



Bihar Medical Services & Infrastructure Corporation Limited 4th floor State Building Construction Corporation Limited. Hospital Road, Shastri Nagar, Patna 800023, Phone/Fax: +91612 2283287,+ 91612 2283288

Corrigendum-VIII

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for the procurement, rate contract and the supply of ALS Ambulance equipped with medical equipment for different Govt. Medical Institutions of Bihar vide Notice Inviting Tender No.-BMSICL/2017-18/ME-076. In order to facilitate maximum participation of bidders the technical specification has been amended which is annexed as Annexure-1 and accordingly the tender scheduled is also being revised as following.

Tender Reference No.	BMSICL/2017-18/ME-076
Date and time for downloading of bid document	Up to 11th July 2018 till 17:00 Hrs.
Last date and time of submission of online bids	12th July 2018 till 17:00 Hrs.
Last date and time for submission of original documents of EMD and Document Fee	13th July 2018 till 14:00 Hrs.
Date, Time and Place of opening of Technical Bid	13th July 2018 (at 15:00 Hrs.) on the website of www.eproc.bihar.gov.in in the office of BMSICL
Date and time of opening of financial Bids	To be announced later on www.eproc.bihar.gov.in

Note:- Please refer to the **Annexure- I (pages-13)** of this corrigendum before Submission of bid.

Sd/-
GM (Procurement)
BMSICL

Annexure-1

Technical Specification Before Amendments	Technical Specification After Amendments
Bidder have to provide Temporary Registration including all taxes & duties F.O.R. consignee and should meet the following Technical Specification:	
1.1 Engine Capacity: 2100-3000 cc (Diesel/Petrol)	No Change
1.2 Emission Norms : BS IV and above.	No Change
1.3 Maximum Output: Minimum 80.4 HP @ 3200 RPM	No Change
1.4 Transmission: Manual	No Change
1.5 Drive: Rear Wheel Drive	Rear/Front wheel drive
1.6 Wheel Base: 2800 mm	Wheel Base: 2800 mm or above
1.7 Tyres: 7.00X15or 215R15	Radial Tyre
1.8 Axles: Front: Dead rigid Beam, Rear: Live Rigid	a.Rear Wheel drive-Front: Dead rigid Beam, Rear: Live Rigid. or b.Front wheel drive-Front: Live rigid Beam, Rear: Dead Rigid
1.9 Dimensions (Patient Cabin):	1.9 Dimensions: The overall length of the ambulance should not exceed 5500mm, excluding rear steps and bumper guard. The overall width of the ambulance should not exceed 2000mm, excluding mirror, lights and safety accessories. The overall height of the ambulance should not exceed 2800mm including roof mounting equipment (viz. A/c etc) and excluding Radio Antenna. The finished floor (loading) height shall be a maximum of 700mm while ensuring that one person should be able to load and unload the supplied fully loaded ambulance cot into the ambulance seamlessly without the requirement of physical lifting of the cot at any end.
Minimum Length: 4900 mm +/- 10%	Minimum Length: 4900 mm +/- 10%
Minimum Width: 1900 mm +/- 10%	Minimum Width: 1900 mm +/- 10%
Minimum Height: 1900 mm +/- 10%.	Minimum Height: 1900 mm +/- 10%.
1.10 Body & Chassis : Integrated type	
1.11 Ground Clearance: 190 mm Minimum	Ground Clearance: 180 mm Minimum
1.12 GVW: 3.0T Minimum	No Change
1.13 Suspension: (Front suspension) : Parabolic Leaf Spring with Hydraulic Telescopic Shock Absorbers & Anti Roll bar, (Rear Suspension): Parabolic Leaf Spring with Hydraulic Telescopic Shock Absorb	1.13 Suspension: (Front suspension) :Either coil spring with hydrolic shock absorber /Paraboilic leaf with hydrolic shck absorber (Rear Suspension): Parabolic Leaf with Hydraulic Shock Absorb

