

Section VII. Technical Specifications

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Section VII. Technical Specifications**STATEMENT OF COMPLIANCE
TO TECHNICAL SPECIFICATIONS**

The bidder must state in the last column opposite each parameter and required specifications either “**Comply**” or “**Not Comply**”. All pages shall be properly signed. Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of **ITB** Clause above goods manufactured by us.

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All clarifications regarding the technical specifications stipulated in this section will be clarified by the members of the **PN-PAF TWG member; the Light Armor System Upgrade (LARSU) Acquisition Project of the Philippine Navy and Philippine Air Force** Circular of Requirements will be referred to. In cases of conflicting interpretations, the nature and purpose of the equipment will be the basis of interpretation. The main basis for technical specifications and requirements is the nature and purpose of the equipment and its intended use as determined by the doctrinal application of the end-users represented herein by the **PN-PAF TWG member**.

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TECHNICAL SPECIFICATIONS

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| OPERATIONAL REQUIREMENT | | | |
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| 1.0 | <p>The Philippine Marine Corps has come up with this project in order to enhance the operational readiness of line units. That LAV vehicle has proven effective in the conduct of armor combat support in amphibious and mechanized operations ashore. It has been proven effective in the conduct of direct fire support and security/escort to combat, logistics and administrative operations in all semi-restricted types of terrain including urban terrain. The importance of light armored assets in urban security operations is clearly manifested in the recent Zamboanga Peninsula and Marawi Siege. However, uncontrollable factors such as old modeled engine, deterioration of major parts/assemblies compounded by the unavailability of spare parts and out-modeled target acquisition systems have resulted to the decrease of its effectiveness.</p> | | |
| 2.0 | GENERAL | | |
| 2.1 | General Description | <p>The main purpose of the project is to Upgrade appropriated LAVs of the Philippine Marine Corps in order to raise its assets to a higher standard, in particular improve (equipment) by adding or replacing components. The scope of the project is not only the supply and delivery of necessary Vehicle Parts/ Assemblies / Components but also the performance of the necessary actions and scheme to integrate and assemble the Parts/ Assemblies / Components to come up with upgraded LAVs. The performance of and assurance of the upgrade will be the solely responsibility of the proponents.</p> | |
| 3.0 | VISUAL, PHYSICAL PERFORMANCE, AND TECHNICAL SPECIFICATIONS (TABULAR FORM) | | |
| 3.1 VISUAL REQUIREMENTS (ONE METER TURRET UPGRADE) | | | |
| | SPECIFICATIONS | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| | Traverse | The One-Meter Turret traverse mechanism must be operated electrically with manual back-up. | |
| | Elevation | Primarily must be operated electrically with manual back-up. | |

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| | System operation | The One-Meter Turret must be operated by one (1) gunner. | |
| | Interchangeability of components/ parts | One-Meter Turret and mobility upgraded parts must be interchangeable with other One-Meter Turrets that undergone said upgrades. | |
| | Parts/Component Markings | Each major component for One Meter Turret Upgrade should have its own unique serial number and its date of manufacture in order to easily identify which turret already needs maintenance. | |
| | Gunner's Display/ Monitor Marks | The periscope, display camera, gauges, control panel and all other display in the new system should be in English-version for functional use and understanding by the operators. | |
| | Gunner's Control Mechanism | Brand New Component. Joystick control with fire button and Palm enable button that consist the following: a) Traverse Gearbox b) Joystick Assembly c) Elevation Actuator d) Backup Manual Control Assembly | |
| | Backup Manual Control Assembly | Brand New Component. Manual traverse and elevation control handle that is used in case of drive failure | |
| | Gunner's Control Panel | Brand New Component. Provides an interface to the gunner for electrical operation. It consists of the following components: a) Gunner's Control Panel b) Gunner's Control Panel Mounting Bracket | |
| | Gunner's Sight Camera (Day and Night System) | Brand New Component. The Gunner's Sight Camera Assembly is provided to improve identification and engagement of targets. It consists of following | |

