooring as per drawing no. EH41100 alt-nil and RDSO specification RDSO/2006/CG-12. Doorway area Chequerred Sheet or better alternative wear resistant, aesthetically pleasant material. Fire retardant adhesive to MDTs-237. Skirting with extrusion to IS: 733-83, 63400 WP. Special Condition: (i) The texture and colour of the PVC shall match with the interior furnishing. (ii) Firm may offer any better alternative design meeting all parameters specified in the relevant specification. (iii) Covering of PVC with tetron cloth etc, to avoid damage/scratches during working in coach. (iv) PVC joints shall be smooth, flat and water proof.	1 coach set	LA41115 alt-nil LE41100 alt-a (for ref)
iii	Seats and Berths (EH61010 alt-nil) & climbing arrangement (EH44100 alt-nil): Cushioning material shall be as per MCF Spec MMDTS-19020 Rev-3 with amendment slip-1 conforming to fire standard requirements to EN 45545 HL3 with suitable fire barrier cloth as per MMDTS-19021 Rev-3. Firm may also offer silicon foam cushioning material to RDSO spec RDSO/2013/CG-13 Rev-01 or latest compliant to EN45545 HL3. Upholstery shall be as per: Vinyl Coated Upholstery Fabric (Artificial leather) with RDSO specification no. RDSO/2008/CG-07 Rev-Nil Amendment-05. or superior synthetic fire resistant EN45545-2 complied cloth/fabric in aesthetically pleasing hues/colors design pattern and having better material properties as specified RDSO spec. Berth Mounting Brackets: Brackets shall be made of Stainless steel grade 409-M and shall be Powder coated of the colour matching to interior furnishing.	1 coach set	EH61010 alt-nil EH61011 alt-nil EH61012 alt-nil EH61013 alt-nil EH61015 alt-nil EH61016 alt-nil EH61017 alt-nil EH61018 alt-nil


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	<p>Special Conditions:</p> <p>(i) General arrangement of seat and berth fixing shall be as per the arrangement drawings.</p> <p>(ii) The weight of berth should not be more than similar existing berths.</p> <p>(iii) The design of Seat & Berth shall be Ergonomic and modular.</p> <p>(iv) The seat frames may be made of suitable lighter weight material.</p> <p>(v) The firm may offer superior material for structural members, foam, upholstery or assembly. The firm shall submitted test certificates meeting criterion as laid down in the respective specification/ drawings.</p> <p>(vi) The firm shall submit prototype sample to MCF of seat and berth along with fittings, prior to fitment on coach for approval of color scheme, pattern, aesthetics etc. The firm shall incorporate necessary changes as suggested by MCF in the first prototype coach.</p> <p>(vii) Optimum utilization of space. Seat & berth shall be designed in such a way that passenger of AC 3Tier Garib Rath Coach shall feel comfortable during long journey without fatigue (specially on the middle and upper berth).</p> <p>(viii) Injury proof and corrosion resistance fitting. Uniform level of longitudinal berth in sleeping position.</p>		
iv	<p>Doors: Compartment door shall be sliding doors with top mounted mechanism of Metallic frame having aluminum cover sheet or any other suitable light weight composite. The wider opening passenger compartment door at PP end to facilitate easy entry of wheel chair into passenger are for Divyangjan. The compartment door shall have adequate strength and the sliding mechanism shall be of proven design. The sliding door shall not infringe with any of the body side door operation and suitable floor mounted guide shall be provided. Both end compartment doors shall have provision of laminated Glass as per existing pivoted doors.</p>	1 coach set	EH56010 alt-nil, EH56001 alt-nil EH56002 alt-nil
v	<p>Paneling and Ceiling: Sidewall panels and</p>	1 coach set	EH42001 alt-nil