1.14 (I) Rear Door: Centrally Divided rear doors on high quality steel hinges ensuring 180 Degree opening for both the doors.	No Change
(II)Both the rear doors should be provided with fixed windows made from toughened glass approved for automotive use.	No Change
1.15 Warranty Terms: Minimum 03 years or 3 Lac KM 03 years or 3 Lac KM as per standard terms of the vehicle manufacturer	No Change
1.16 Free Services: 12 Free services excluding the cost of the consumables	No Change
1.17 Color: The Color shall be notified at the time of fabrication stage, concerning the painted color of the ambulance vehicle.	No Change
1.18 Emblems and Markings: All items in this section shall be of reflective quality and in contrasting color to the exterior painted surface of the ambulance.	No Change
1. There shall be a continuous blue stripe, of not less than 8cm on cab and 15 cm on patient compartment, to encircle the entire ambulance with the exclusion of the hood panel.	No Change
2. Emblems and markings shall be of the type, size and location as follows:	No Change
a. Front: The word "AMBULANCE", minimum of 10 cm in height, shall be in mirror image (reverse reading) for mirror identification by drivers ahead, with a blue "Star of Life", minimum of 8cm height, to the left and right of the word "AMBULANCE." If vehicle design permits, there shall be a blue "Star of Life" of no less than 30 cm in height on the front section of the patient compartment.	No Change
b. Side: Each side of the patient compartment shall have the blue "Star of Life" not less than 30 cm in height. The word "AMBULANCE", not less than 15 cm in height, shall be under or beside each star	No Change

2. Patient Compartment	
2.1 Cabin Conversion	
<p>2.1.1 Complete interior paneling of the sidewalls, both sides of the partition wall between patient cabin and driver cabin, roof (of both patient and driver cabin) & back door panels should be made from polymethyl Methacrylate - Acrylonitrile Butadiene Styrene (PMMA ABS) Sheets. The PMMA ABS should be in semi-gloss/ matt finish and should be of high impact resistant and stiff ABS with a top layer of high- gloss, stress cracking resistant PMMA. The ABS sheets should be co-extruded and UV protected and should not be from recycled ABS sheets. The heat resistance of the sheets measured based on ISO 306B should be 94 degree C to 100 degree C. The panels must be suitably formed using the appropriate technology so that the match to the contour of the vehicle and looks aesthetically pleasing.</p>	<p>The interior paneling of the patient compartment including sidewalls, partition between patient cabin and driver cabin, roof, door panels and all other surfaces in the patient compartment should be made from long life superior quality ABS or non halogenated C-1196HF as per NCD 1409 fire retardant Fiber Reinforced Plastic (FRP) in gel coat white colour, finished (no painting). There should be thermo insulation minimum 50 mm thick between the outer and inner panels of these vehicles for reduction of heat and noise within the patient compartment. The insulating material should be non-toxic, non-settling type, vermin proof, mild dew proof and non hygroscopic. The FRP wherever used, should have minimum thickness of 3mm</p>
<p>2.1.2 The complete interior should be edgeless and suitable for easy cleaning / scientific fumigation / treatment of disinfectants.</p>	No Change
<p>2.1.3 The panels must be suitably formed to match to the contour of the vehicle and looks aesthetically pleasing.</p>	No Change
<p>2.1.4 The panels for each of the surfaces should be produced as one single without any joints either along the length or the width of the panels.</p>	No Change
<p>2.1.5 The minimum thickness at any point of the panels should not be less than 2 mm.</p>	The minimum thickness at any point of the panels should not be less than 3 mm.
<p>2.1.6 The ceiling, both the side-walls, both sides of the partition wall should be produced in one single piece matching to the dimension of the patient compartment dimension of the ambulance.</p>	No Change
<p>2.1.7 The interiors should have reinforced fixtures for holding medical, communication and extrication equipment</p>	No Change

<p>2.1.8 Partition wall between patient & driver cabin with sliding glass window having lock. The window should be made up of extruded aluminum profile in rounded rectangular shape (all the corner edges are curve so that there are no sharp corner edges along the window frame). There should be only one joint in the frame and the inner profiles must have synthetic sliders for smooth movement of the glass panes. The sliding glass should be of toughened glass as needed for automobile applications.</p>	<p>No Change</p>
<p>2.2 Flooring</p>	
<p>2.2.1 The flooring should be made up of min. 12mm. thick marine grade ply, rigidly bolted the steel base plate of the base vehicle construction.</p>	<p>No Change</p>
<p>2.2.2 On the top of the ply layer the floor should be coated with 3-4 mm thick solvent free, two components Polyurethane based top layer for highest class of hygiene for all the corner and angle joints, clean ability, anti skid and impervious to disinfectants.</p>	<p>On the top of the ply the floor should be coated with anti static vinyl of 1.6 mm(LG 302) OR 3-4 mm thick solvent free, two components Polyurethane based top layer for highest class of hygiene for all the corner and angle joints, clean ability, anti skid and impervious to disinfectants.</p>
<p>2.2.3 The floor should be finished in mosaic finish with colored chips embedded to the flooring to break the monotony of look and add to the aesthetics of the floor.</p>	<p>No Change</p>
<p>2.2.4 The floor should be properly cured to ensure the right strength and finish</p>	<p>No Change</p>
<p>2.2.5 After complete drying core layer should be further coated with a minimum two layers of transparent anti-scratch layer to ensure longer life of the floor against heavy dirt and scratches.</p>	<p>No Change</p>
<p>2.2.5 The floor must withstand a distributed load of minimum 150Kg/m².</p>	<p>No Change</p>