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| | | components: a) Gunner's Sight Camera and mount assembly b) Gunner's Display and mount assembly c) Armor Protection | |
| | Main Turret Electrical System | Brand New Component. That provide electrical requirement for the turret which consist of a) Power Distribution Unit Assembly b) Gunner's Control Panel c) Slip Ring Assembly d) Brake Foot Pedal Assembly e) Main Wiring Harness Assembly f) Alternator Assembly g) Limit Switch and Cable Assembly | |
| | Ring Gear | Brand New Component. | |
| | View Blocks Assembly | Brand New Component (3 inch). | |
| | Gun Cradle | Brand New Component for: a)12.7mm (M2 HB) as main gun b)7.62mm (M240 and M60E2) co-axial gun | |
| | Gun Mount | Brand New Component Modular gun mount and adaptable to existing gun installed on the vehicle a) 12.7mm (M2 HB) as main gun b) 7.62mm (M240 and M60E2) co-axial gun | |
| | Gunners Seat | Brand New Component | |
| | Spent Cartridge System | Brand New Component. Cartridge collection system for a) 7.62mm and b) 12.7mm gun ammunition that will be mounted with gun mounts | |
| | Spotlight Assembly | Brand New Component | |
| | Interrupt Switch Assembly | Brand New Component | |

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| | Interior Light Assembly | Brand New Component | |
| | Vent Blower Assembly | Brand New Component | |
| 3.2 PHYSICAL PERFORMANCE (ONE METER TURRET UPGRADE) | | | |
| | | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| | Traverse | Can traverse or rotate on a 360 degrees clockwise and counter-clockwise movement respectively at a speed rate of 30°-50° deg per sec. One counter Clock Wise (CCW) revolution of Traverse manual handle is give approx. 4.7 deg CW rotation of turret and one CW revolution of traverse handle is approx. 4.7 deg ACW rotation of turret | |
| | Elevation | Mounted main and co-axial guns on the One-Meter Turret should be elevated to sixty (60) degrees maximum and negative (-) 8 degrees depression with actuator ensures the following limits of gun operation: a) Elevation : +55° b) Depression : -8° Can elevate/depress at speed rate of 30°-50° deg per sec. | |
| | Sight Unit (day and night Camera and Gunner Periscope) | Brand New sight unit should be protected and be capable for night operations, water resistant, and shock resistant since these parts are essential in accurate firing. | |
| | Stability | There should be no unnecessary traversing, no slipping of trails and other unnecessary movement of parts during firing. | |
| 3.3 ONE METER TURRET ASSEMBLY PARTS TECHNICAL SPECIFICATIONS | | | |
| | SPECIFICATIONS | | STATEMENT OF |

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| | 3.3.1 TURRET ASSEMBLY composed of the following: | Description | |
| | a. Turret | Brand new component which includes: a. Ring gear b. Turret basket c. Gunner's seat d. View blocks assembly | |
| | b. Turret Body and gunners hatch | Refurbished turret. It includes repair, cleaning and repainting of the component. | |
| | c. Control, Traverse Mechanism | Brand New Electrically Operated with manual back-up | |
| | d. Control, Elevation Mechanism | Brand new Electrically Operated with manual back-up. | |
| | e. Vision Blocks Assembly | Brand new set of 3" view block assembly | |
| | f. Slip-ring | Brand New with minimum two power channels for electrical load of 60A@ 50VDC continuous and 12 channels of 10A@50Vdc for communication | |
| | g. Spotlight | Brand new with high Intensity LED SPOT LIGHT. This ultra-compact LED light produces minimum 2750 lumen output at 10-degree beam width which is > 100000 candle power with low voltage and amp draw, 50,000-hour service life providing operators with a versatile and powerful LED lighting solution. | |
| | h. Ring Gear | Brand new ring gear that has same mounting interfaces of existing turret and hull. | |
| | i. Vent blower | Brand new Vent blower for gun smoke and heat exhaust | |
| | 3.3.2 SIGHT ASSEMBLY | Brand new sight assembly. Gunner Sight Camera with day and night (thermal imaging camera) will be mounted on a new sight mount bracket. This unit is nitrogen purged to | |