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	<p>associated accessory for installation of the panels. Ceiling Panels and associated accessory required for installation. Mushroom head fastening device dual lock type 400 as per specification no.-MDTS 187 Rev-00 shall be used to hold the panel. All FRP panels shall be Gel coated as per MDTS 133 Rev-5 or latest with anti-graffiti measures having textured finish.</p> <p>Special Conditions:</p> <ul style="list-style-type: none"> (i) Provision of cut outs for Modular Switch Panel on each berth having individual AC vents, USB charging point, Reading light and switch shall be provided. (ii) A Foldable pocket in Side panel for keeping personal valuables on each berth similar to automobiles shall be provided. (iii) The thickness of the panel should be same or more as per reference drawing. (iv) The Design of the Panels shall be aesthetically pleasant & colour scheme to suit overall ambience with flooring / seat & berth etc. The contours and curves shall be such to provide maximum space envelop to the passenger. (v) The headroom space for the upper berth passenger shall be optimum and not less than the existing. Roller sliding mechanism for window curtains shall be as per specification MMDTS 21002 Rev-Nil or latest in all windows of passenger area. (vi) Panels and ceilings shall have necessary cut outs /back pieces for luminaries Fitting. (vii) There shall be no sharp edges/conners/ protrusions. (viii) The side panel shall have suitable sunk in space for fixing of the mirror on transverse side. (ix) All paneling shall be with screw less design, easy to fit and replace, does not give drumming effect due to vibrations induced by the motion of the coach. There should be no gaps and if unavoidable it should be uniform at the interfaces of side 		EH42003 alt-nil EH44001 alt-nil EH44002 alt-nil EH44003 alt-nil EH44006 alt-nil EH44009 alt-nil EH44010 alt-nil EH44018 alt-nil EH44019 alt-nil EH44020 alt-nil EH44021 alt-nil EH44022 alt-nil
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	<p>wall panels, roof ceiling and partition frames.</p> <p>(x) There shall be no loss of air conditioning through joints.</p> <p>(xi) Bidder may submit alternative material options superior to existing arrangement.</p> <p>(xii) There shall be suitable mechanism for opening of the panels for maintenance purpose.</p> <p>(xiii) Sunk in type bottle holder built in the FRP panel shall be provided for each berth.</p> <p>(xiv) The back pieces required for mounting of the Panels & Ceiling shall be in the scope of the Firm. The firm shall submit the location drawing of back pieces for approval before fitment.</p>		
vi	<p>Doorway & Gangway Paneling: Set of Door frame panels, Door guidance covering complete and Non AC Area ceiling</p> <p>Special Conditions:</p> <p>(i) The bidder may use alternate material than specified in the drawing. The panels shall be long lasting, aesthetically pleasant and no screws should be visible. Cut out for fixing of CCTV, smoke sensors, lights, switches and other accessories are to be provided.</p> <p>(ii) There shall be no gaps at corner and Edges. gaps shall not be visible at the joints. The Surface at the edges shall be smooth and merging to the mating panels.</p> <p>(iii) Panel shall be Modular and suitable maintenance window with square key lock of M/s Southco or Dirak make shall be provided in the Doorway Panels</p> <p>(iv) Light weight design, meeting load characteristics shall be given preference.</p>	1 coach set	EH44004 alt-nil EH44005 alt-nil
vii	<p>Partition Frames & Pillar assembly: The Aluminum honeycomb partition frame laminated with both sides decorative HPL Panel or with Al-FR panel or other composite material having better strength to weight ratio may be offered by the bidder. Pillar Assembly of Stainless-steel grade 409M and shall be Powder Coated of the colour matching to interior furnishing.</p> <p>The Last partition at PP end on transverse side</p>	1 coach set	EH10010 alt-nil

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	<p>shall be of Metallic with covering of HPL with suitable provision of back pieces for fixing Electrical control Panel, VESDA, PA System and CCTV control panels in Door Way are. The design of partition frame at the PP shall be modified as per revised layout. The Firm shall also provide racks/platform for mounting of CCTV and VESDA control Panels with suitable powder coated metallic maintenance doors or any other aesthetically superior covering matching with doorway interior having Southco/Dirak make flushed locks. The reference layout drawing for the control panel is MI007512.</p> <p>Upper Berth Climbing Arrangement: (EH44111 alt-nil, EH44122 alt-nil) It shall be made of stainless steel grade 409 M and shall be Powder Coated of the colour matching to interior furnishing.</p> <p>Special Condition:</p> <ul style="list-style-type: none"> (i) The thickness of composite partition frame shall be as per layout with aluminum honeycomb. (ii) Pillar assembly may be integrated with upper berth climbing arrangement. (iii) The firm should provide a safe, comfortable and user-friendly upper berth climbing arrangement comprising of ladders and handholds suitable for all age, weight & physique of passengers as per arrangement drawing. (iv) Climbing arrangement and berth mounting brackets shall be injury free and shall have minimum protrusion. The bidder shall submit the detailed design of climbing arrangement. 		
viii	<p>Lavatories & sanitary facilities: FRP Lavatory Module with Euro bowl & Orient bowl as per layout having Internal Wash basin, Internal & external Dustbin, Sanitary facilities, inside Mirror & Fire extinguisher.</p> <ul style="list-style-type: none"> (i) At PP end, provision of top mounted inside sliding door in place of swing door with 700 mm clear opening to facilitate Divyangjan passengers shall be provided in Western type lavatory module. 	1 coach set	EH63010 alt-nil