2.3 Seats	
<u>EMT / Doctor Seat</u>	-
2.3.1 There should be a rear mounted foldable base EMT / Doctor seat as per the specifications below:-	
<p>The seat should have two foldable arm rests. When unfolded for sitting the backrest should offer a soothing angle (more than 95 degree) to the base offering optimum comfort and safety to the occupants, who sits in directions not in line with the movement of the vehicle. The back rest (without the head rest included) should be minimum 525 mm. in height. The seat should have an adjustable headrest and retractable seat belt. The seat should be aesthetically pleasing and ergonomically well designed. The seat base should be padded at least 450 mm wide and 350 mm. in depth and have the largest padded backrest with contoured support for the back. Padding should be furnished with polyester urethane foam of a medium to firm density and should be minimum 60 mm. on the base, backrest and headrest (at the thickest cross section of the head rest the headrest may be contoured to the lateral ends). Padding should provide ultimate comfort to the occupants. The upholstery should be of leather-matchvinyl / polyurethanes / leatherette color in dark colors matching the interior color of the ambulance. The padding and upholstery should be fire retarded. Additionally the upholstery should be non-absorbent, washable and impervious to disinfectants. The seat should be fully foldable and rear mounted providing complete clean floor below the base without any framework for fixation.</p>	No Change
<u>2.3.2 Attendant Seats</u>	-

<p>There should be two attendant seats for the attendants on the co-driver side in the patient cabin. These seats should be single pivot point base mounted chairs with complete clean floor below the base without any framework for fixation. The seats should have integrated revolving mechanism by which these can be turned from facing the patient stretcher to the front of the vehicle with a single activation of the revolving control. This would enhance the safety of the occupants to align their position from a side way sitting to a front facing seating the ideal position in a moving ambulance. The seat should be completely foldable. The backrest should have integrated headrest means it should be tall enough beyond the shoulder</p>	<p>A Squad bench with backrest suitable to accommodate minimum 3-4 sitting patients/attendants with adequate underneath storage. A minimum 50mm thick Fire retardant high density moulded cushion to be provided for comfort. The squad bench should be upholstered with fire retardant waterproof , washable cover and should have adequate restrains for the sitting patients as well as the stretcher.</p>
<p>level in the sitting position. The seats should have retractable seat belts and foldable armrest. The seats should be aesthetically pleasing and ergonomically well designed. The seat base and backrest should be padded at least 440mm wide and have the largest padded backrest with contoured support for the back. The base should be at least 400 mm. in depth. Padding should be furnished with polyester urethane foam of a medium to firm density. Padding should provide ultimate comfort to the occupants. The upholstery should be of leather-match vinyl / polyurethanes / leatherette color in dark colors matching the interior color of the ambulance. The padding and upholstery should be fire retarded. Additionally the upholstery should be non-absorbent, washable in impervious to disinfectants.</p>	
<p>2.4 Internal Storage compartments</p>	
<p>2.4.1 All the internal Storage compartments, surfaces and space provisions should be made to accommodate / fix the various medical life saving medical devices, trauma equipment, for transportation and immobilization, medical glassware medical disposables and consumables, fresh and dirty linens, infusion bottles, drugs, accessories, wastes, documents, records, files etc. as per requirement in the ambulances.</p>	<p>No Change</p>

2.4.2 The storing consoles must designed keeping in consideration various storing requirements in an ambulance.	No Change
2.4.3The patient compartment should be provided with storing console at the head end of the patient integrated to the partition wall of the driver cabin and patient cabin and overhead storing compartments on the driver side of the patient compartment along the roof.	No Change
2.4.4All storage compartments should be aesthetically and ergonomically well	No Change
2.4.5To preclude injury in the event of an accident all cabinet will be firmly anchored / fixed to the base structure of the ambulance.	No Change
2.4.6Storage cabinets, drawers and kits should be easily open-able but should never ever open during transit on account of the vehicle movement.	No Change
2.4.7The overhead rack should be made from the same grade of material as the interior panels for the patient compartment and should be seamlessly finished to the sidewalls and ceiling.	No Change
2.4.8The overhead rack should have two sliding glass window having lock for access from the front. The window should be made up of extruded aluminum profile in rounded rectangular shape (all the corner edges are curve so that there are no sharp corner edges along the window frame). There should be only one joint in the frame and the inner profiles must have synthetic sliders for smooth movement of the glass panes. The sliding glass should be of toughened glass as needed for automobile applications.	No Change
2.4.9The head-end storing console should be produced from double side laminated moisture resistant plywood. The top surface of the head-end storing console should be made from the same grade of material as the interior panels or seamless mineral composites or acrylic / anti-bacterial plastic of minimum 3mm. thickness for the patient compartment and should be seamlessly finished to the side walls and the partition wall.	The head-end storing console should be produced from double side laminated moisture resistant plywood. The top surface of the head-end storing console should be made from the same grade of material as the interior panels or seamless mineral composites or acrylic / anti-bacterial plastic/Stainless Steel(Gr-304) of minimum 3mm. thickness for the patient compartment and should be seamlessly finished to the side walls and the partition wall.