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| | | <p>prevent ingress of moisture. The video output of sight will be displayed on Gunner's Display mounted inside the turret and in front of the gunner. Sight is enclosed in an armor shroud complying STANAG level 1 protection.</p> <p>The Gunner's sight camera consists of the following elements:</p> <ul style="list-style-type: none"> a) TI Camera b) Day Camera <p>Video from the Gunner's Sight Camera is displayed on the Gunner's Display monitor. The gunner can survey the space in front of the turret for potential threats, perform, and engage targets. Display unit that meets MIL-STD-1275 and have few functional keys ergonomically placed on the border of display to perform certain tasks while system operation. Must have a Mil Marking Over Lay.</p> <p>Video recording</p> <p>At least ten (10) hour Recording that is powered by a super capacitor that resists extreme temperatures from -4°to 158°F (-20°-70°C) and provides more reliability and a longer lifespan.</p> <p>With Time Lapse function, the dashboard camera will take photos at specified intervals to create a video. Supports up to 256GB microSD cards.</p> <p>When the built-in gravity sensor detects a sudden shake or collision, the car cam dash camera will lock any important footage from being overwritten. Loop recording automatically overwrites the oldest recordings with the newest ones when the card reached its maximum storage. Captures</p> | |
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| | | <p>instant pictures with a quick press snapshot button. Enabled GPS- track the driving route, location and speed with KM/H or MP/H.</p> <p>The day and night Camera provide the following ranges for a human target of size 0.5m X 1.8m under ideal atmospheric conditions:</p> <p>a) Detection Range : ≥ 1500m b) Identification Range : ≥ 1000m</p> <p>The Day Camera has an electronic zoom facility that is ≥ 10X.</p> | |
| | a. Laser Range Finder (LRF) | Brand New Component that uses a laser beam to determine the distance at maximum of (2) kilometers to an object. The device must be integrated with the gunners display monitor and must operate on time of flight principle by sending a laser pulse in a narrow beam towards the object and measuring the time taken by the pulse (one pulse per second) to be reflected off the target and returned to the sender. | |
| | b. Periscope, Gunner M28 Sight | Refurbished- replacement of rubber fittings and seals, purging | |
| | c. Smoke Grenade launcher | Brand new component. Device that launches screening smoke grenades by electrical ignition. Four (4) aluminum discharger tubes mounted on an aluminum discharger base are angled to launch grenades in an arc. Smoke grenades are muzzle-loaded into discharger tubes. | |
| 4.0 | INTEGRATED LOGISTIC SUPPORT (ILS) | | |
| 4.1 | SPARES AND TOOLS REQUIREMENTS | | |
| | SPECIFICATION | CHARACTERISTICS | STATEMENT OF COMPLIANCE |

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| 4.1.1 | MAINTENANCE TOOLS | Allen wrench | 1.5mm – 10mm | |
| | | Combination wrench | 6mm – 32mm | |
| | | Side cutting flier | 7" | |
| | | Torque wrench | ¾ 300ft | |
| | | Socket wrench | 6mm – 32mm | |
| | | Cutter mechanical plier | 7" | |
| | | Vise grip | 10" | |
| | | Screw driver (Flat & Philip) | 8" | |
| | | Electric drill | ½ Cap. HP 2050 | |
| | | Drill bit | 1/16 to ½ | |
| | | Wire stripper | Standard | |
| | | Feeler Gauge | 3" | |
| | | Angle grinder | 9553 BK 4" | |
| | | Adjustable wrench | 15" | |
| Long nose side | 7" | | | |
| 4.1.2 | NITROGEN TANK AND ACCESSORIES | Nitrogen tank, hose, and gauge must be provided | | |
| 4.1.3 | Bore sighting Equipment | Brand new component for 12.7mm HMG and 7.62mm LMG | | |
| 4.2 | Maintenance Support Logistics Requirements (MSLR) | | | |
| | Gunner's Control Mechanism | Brand new component | | |
| | Gunner's Control Panel | Brand new component | | |
| | Gunner's Sight Camera | Brand new component | | |
| | Main Turret Electrical System | Brand new component | | |
| | Slip ring Assembly | Brand new component | | |
| | Power Distribution Unit System | Brand new component | | |
| | Ring Gear | Brand new component | | |
| | View Blocks (8 units per vehicle per 1-m turret) | Brand new component | | |
| | 12.7mm cal spent cartridge System. | Brand new component | | |
| | 7.62mm spent cartridge System | Brand new component | | |
| | Spotlight Assembly | Brand new component | | |
| | Interior Light Assembly | Brand new component | | |
| | Interrupt Switch Assembly | Brand new component | | |
| Vent Blower Assembly | Brand new component | | | |
| Laser Range Finder (LFR) | Brand new component | | | |