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
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	<p>Provision of outside wash basin and dustbin of this lavatory to be shifted to Indian style toilet at PP end. Provision of fire extinguisher shall be done near curve of the Lavatory module as per revised layout. In addition to above suitable standard garb rail near the western seat shall be provided.</p> <p>(ii) Electro pneumatic Pressurizer flushing as per MMDTS-19027 with provision of bypass incase of failure of air or electric power. It should be compatible with retention tanks and coach interfaces.</p> <p>(iii) Odour control system as per RDSO specification No.: RDSO 2008/CG-12</p> <p>(iv) Exhaust fans to spec. no. EDTS-331, (Latest) shall be provided to exhaust air from the lavatories.</p> <p>Special condition:</p> <p>(i) Lavatories should be FRP modular toilet (MDTS 214 Rev-07 or latest) with gel coated suitably sloped floor and with anti-graffiti coating surface finish panel with improved toilet seat mounting arrangement and all the amenities like mirror, water tap, soap dispenser and tissue paper dispenser. Light and mirror of lavatory shall be sunk-in type.</p> <p>(ii) Lavatory fittings should have suitable hydrophobic coating.</p> <p>(iii) All sanitary facilities including piping connection from auxiliary water tank shall be in scope of supplier. However, Underslung water tank, Auxiliary water tank and piping between these two water tanks shall be in scope of MCF.</p> <p>(iv) Dustbin integrated with outside wash basin and fire extinguisher pocket merged with comer of the lavatory.</p> <p>(v) Large view mirror above the washbasin in lavatory.</p> <p>(vi) All the lighting arrangements of lavatory shall be in scope of supplier.</p> <p>(vii) Attachment wall shall be integral part of lavatory and there should be no visible gap in joints. There shall be a</p>		
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	<p>maintenance window with square key opening.</p> <p>(viii) Lavatory window to drg. no. LW54188. Bidder may also offer any other elegant swing type window design with frosted glass and SS grill.</p> <p>(ix) All sanitary facilities including water taps, soap dispenser, dustbin, flushing valves shall be foot operatable.</p> <p>(x) The lavatory door shall have hand free mechanism for opening and closing of door and shall have foot operated locking mechanism</p> <p>(xi) There should not be any water clogging, no dust ingress on the fittings and should be neat and clean toilets during whole journey time.</p>		
ix	<p>Air Circulation System & Duct: Complete ducting arrangement for conditioned air and return air circulation inside the sitting compartment area.</p> <p>Special condition:</p> <p>(i) Suitable ducting arrangement with provision of effective diffuser with controllable air flow for each seat.</p> <p>(ii) There shall be provision of individual opening on each berth with provision of air vent. If the bidder intends to provide a small duct/panel fan at the opening of the branches of AC ducts in each cabin, the technical data of the fan along with interface requirements for electrical connections/routing of cables/power requirements shall be submitted by the bidder at the time of tendering so that necessary interfaces in the body shell may be provided accordingly. The return duct have suitable anti- bacterial filter without effecting flow of air.</p> <p>(iii) Firm may use any alternate superior material for duct.</p> <p>(iv) Firm will provide suitable insulation for the duct to minimize the losses.</p> <p>(v) There should be uniform air flow, no heat zones and no pressure drops for ensuring comfortable journey.</p>	1 coach set	EH44100 alt-nil EN44101 alt-nil EH44111 alt-nil EH44122 alt-nil EH44133 alt-nil EH44144 alt-nil
x	Passenger Amenity Items:	1 coach set	EH64001 alt-nil