2.4.10all the edges / joints / exposed surfaces should be appropriately finished to ensure that there are no sharp edges.	No Change
2.4.11Storage compartments should be divided into various sections according to the different varieties of the medical items to be stored in it.	No Change
2.4.12all the sliding as well as open-able doors should be provided with self-lockingpress type knobs. The locks should be push to lock and push to open type.	No Change
2.4.13There should be no key type locks used anywhere in the internal furniture.	No Change
2.4.14All the vertical flap doors with opening towards the topside should be latched at its fully open position using adequate capacity pneumatic lifters at both the horizontal ends to ensure proper load distribution of the door.	No Change
2.4.15 All the vertical flap doors with opening towards the bottom side will be latched at its fully open position using adequate capacity roller / friction / pneumatic supports at both ends to ensure proper load distribution of the door.	No Change
<u>2.5 Wash Basin</u>	-
2.5.1The internal furniture layout must include a washbasin made up of same material as the top surface of the head end storing console / SS material matching to the color of the furniture.	No Change
2.5.2The water tap of the washbasin should be operated with a foot / elbow switch at a	No Change
convenient and safe place around the washbasin area, so that it is easy for the users to activate the switch and get water flow.	No Change
2.5.3The tap should be operated using a submersible 12V DC IP classified water pump placed inside the water tank.	No Change
2.5.4The capacity of the water tank as well as the waste water tank should be at least 20L.	No Change

<u>2.6 AC System</u>	-
2.6.1The patient compartment must be provided with an engine driven air conditioning system of adequate capacity matching to the total heat load of the patient compartment when fully occupied and the patient loaded.	No Change
2.6.2The compressor should be engine mounted and engine run.	No Change
2.6.3All hoses should be machine crimped to avoid the leakages	No Change
2.6.4AC system should be certified for passenger vehicle usage.	No Change
2.6.5Both the patient compartment as well as the driver cabin should be air conditioned.	No Change
<u>2.7 Electrical</u>	-
2.7.1There must be adequate internal and external light matching to the requirements of an ambulance for the various purposes.	No Change
2.7.2There must be Indian standard AC electrical sockets inside the patient compartment for connecting AC operated electrical gadgets.	No Change
2.7.3There must be a weatherproof heavy duty external charging socket as well at an easily accessible position.	No Change
2.7.4There must be emergency light bar cum siren and speaker system on the top at the front.	No Change
2.7.5There should be side flashers and external lighting arrangements for evacuation in dark situations.	No Change
2.7.6There should be integrated inverter system of at least 800VA as well.	No Change
<u>2.8 Fire Extinguisher</u>	-
2.8.1The ambulance should be equipped with two fire extinguishers of 0.5 Kg capacity each.	No Change
2.8.2The fire extinguisher should be secured in a bracket and located in full view and in an accessible place.	No Change
2.8.3The fire extinguisher should bear a label of ISI / CE / UL/ NFPA showing a rating of 2 BC.	No Change

2.8.4 One fire extinguisher should be placed in the driver cabin and one inside the patient compartment.	No Change
Equipment Specification	
Defibrillator	
1) Unit should be lightweight compact and portable (not Exceeding 6 kg.)	No Change
2) Unit should have faculty for Automatic External Defibrillation and manual defibrillation	No Change
3) Should be able to deliver shock from 5J to 200J in steps. in biphasic mode.	No Change
4) Should have an inbuilt thermal recorder.	No Change
5) Should have battery back up for 50 discharges of 200J.	No Change
6) Should have adult and paediatric paddles integrated on same handle.	No Change
7) Should have ECG inputs through paddles or 3 lead cables.	No Change
8) USFDA. /European CE approved model should be offered.8)	
	9. Should have CPR feedback facility & should have pacing.
Monitor	
1. Should have facility for adult, paediatric and neonatal patient monitoring.	No Change
2. Should have touch screen TFT display with at least 12" Display.	No Change
3. Should have 5 lead ECG, SPO2, NIBP, Respiration rate and Temperature.	No Change
4. Should be provided Battery backup for minimum two hours.	No Change
5. Should have rear clamp for mounting .	No Change
6. Should have facility for external pacing.	Removed
7. Should have facility for charging from both 12V DC & 220V AC.	No Change
8. Build-in Thermal Recorders.	No Change
9. USFDA. /European CE approved model should be offered.	No Change
10. Should be supplied with:	No Change
A. Reusable pulse oximeter probe (two)	No Change