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| 4.3 | OPERATORS AND TECHNICAL MANUALS | | |
| 4.3.1 | OPERATORS MANUAL | Provide operating instructions for the vehicle and unit level preventive and corrective maintenance procedures as applicable. These procedures will permit the crew to operate the turret at maximum efficiency while remaining within specified operational limits, to maintain their vehicle at optimal readiness. Provide print out and electronic copy. | |
| 4.3.2 | PARTS MANUAL | Enable the maintenance and supply personnel to identify and order the correct replacement part. This will ensure that repower spares and repair parts meet the required specifications thus return to full operational condition of the vehicle. Provide print out and electronic copy. | |
| 4.3.3 | TECHNICAL /MAINTENANCE MANUAL | Provide preventive maintenance schedules and procedures to maintain the turret at peak operating efficiency and to reduce the incidence of failure. Provide print out and electronic copy. | |
| 4.4 | OPERATORS AND MAINTENANCE TRAINING | <p>Conduct per batch training for Turret operations, Gunnery, Fire Control System (FCS), Repair and Maintenance. Proponent will determine and provide all necessary teaching aids such as Projectors, laptops, other IT peripherals, PowerPoints presentations, whiteboard and markers. Must have established complete checklist for training and evaluation of crew. Must also include Gunners manual checklist (procedural operations of Upgraded Turret).</p> <p>One Hundred (100) rounds ammunition will be allocated for 12.7mm HMG and 7.62mm LMG and per vehicle for the functional, integration and</p> | |

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| | | stability test of upgraded one-meter turret component. | |
| 4.5 | Painting of Light Armor Vehicle | Painting of all upgraded LAV using PHILMARPAT and PAF paint pattern. The proponent will provide all necessary equipment, labor and materials such as thinner, paints, material for paint pattern for painting. AABN will assist in the painting. Proponent will do and perform basic procedure such as sand blasting, base paint etc. PN/PAF will do the AFP final paint pattern) | |
| 6.0 | WARRANTY | | STATEMENT OF COMPLIANCE |
| | | The proponent shall guarantee the normal operation of the LAV's, warranties the parts and services for of two (2) years from the date of delivery to the end-users. Any part found to be defective due to factory defect within the two (2) years period from date of delivery must be repaired or replaced by technical/ field service representative free of charge to include services. | |
| | SPECIFICATIONS | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| 7. Test and Trials (see Section IX) | | | |
| 8.0 | SPARE PARTS AND REPAIR PARTS | | STATEMENT OF COMPLIANCE |
| | | The proponent must guarantee the availability of spare and repair parts for at least 15 years from the date of the delivery to the end-users. | |
| 3.0 | VISUAL, PHYSICAL PERFORMANCE, AND TECHNICAL SPECIFICATIONS (TABULAR FORM) | | |
| 3.1 VISUAL REQUIREMENTS (MOBILITY UPGRADE) | | | |
| | SPECIFICATIONS | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| | System Operation | The system can be driven by one (1) operator/driver. | |

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| | Interchangeability of upgrade components/parts | Parts must be interchangeable with other V-150 CDO vehicles that undergone said upgrades. | |
| | Parts/Component Markings | Major Mobility Upgrade components should have its own unique serial number and its date of manufacture in order to easily identify which turret already needs maintenance. | |
| | Driver Display/Monitor Marks | Display camera, gauges, control panel and all other display in the new system should be in English-version for functional use and understanding by the operators. | |
| 3.2 PHYSICAL PERFORMANCE (MOBILITY UPGRADE) | | | |
| | SPECIFICATIONS | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| | Driving Capability | Upgraded LAV should be able to traverse Maximum gradient climbable 60 degrees and Maximum side slope of 30 degrees. | |
| | Front Fuel Tanks | Brand New component | |
| | Power Pack | Brand new component: a) Engine. At least 260 HP 6IL Diesel Engine b) Automatic Transmission. Six (6) forward and (1) reverse. c) Transfer Case Double-speed transfer case | |
| | Hull Modification | Hull extension necessary to accommodate new engine and transmission. Must use brand new hull material which will not affect structural integrity of the vehicle. Must have provision for the installation of the vehicle communication equipment. | |
| | Cooling System | Brand New Cooling systems that include the radiator, air to air intercooler, fan drive cooler, water pump and hoses that can support cooling requirements of engine, transmission and transfer case. Cooling fan must be | |