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	<p>Snack Table (MMDTS 18008): Suitable Foldable sunk in Snack table should be provided in each cabin it shall bear minimum 80Kg weight at the end/100Kg weight in the center of the table. Concealed snack table for the longitudinal berths. Shall have hydrophobic dust proof surface finish. Dimension of snack table shall be minimum of 300X 350 mm. Odour Control units to RDSO Spec. RDSO/2008/CG-12 shall be provided in the AC compartment area.</p> <p>Other amenities to be provided in each cabin are:</p> <ul style="list-style-type: none"> (i) Coat hook (Zinc Alloy). (ii) Luggage rack (Aluminium, IS:737-86, 31000H2, 6mm Thick Polycarbonate sheet as per ICF specification ICF/MD/Spec.-159) (iii) Cabin Mirror (iv) Mobile holder near charging sockets (v) Hammer box LW64169 Alt-d <p>All the amenities shall suite the complete aesthetic of the cabin. All the amenities shall be of sunk in type with minimum protrusion and crashworthy features (No injury in case of derailment and other accidents).</p>		
xi	Layout of lettering inside: Complete interior Stickers and Notices ICF/MD/Spec.-253.	1 coach set	EH64020 alt-nil
xii	CCTV Camera: Procurement to be made from approved Sources of ICF/MCF/RCF only. Scope of Supply shall be as per Drawing ICF/SK3-9-0-161 alt-c. It shall be in form of Set consisting 6 cameras in each set with associated accessories as per drawing.	1 coach set	ICF/MD/Spec.-269, Rev.-05
xiii	Fire extinguisher Arrangement & Mounting	1 coach set	EH90010 alt-nil

(*) 1 coach set material shall fulfill the requirement of coach layout mentioned in clause 6.1 (i). Latest drawings shall be applicable.

7.2 Electrical Items:

7.2.1 Light Fittings: The following types of Light fittings shall be provided in coaches. Exact design, type, Model and Layout to be described in the offer. Reference Document No. RDSO/PE/SPEC/TL/0091-2016, Rev.1 (or latest)

#	Description	Qty per Coach
1	18W LED Light (L=1217mm) Doorway Light as per Drawing No. KL-OD-3417-A	2

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2	18W LED Light with Night Light (L=1800mm) Corridor Area as per Drawing No. KL-OD-3403-C	10
3	18W LED Light with Night Light (L=1775mm) Corridor Area as per Drawing No. KL-OD-3403-B	1
4	LED Light fitting for Passenger Area (Cabin) of Type -A (18W) as per Drawing No. CC76452	11
5	LED Light fitting for Corridor, Doorway & Gangway for all coaches of Type-B1 (9W) as per Drawing No. CC76453	2
6	LED Light Fitting for Mirror /Lavatory area Type-D (9W) as per Drawing No. LW76092	4
7	Emergency Light as per Drawing No. LW76097	4
8	LED Light Fitting for passenger Alarm Chain Indication Type-1 (5W) as per Drawing No. LW76098	2
9	LED Light fitting for Toilet Indication as per Drawing No. KL-OD-8576-B	4
10	Foot Step Light as per Drawing No. KL-OD-2741-C	4

(*) Suitable for outdoor applications, IP-67 protected of reputed make. Make/Model to be got approved from CEDE/MCF. The above light fittings shall be procured from MCF/ICF/MCF approved sources only by the contractor and provided in coaches keeping the fixing/interface requirements as per existing design. The area of application of the above mentioned luminaries is as per the existing scheme being followed in LHB design coaches however the contractor may design illumination scheme with any type of above mentioned light fittings for illumination of interiors of the coach. However, prototype design approval for general layout arrangement of light fittings shall be taken from CEDE/MCF. Alternatively for improved performance/ aesthetics/safety standards, the contractor may provide own design lighting fixtures duly complying with the requirements of the specification for 'LED based luminaries' to spec. no. RDSO/PE/SPEC/TL/0091-2016, Rev.1(or latest).