B. ECG cable -5 lead (two)	No Change
C. Temperature Skin & Rectal probes – Each Two	No Change
D. It should have facility for transmission of data from ambulance to a receiving station (desirable)	No Change
Transport Ventilator	
4.0 Transport Ventilator -Should be light weight (less than 4 kg.), robust (drop and Ventilator water resist) and user friendly. Time-cycled, volume controlled and pressure limited Ventilator and suitable for adults, children and infant up to 5 kg.	Should be light weight (less than 4 kg.), robust (drop and Ventilator water resist) and user friendly. Time-cycled, volume controlled, Pressure Controlled, SMIV Assist/Control mode . Ventilator and suitable for adults, children and infant of 5 kg or more.
Microprocessor controlled, electrically driven ventilator, provided with integrated battery for 6 hours of operation	No Change
1) Assist Control	No Change
2) Optional PEEP facility	No Change
3) Separate control for inspiratory and expiratory times and flow rate	No Change
4) Adjustable pressure limit to safety cope with all patients.	No Change
5) High inflation pressure alarm.	No Change
6) Power source: Compressed air / oxygen (dependence on battery or AC power is not desirable)	Removed
7) Control Settings: a. Inspiratory time: 0.5 - 2 Sec b. Expiratory time 0.6 -6 Sec. c. Flow Control (range 6 -60L / min.) d. With above controls, one should be able to deliver respiratory ratio of up to 1: 3	No Change
8) F102:100% oxygen and air mix, approx. 45%	No Change
9) Equipment should be complete with carry bag, patient circuit, pressure regulator for the oxygen cylinder and relief valve.	No Change
10) Should have airway pressure monitor	No Change
11) Should have a disconnect alarm. (Visual and audible)	No Change

12 USFDA. /European CE approved model should be offered	No Change
Oxygen cylinder “D” Type	
5.0 Oxygen cylinder “D” Type	Oxygen Delivery System
<p>1) It should be a standard „D' type molybdenum steel cylinder to fill medical oxygen.</p>	<p>The ambulance shall have piped medical oxygen system (manifold) capable of storing and supplying medical grade oxygen. The manifold should have two oxygen cylinders which should be D-type. The cylinders attached to the manifold should be individually changeable from outside the patient compartment and a cylinder changing wrench should be housed at an appropriate location. The manifold should be so designed that it shall ensure proper fixation of cylinders during travel and should ensure easy cylinder changing and positioning. There should not be any electrical connection in near vicinity or inside the oxygen cylinder housing, except pressure regulator integrated with flow control valve. These cylinders should be individually connected to a pressure regulator each in such a way that one cylinder acts on duty and the other as a stand-by. Both these regulators should be capable of reducing the cylinder pressure to a static outlet pressure of 4.12 bars / 60 psi and should include a safety relief valve and a locking mechanism to prevent settings from being inadvertently changed. It should maintain accurate readings and calibrations during ambulance operation and not be affected by the temperature conditions.. In case of manual change over, an audible and visual alarm system to be provided when the duty cylinder is getting empty. The patient cabin must have a display for oxygen supply</p>
<p>2) The capacity should be of 5000 to 6000 Litres (5 to 6 M³) at a pressure of 1800 - 2000ibs/inch².</p>	

3) A pressure regulator/flow meter capable of reducing the pressure to appropriate level to run either a ventilator or provide oxygen therapy

status both the cylinders . The display panel should be certified for use with Medical Oxygen .Minimum two medical oxygen outlets for the primary patient, flush with right side wall (distance between patient head and oxygen outlets to be less than 890mm) to be provided. These duplex outlet stations certified for medical oxygen should be appropriately labelled. Oxygen outlet stations shall be installed with sufficient vertical & horizontal space to accommodate attachment of flow meters, humidifiers, and nebulizers.The oxygen outlets should be universal in design to be able to accommodate the probe of the oxygen flow-meter, humidifier, Nebulizer and the probe of the driving gas hose of the ventilator directly in one single action without any intermediate connectors and adapters.

C. List of Consumables

Removed,(to be purchased by hospitals)