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| | | thermostatically controlled. | |
| | Fuel System | Brand new components. Fuel line with fuel return line. | |
| | Electrical System | Brand new components at least 100 Ampere Alternator that can at least accommodate power requirement of installed upgrade component. | |
| | Steering and Brakes | Brand New Hydraulic power assisted mechanical steering with emergency power source. Hydraulic power assisted brake booster with mechanical back-up. Power brake with Disc & Caliper on transfer case output, mechanically actuated with electrical power assistance | |
| | Suspension | Brand new Axles. Front and rear with double reduction that suite power packs and for maximum performance. With hydraulically actuated all around disc brake. Brand new Leaf Spring. That supports the upgrade. Brand New Shock Absorber. Replace existing shock absorber for better damping and off-road behavior. | |
| | Wheels | Brand new twenty (20") inch rim with tubeless all terrain tires size of 14.00R20, maximum air pressure marking of 110 PSI and 18-22 ply. Must have a run flat tire insert | |
| | Sight and Camera | Brand New Front Camera. Night vision camera-based sight with armor protection connected to a ruggedized display monitor in drivers' compartment. Brand New Rear Night Vision Camera. Rear day camera with armor protection connected to a ruggedized display monitor in driver's compartment. At least 130°/90° WFOV Video recording | |

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| | | <p>At least ten (10) hours Recording that is powered by a super capacitor that resists extreme temperatures from - 4°to 158°F (-20°-70°C) and provides more reliability and a longer lifespan.</p> <p>With Time Lapse function, the dashboard camera will take photos at specified intervals to create a video. To include at least 256GB microSD cards.</p> <p>When the built-in gravity sensor detects a sudden shake or collision, the camera will lock any important footage from being overwritten. Loop recording automatically overwrites the oldest recordings with the newest ones when the card reached its maximum storage. Captures instant pictures with a quick press snapshot button. Enabled GPS- track the driving route, location and speed with KM/H or MP/H.</p> <p>Display unit that meets MIL-STD-1275 and have few functional keys ergonomically placed on the border of display to perform certain tasks while on system operation.</p> | |
| | Air Conditioning System | Brand new component with minimum Output Power of at least 0.4HP, DC Voltage:24V and Speed Range of 1500 RPM | |
| 3.3 MOBILITY UPGRADE ASSEMBLY PARTS | | | |
| | SPECIFICATIONS | | STATEMENT OF COMPLIANCE |
| | Power Pack | | |
| | a. Diesel Engine | Brand new with at least 260 HP 6IL Diesel Engine | |

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| | b. Automatic Transmission | Brand new Automatic Transmission. Must be electronically controlled by ECU or electronic control unit, speed sensors, and interface cabling | |
| | c. Transfer Case | Brand new transfer case that must be designed to accept the increased torque of the upgraded engine and will provide efficient transfer of the engine power from the transmission to the front and rear drive shafts | |
| | Cooling System | Brand new Cooling systems that include the radiator, air to air intercooler, fan drive cooler, water pump and hoses that can support cooling requirements of engine, transmission and transfer case (Fan drive Cooler, Transmission Cooler, Transfer Case Cooler) Cooling fan must be thermostatically controlled. | |
| | Fuel System | Brand New fuel line with fuel return line. | |
| | Electrical System | Brand New system with at least 100 Ampere Alternator that can at least accommodate power requirement of installed upgrade component. Brand new hull and power pack electrical system. Brand new slip ring and turret electrical system (as required in turret configuration). Brand new drivers control which includes instrument panel, transmission shifting controller, Transfer case controller comprising axles differential lock, electronic accelerator pedal and power brake assistance | |
| | Camera | | |

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| | a. Front Camera | Brand new night vision Front Camera. Day and night Camera based with armor protection connected to a ruggedized display monitor in drivers compartment. Digital Zoom of at least 5x. | |
| | -Armor Protection | Brand new with at least NATO AEP-55 STANAG 4569 Level 1. Both cameras must be connected to a ruggedized display unit that meets MIL-STD-1275. | |
| | -Driver Display monitor | Brand new display unit that meets MIL-STD-1275. Display monitor have few functional keys ergonomically placed on the border of display to perform certain tasks while on system operation | |
| | b. Rear Camera | Brand new Rear Camera. Day and night vision Camera based with armor protection connected to a ruggedized display monitor in driver's compartment. At least 130°/90° WFOV. | |
| | -Armor Protection | At least NATO AEP-55 STANAG 4569 Level 1. Both cameras must be connected to a ruggedized display unit that meets MIL-STD-1275. | |
| | -Driver Display Panel | Display unit that meets MIL-STD-1275. Display monitor have few functional keys ergonomically placed on the border of display to perform certain tasks while on system operation | |
| | Vision Blocks Assembly | Brand new set of 2" view block assembly | |
| | Winch | <ul style="list-style-type: none"> • Heavy duty hauling device integrated in the vehicle with the following minimum specifications: • Tensile strength – 9,072 kg layer 1 • Wire rope, max. – 14.3 mm, 15.241 kg min. tensile strength • Maximum flow rate - 76 l/min • Maximum input pressure - 205.8 bar | |