- 7.2.2 The Switch Plate Assembly or the panel housing:** Reference Document No: EDML-064 (Latest), IS:3854 & IS:1293 (Latest). Push buttons (Push-ON, Push-OFF) of M/ IDEC/WERNER make shall be provided for switching of light fittings. All berths shall be provided with two nos. 5 pin sockets in inside the cabin and 1 no. 5-pin socket on corridor side shall be provided at suitable locations. The overall general arrangement of electrical amenities for furnishing the coach shall be got approved from CEDE before start of the work at MCF.
- 7.2.3** All switches and sockets shall be tested according to relevant IS/International standards. Certificates in this regard shall be submitted by the firm.
- 7.2.4** The switches/sockets will be developed/designed blending the interiors of the coach and will get it approved. The switches and sockets shall be proven world class products suitable for application in Coaches/Rolling stock. Five pin Mobile Charging Sockets to be provided on each berth as per EDML-06 (latest version).
- 7.2.5 Berth Reading Lights:** The design of berth reading lights as per drawing no. LW76093 (Type-F1) and LW76094 (Type-F2) shall be flush mounted with the FRP paneling by

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
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
integration of light fittings in FRP panels and shall be procured from MCF/ICF/MCF approved sources only. Alternatively for improved performance/aesthetics/safety standards, the contractor may modify the design of Berth Reading Lights as mentioned above. The prototype design approval for OGA/fixing arrangement of BRLs shall be taken from CEDE/MCF. Total no. of Berth Reading Lights with ON-OFF switch = 83.

- 7.2.6** Besides above electrical work, complete wiring work including handling and installation of electrical equipments in LHB AC3T Garibrath coaches has to be done as per annexure-1 of this specification.
- 7.2.7 PA System:** PA System as per Specification no. EDTS-173, Rev-B Corr-1 shall be in the scope of supply of MCF, however, the fixing arrangement of speakers and required interfaces shall be incorporated in the FRP panels in AC and Non AC areas. The speakers shall be accessible for maintenance purpose.
- 7.2.8 GPS based PIS System:** Passenger Information System shall be in the scope of supply of MCF as per RDSO specification no. RDSO/PE/SPEC/AC/0087-2008, Rev-1 for AC 3-Tier Coaches (excluding item 1.2.7, 1.2.8, 1.2.10, 1.2.11, 1.2.12) & display Panel as per SKED-713. The firm shall make provision above compartment door for fitment of PIS display similar to Humsafar Coaches. The contractor shall be responsible for fitment of complete system.

8. General terms and Conditions:

- 8.1** All tools & machineries required for the furnishing and fitment items will be provided by the tenderer.
- 8.2** Requirement of material for additional back pieces in coach shall be in the scope of firm. Fitment of new back pieces/modifications to the existing back pieces or any minor alterations in the coach, shall be made with the approval of MCF.
- 8.3** It shall be noted that there may be minor variations in dimensions of the coach due to fabrication. The same shall be taken into consideration.
- 8.4** During installation of all items under the scope of firm, it shall be ensured to control vibrations of items so that reliability/life is not affected and no damages take place. All interior fittings should have aesthetic look and flush with the interior decor. Sharp edges shall be avoided. All the interior fittings should have anti-pilferage feature.
- 8.5** The composition and finish of all the materials covered under firm scope of supply shall meet respective specification requirements as covered in the relevant drawings/specifications.
- 8.6** The connections of all electrical amenities for furnishing i.e. light fittings/charging points done by the Firm shall be firm & in accordance with the code of practice of wiring i.e. EL/SPEC/EOG/001,002 and the Firm shall handover the coach in fully functional condition after conducting HV & IR testing for QC clearance by Quality department. Final electrical clearance shall be accorded by Dy.CEE/EP.
- 8.7** All hardware and accessories required for the installation of the items mentioned in para 7.1 & 7.2 will be in the scope of the tenderer.
- 8.8** The installation and commissioning work of the items listed in para 7.1 & 7.2 has been kept in the scope of the tenderer. If the situation arises MCF reserve the Right to reduce the installation and commissioning work from the scope of work of Tenderer.
- 8.9** The quantity distribution between successful bidders can be changed based on the performance in due course of the turn key project. The firm lagging in complete of work or with poor quality shall be penalized with reduced quantity as decided by the competent authority.