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| | | <ul style="list-style-type: none"> • Drum diameter - 146 mm • Drum flange diameter - 311 mm • Distance between flange, short drum - 203 mm • Distance between flange, long drum - 356 mm • Hydro engine - 131 cc • Ratio – 28.5 : 1 • Total weight short drum - 135 kg • Total weight long drum - 146 kg | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vehicle Accessory | <p>Brand new set of vehicle accessories that is compatible with the vehicle.</p> <table border="1"> <tr><td>Side mirror</td></tr> <tr><td>Blackout headlight</td></tr> <tr><td>Headlight service Assembly</td></tr> <tr><td>Horn, service 24v</td></tr> <tr><td>Signal flasher</td></tr> <tr><td>Taillight, Vehicle Assembly</td></tr> <tr><td>Light, Directional signal</td></tr> <tr><td>Parking brake Assembly</td></tr> <tr><td>Parking brake control</td></tr> <tr><td>Front service light</td></tr> <tr><td>View Block Wiper Assembly</td></tr> </table> | Side mirror | Blackout headlight | Headlight service Assembly | Horn, service 24v | Signal flasher | Taillight, Vehicle Assembly | Light, Directional signal | Parking brake Assembly | Parking brake control | Front service light | View Block Wiper Assembly | | | | | | | | | | | | | | |
| Side mirror | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blackout headlight | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Headlight service Assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Horn, service 24v | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signal flasher | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Taillight, Vehicle Assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Light, Directional signal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parking brake Assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parking brake control | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front service light | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| View Block Wiper Assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.0 | INTEGRATED LOGISTICS SUPPORT (ILS) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1 | SPARES, TOOLS AND OTHER REQUIREMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.1 | MAINTENANCE TOOLS | <table border="1"> <tr><td>Vise grip</td><td>10"</td></tr> <tr><td>Combination wrench</td><td>6mm – 32mm</td></tr> <tr><td>Socket wrench</td><td>6mm – 32mm</td></tr> <tr><td>Proto Ratchet</td><td>¾ Drive</td></tr> <tr><td>Extension (long-short)</td><td>¾ Drive</td></tr> <tr><td>Torque wrench</td><td>¾ 300ft</td></tr> <tr><td>Adjustable</td><td>15"</td></tr> <tr><td>Allen wrench</td><td>1.5mm – 10mm</td></tr> <tr><td>Feeler Gauge</td><td>3"</td></tr> <tr><td>Driver, Screw (Flat & Philip)</td><td>Standard</td></tr> <tr><td>Pipe wrench</td><td>10"</td></tr> <tr><td>Open end wrench</td><td>6mm – 32mm</td></tr> </table> | Vise grip | 10" | Combination wrench | 6mm – 32mm | Socket wrench | 6mm – 32mm | Proto Ratchet | ¾ Drive | Extension (long-short) | ¾ Drive | Torque wrench | ¾ 300ft | Adjustable | 15" | Allen wrench | 1.5mm – 10mm | Feeler Gauge | 3" | Driver, Screw (Flat & Philip) | Standard | Pipe wrench | 10" | Open end wrench | 6mm – 32mm | |
| Vise grip | 10" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combination wrench | 6mm – 32mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Socket wrench | 6mm – 32mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proto Ratchet | ¾ Drive | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension (long-short) | ¾ Drive | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Torque wrench | ¾ 300ft | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adjustable | 15" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Allen wrench | 1.5mm – 10mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feeler Gauge | 3" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Driver, Screw (Flat & Philip) | Standard | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pipe wrench | 10" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Open end wrench | 6mm – 32mm | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | | Box end wrench | 6mm – 32mm | |
| | | File (Round & Flat) | Standard | |
| | Maintenance Support Logistics Requirements (MSLR) | | | |
| 4.2 | Cooling system | Brand new component | | |
| | Driver’s Controls | Brand new component | | |
| | Drive Shafts | Brand new component | | |
| | Wheel & Tire Assembly | Brand new component | | |
| | Steering | Brand new component | | |
| | Vision Blocks | Brand new component | | |
| | Electrical System | Brand new component | | |
| | Fuel System | Brand new component | | |
| | Suspension | Brand new component | | |
| | Winch and Differential | Brand new component | | |
| | Drivers front and rear camera | Brand new component | | |
| | Driver Display Panel | Brand new component | | |
| Vehicle Accessory | Brand new component | | | |
| 4.3 | OPERATORS AND TECHNICAL MANUALS | | | |
| 4.3.1 | OPERATORS MANUAL | Provide operating instructions for the vehicle and unit level preventive and corrective maintenance procedures as applicable. These procedures will permit the crew to operate the LAV at maximum efficiency while remaining within specified operational limits, to maintain their vehicle at optimal readiness. Provide print out and electronic copy. | | |
| 4.3.2 | PARTS MANUAL | Enable the maintenance and supply personnel to identify and order the correct replacement part. This will ensure that repower spares and repair parts meet the required specifications thus return to full operational condition of the vehicle. Provide print out and electronic copy. | | |
| 4.3.3 | TECHNICAL /MAINTENANCE MANUAL | The corrective maintenance procedures will direct the maintenance personnel in troubleshooting and repair of malfunctioning components. This will permit the technician to return a vehicle to service with minimum down time, increasing operational | | |