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- 8.10 It will be the sole responsibility of firm to timely arrange all the material (either that item belongs to RDSO or MCF approved source) those are mentioned in the scope of supply and commissioning. After placing the PO, if firm fails to furnish the coach as per agreed schedule of production due to lack of material supply/manpower scarcity, MCF shall have full right to cancel the PO placed on firm.
- 8.11 In case of any damage to MCF property, Coach item or Shell during commissioning, the same shall be repaired/replaced by the Firm. In case any alternation in shell is required, prior approval of competent authority is required.
- 8.12 Any item supplied by firm got damaged during commissioning or before the issue of completion certificate, the same is to be replaced by the firm as free of cost.
- 8.13 Raw material such as special upholstery for seats, special paint with specified shades should readily available with the firm for repair and maintenance.
- 8.14 Firm shall submit a complete catalogue for items, fittings instruction including trouble shooting for easy maintenance by the Railways.
9. **Facilities to be provided by Railways to Contractor:** The contractor shall be provided free of charge, the following facilities during the operation of the Contract at MCF:
- 9.1 These are the some intermediate fittings between coach shell body, Electrical and coach interior fittings. Railways will provide painted coach shells fitted on diplotories in the furnishing shop. MCF shall provide necessary assistance for movement of shells to the designated space allotted for furnishing of the coach.
- Following assemblies shall be in the scope of supply of MCF and shall also be fitted by MCF or by firm who has supplied these items-
 - Connection car body bogie
 - Coupler mounting
 - Thermal insulation
 - External painting/Fleet graphics
 - External marking/lettering
 - Air brake system
 - Emergency brake layout.
 - Automatic fire detection and alarm system
 - Bio-toilets
 - PA System
 - GPS based PIS system
 - Following assemblies shall be in the scope of supply of MCF but will be fitted by the successful tenderer of this specification (required adhesive and fasteners for these items will be provided by MCF):
 - Grip and level mounting
 - Decoupling elements for flooring
 - Floor boards for flooring of coaches
 - Step complete mounting
 - Windows arrangement except lavatory windows
 - Body side doors
 - Inter car gangway mounting
 - Underslung water tank and auxiliary water tank and piping between them
 - Set items for FRP tub for LHB AC coaches
 - FRP top cover for AC 3 tier coaches

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- Modified coach water inlet (connector) with strainer
- Vestibule sliding door

Any other furnishing assembly/item not mentioned shall be in the scope of supply and fitment of the firm.

- 9.2 After complete furnishing the coach Railways shall lower the coach on bogies. Final testing of coach shall be done by Railways.
- 9.3 Power supply, Compressed Air and water near the site of work. However, the tenderer is advised to examine the actual site conditions for the last mile arrangements which is to be done by the firm for taking the compressed air and water from nearest tapping point (of compressed air and water) provided by Railways to the site and quote the rates, keeping in view these costs. All other facilities to be arranged by contractor himself.
- 9.4 Railways shall provide limited space inside covered shed (not enclosed) to the Contractor for keeping the material & tools required for day to day work. Contractor shall construct a temporary shed in the factory premises for bulk material and tools. This will serve as a temporary office of the firm at MCF.
- 9.5 The space making temporary shed shall be provided close/nearby the existing covered shed in the factory premises. Cleanliness of the temporary shed shall be the responsibility of the contractor.

10. Documentation: The successful Tenderer shall submit the following documents:

- a) Sources of supply for bought out items with approximate cost.
- b) Operations, Instructions & Installation manuals (3 copies)
- c) Maintenance manuals (3 copies)
- d) Any other documentation, as required, by MCF.

11. Statutory terms and conditions:

- 11.1 The Contractor shall comply with 'the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules. Contractor shall abide by all laws of the land including, Factories Act 1948, Labour Laws (ESI, PF BONUS Income Tax, Service Tax or any other extra taxes levied by the Government) Companies Act, TAX deduction liabilities, Welfare measures of its employees and all other obligations that enjoin in such cases and are not essentially enumerated and defined herein, though any such onus shall be the exclusive responsibility of the Contractor, and it shall not involve the Railway in any way what — so ever.
- 11.2 The contractor shall obtain a valid license under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfil the requirement shall attract the penal provision of the Contract arising out of the resultant non-execution of the work.
- 11.3 All the contract labour has to come to the factory with Personnel Protective Equipments such as safety shoes and helmets. Contractor has to ensure that no worker is without PPE. All the labour of the contractor should have identity cards & no labour shall be allowed to work without having the Identity cards. It is the responsibility of the contractor to ensure safety of its staff by taking suitable measures.

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- 11.4 The firm shall take all precautionary measures in order to ensure the protection of their own personnel moving out or working on the Railway premises and should confirm to the Rules and Regulations of the Railway and the Factory Act.
- 11.5 The Contractor shall take all precautionary safety steps to prevent and untoward incident inside the Railway premises. The contractor shall note that no compensation due to any loss of life/material or any other account shall be given by the Railways and contractor shall have to pay all compensation in case of any accident, injury to the labour.
- 11.6 The following set of registers should be maintained at the worksite by the contractor and should be shown to the Statutory Authority (i.e. the Labour Enforcement Officer. Etc.). Wage Register be witnessed by the respective MCF supervisor.

SN	Form No.	Registers
1	Form XIII	Register of workmen employed by Contractor
2	Form XIV	Employment card
3	Form XVI	Muster Roll
4	Form XVII	Register of wages
5	Form XVIII	Form of Register of wages cum muster roll
6	Form XIX	Wage slip
7	Form XX	Register of deductions for damage or loss
8	Form XXI	Register of fines
9	Form XXII	Register of advances
10	Form XXIII	Register of Overtime

- 11.7 Payment to labourers has to be made, as per the Minimum Wages Act, revised from time to time. Payment to the labourers should be made through Bank payment systems (A/c payee cheques) and necessary documentary evidence for the same must be provided to the executing department i.e. Dy. CME/Fur/MCF. Wage Register must be witnessed by the respective MCF Supervisor.
- 11.8 The firm shall apply for and obtain necessary permit for the staff and labourers for working inside the factory area. The normal working hours shall be between 08:00 hrs to 17:30 hrs from Monday to Friday with lunch break between 12:00 hrs and 13:00 hrs. On Saturday, the working hours will be from 08:00 hrs to 13:00 hrs. However, if required the contractor may take permission to work in other timings as well depending on the work load and also on Sundays and holidays. Contractor staff has to work on Sunday or Holiday, if required.
- 11.9 The firm shall meet the Environmental Management System requirements in accordance with the rules and regulations of the railway and the Factory Act.
- 11.10 Environment protection: The contractor shall ensure that all Environmental Protection Laws of Central and State Government are unscrupulously followed during the operations and waste disposal.
- 11.11 Preservation of peace: The contractor shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his workmen and other employed directly or through the petty contractors or sub-contractors on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighborhood of the works. In the event of the railway requiring the maintenance of a special Police Force at or in the vicinity of the site during the tenure of works expenses thereof shall be borne by the contractor and if paid by the Railway shall be recoverable from the Contractor.
- 11.12 Final authority: GM/MCF/RBL shall be the final authority for settling the disputes, if any.

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12. Payment terms:


- 12.1 Payment of 70% of value of material cost shall be done once the entire material as per scope of supply by firm is received and accepted by Dy.CME/Furnishing. However, such payments can be processed only in the multiple of 10 coaches set material.
- 12.2 Payment of the remaining 30% of the material cost will be made after successful completion in multiple of 10 coaches & gate out from MCF on the submission of "work completion certificate" for Mechanical and Electrical portion issued by Dy.CME/Furnishing & Dy.CEE/Production respectively. Before releasing of 30% payment firm has to submit performance guarantee to the value of 10% of the total contract value for certified coaches in any of the following:
- A deposit of Cash;
 - Irrevocable Bank guarantee;
 - Government securities including State Loan Bonds at 5% below the market value;
 - Deposit receipts, Pay Orders, Demand Drafts and Guarantee Bonds. These forms of Performance Guarantee could be either of the State Bank of India or any of the nationalized banks;
 - Guarantee bonds executed or Deposits Receipts rendered by all Scheduled banks;
 - A Deposit in the post office saving bank;
 - A deposit in the National savings certificates;
 - 12 years National defense certificates;
 - 10 years defense deposits;
 - National Defense Bonds and
 - Unit Trust Certificate at 5% below market value or at the face value whichever is less.
- Also, FDR in favor of FA & CAO (free from any encumbrance) may be accepted.