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| | | availability and readiness to accomplish the mission. Provide print out and electronic copy. | |
| 4.4 | OPERATORS AND MAINTENANCE TRAINING | Provide per batch training packages for the trainers of all user/operators and maintenance personnel of the delivered LARSU Mobility Upgrade. Proponent will determine and provide all necessary teaching aids such as Projectors, laptops, other IT peripherals, Power Points presentations, whiteboard and markers. Must have established complete checklist for training and evaluation of crew. Must also include Drivers' manual checklist (procedural operations of Mobility Upgraded LAV). | |
| 4.5 | Painting of Light Armor Vehicle | Painting of all upgraded LAV using PHILMARPAT and PAF paint pattern. The proponent will provide all necessary equipment, labor and materials such as thinner, paints, material for paint pattern for painting. AABN will assist in the painting. Proponent will do and perform basic procedure such as sand blasting, base paint etc. PN/PAF will do the AFP final paint pattern) | |
| 4.6 | SUPPORT FACILITY AND EQUIPMENT. Construction of and refurbishment of mission essential facilities (plan and design must be approved by the end user) | a. Supply and delivery of mobile/modular logistics warehouse. Two (2)- 20 footer container van with attached modular storage racks for stocking supplies for LARSU Vehicle. One (1)-20 footer container van for logistics office/conf/lecture area equip with standard office equipment and peripherals such as air conditioning system, lights, and electrical wiring, office chairs and tables, computer set and printer, file cabinet/drawer. Appropriate software/system for database and cataloging of all supplies and repair and maintenance | |

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| | | parts of LARSU. | |
| | | b. Construction of an office inside the AABN Supply Warehouse. | |
| | | c. Construction of integrated peripherals for the improvement of an existing maintenance bay. As specified in the bid docs "plan and design must be approved by the end user". Proponent will do the design in conformity at least set minimum requirements and minimum safety standard set by country of origin. Peripherals such as electrical 2 - ton capacity chain block. Sand blasting equipment, painting equipment, vehicle wash equipment, forklift. | |
| | | d. Separate washing and painting bay area for LAV | |
| | | e. New tank shed. | |
| | | f. Collapsible tents with sidings (size: at least 6x6 mtrs) for mobile maintenance team | |
| 6.0 | WARRANTY | | STATEMENT OF COMPLIANCE |
| | | The proponent shall guarantee the normal operation of the LAV's, warranties the parts and services for of two (2) years from the date of delivery to the end-users. Any part found to be defective due to factory defect within the two (2) years period from date of delivery must be replaced by technical/ field service representative free of charge to include service. | |
| | SPECIFICATIONS | CHARACTERISTICS | STATEMENT OF COMPLIANCE |
| 7. Test and Trials (See Section IX) | | | |
| 8.0 | SPARE PARTS AND REPAIR PARTS | | STATEMENT OF COMPLIANCE |
| | | The proponent must guarantee the availability of spare and repair parts for at least 15 years from the date of the delivery to the end-users. | |

Section VII. Technical Specifications

- - END OF TECHNICAL SPECIFICATIONS- - -

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