Note: Performance Guarantee will be released after completion of warranty period (Scope of work). Release of Performance Guarantee shall be done after clearance from respective depot nominated by Zonal Railway for the coach for attending warranty.

13. Penalty Clause:

- 13.1 Penalty for non-completion of the coach work. Penalty of Rs.3000 per day per coach shall be levied upon the contractor if he/she is not able to fit/install the material supplied and clear the coach from the Quality department for the scope of work.
- 13.2 If any safety instruction is not adhered to and if any of the contract workers is found without PPE, penalty for the same shall be applied @ Rs. 500/person/day.
- 13.3 Smoking, chewing of Pan/Gutka/ any intoxicant is strictly prohibited at work place, ignoring this penalty @ Rs 500/person shall be applied.
- 13.4 100% trouble free/Breakdown free operation of Vendor supplied items is to be ensured in warranty period during running of train from Primary maintenance depot. A free period of 36 Hrs. from time of information to time of attention will be given, beyond which penalty of 500 Rs. per coach per 24 Hrs. will be levied.

14. Miscellaneous Term and Conditions:


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

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
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- 14.1 The Firm shall arrange Material Handling Equipments and fork lifters with driver for handling of materials.
- 14.2 The Contractor shall maintain prescribed Quality of work and good workmanship. If any quality deviation is identified, necessary corrective and preventive actions shall be taken by the Contractor at the first instance of identification. If the Contractor fails to maintain the required quality standards and gets repeated rejection/rework, the contract will be terminated duly disqualifying the firm from quoting for future Tenders.
- 14.3 The contractor shall coordinate with concerned departments and other agencies of MCF/RBL connected to this and have to work in close liaison with them. The contractor shall maintain close co-ordination with the officers of Furnishing shops for instructions on production plan etc.
- 14.4 Stage Inspection of application work shall be carried out by the Dy. CME/Fur or his authorized Engineer. However, final clearance of coach shall be done by Quality Department of MCF/RBL or their nominated agency. Any scope of the entire work may however be inspected by any competent authority of MCF including CMT lab/ Planning/ Design etc. from time to time.
- 14.5 The contractor shall offer for inspection in writing after completion of work duly indicating the date of work and Shell number. Any inspection points raised on the installation work done till the dispatch of the coach, shall be cleared by the Contractor before turning out of coach.
- 14.6 The contractor shall maintain proper record of all activities in the register which will be checked on daily basis by concerned supervisor of MCF/RBL.
- 14.7 If found satisfactory Dy CME-Fur/any such person deputed by the competent authority shall issue the completion certificate for the work which should be submitted by the firm with the bill for claiming payment.
- 14.8 All the tools machines viz. Drilling Machines etc. and Lighting arrangement inside the coach etc. and work bench, ladder & working platform etc. as required to execute work as per scope of work shall be arranged by the contractor. The contractor shall use safe tools. Proper extension boards shall be used. Extension wires with joints and without insulation shall not be used. All the tools should have proper electrical plugs.
- 14.9 The contractor shall ensure cleaning of coach before handing over to Railways.
- 14.10 Contractor staff will not dump sweepings, garbage here and there. It will be dumped in Nominated bins.
- 14.11 The contractor shall be solely responsible for the orderly and proper conduct of his staff during the period of work inside the MCF/RBL. The staff should be polite and courteous. No food items shall be allowed at the work place. All the food to be consumed in canteen.
- 14.12 Errors, Omission and Discrepancies: The tenderer(s) shall not take advantage of any misinterpretation of the conditions due to typing or any other error and if any doubt shall bring it to the notice of the Engineer without delay in case of any contradiction. Only the printed rules and books should be followed and no claim for the misinterpretation shall be entertained.

15. Warranty & Spares:

- 15.1 Warranty period claim shall be as per RDSO/RCF/ICF/MCF specification or as per IRS terms and conditions wherever not specified in the specification/ drawings and whichever is on higher side. Warranty complaints /issues to be attended at respective depots.
- 15.2 Preventive maintenance of all the items in the scope of turnkey is to be carried out by the contractor for a period specified in IRS condition at the primary maintenance depot from the date of dispatch of coach from MCF.


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