

Section VII. Technical Specifications

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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.

CLARIFICATION AND SETTLEMENT OF CONFLICTING INTERPRETATION OF THE TECHNICAL SPECIFICATIONS

All clarifications regarding the technical specifications stipulated in this section will be clarified by the members of the **PN Project Management Team / Technical Working Group; Lot 2 - 81mm Mortar Circular of Requirements** as contained in the **PN Mortar Systems (60mm, 81mm and 120mm) Acquisition Project DAS Assessment Report** 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 **Technical Working Group**.

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TECHNICAL SPECIFICATIONS

OPERATIONAL REQUIREMENT			
1.0	<p>The Philippine Marine Corps units in its performance of littoral and at times, Internal Security Operations (ISO) throughout the country will make use of the 81mm Mortar System. It was employed on areas with varying terrains and environmental conditions where the temperature is relatively the same throughout the country except for high altitude which was usually cooler climate than in the lowlands. Due to climate change, rainfall is now abundant in most part of the country throughout the year with certain months experiencing relative humidity. It is principally used against traditional threats to our national security such as local secessionist groups, terrorist and other lawless elements which are equally armed with high caliber weapons, rocket propelled grenades (RPG), sniper rifles and similar crew-served weapons which makes the mortar unit of the rifle company susceptible and vulnerable to heavy volumes of fires, both direct and indirect. The present technological advancement which is now also made available to the enemies of the government likewise poses a serious threat to mortar positions.</p>		
2.0	GENERAL		
2.1	<table border="1" style="width: 100%;"> <tr> <td style="width: 20%; text-align: center; vertical-align: top;">General Description</td> <td> <p>Lessons learned from previous encounters prompted the Corps to pursue the need to employ a mortar system in order to have the capability to easily provide the necessary combat power for the Marine Rifle Company in support of its units waiting for, or in absence of the Battalion combat support. Another reason is that apart from being vintage, the current 81mm mortar system in the PMC inventory have been used overtime which makes its quality no longer the same as it was before. Technological advancement is also a prime factor that was considered for this procurement. The advent of the Ballistic Computer will enable our mortar crews to react faster than the manual computation which gives the end user a quick and responsive indirect fire support</p> </td> </tr> </table>	General Description	<p>Lessons learned from previous encounters prompted the Corps to pursue the need to employ a mortar system in order to have the capability to easily provide the necessary combat power for the Marine Rifle Company in support of its units waiting for, or in absence of the Battalion combat support. Another reason is that apart from being vintage, the current 81mm mortar system in the PMC inventory have been used overtime which makes its quality no longer the same as it was before. Technological advancement is also a prime factor that was considered for this procurement. The advent of the Ballistic Computer will enable our mortar crews to react faster than the manual computation which gives the end user a quick and responsive indirect fire support</p>
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		system.	
3.0	TECHNICAL SPECIFICATIONS		
	ITEM	SPECIFICATIONS / CHARACTERISTICS	STATEMENT OF COMPLIANCE
3.1	81mm Mortar unit	Caliber: 81mm	
		Weight: Must not exceed a total weight of 52.6 kgs	
		Range: It can fire at least 4,512 meters Rate of Fire: It can fire at least 12 rounds/minutes (sustained)	
		Integrated Peripherals: Must include the required integrated peripherals	
		Crew: It can be operated by minimum of 4 persons	
		Durability/Reliability: It can withstand adverse conditions and can fire 10,000 rounds at the minimum tube life with 2 years ILS	
		Inter-Operability: Must be able to fire all types of 81mm NATO standard ammunitions	
		Ease of Operation: Must be easy to set-up and operate	
		Condition: Brand new	
		Ammo: Can fire all types of NATO rounds ammunition	
4.0	INTEGRATED PERIPHERALS		
	ITEM	SPECIFICATIONS / CHARACTERISTICS	STATEMENT OF COMPLIANCE
4.1	Ballistic Computer	CPU: - Intel i7-7Y75 - 4M Cache, up to 3.60GHz RAM: - 16 GB, LPDDR3 1866MHz Graphic: - Intel HD Graphics 615 Storage: - M.2 2280 M key SATAIII SSD Display: - 7" WXGA LCD, 1280 x 800, B/L 640~800 - Nits, resistive multi-touch Audio: - HD Audio and mono speakers - Embedded digital mic Interfaces (front):	

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		<ul style="list-style-type: none"> - Power button - Function keys with LED backlight <p>Interfaces (right):</p> <ul style="list-style-type: none"> - 1 x DC-in Fischer 3-pin connector - 1 x USB3.1 Type C <p>Interfaces (bottom):</p> <ul style="list-style-type: none"> - Docklite Connector: 35 pin POGO (1 x USB3.1, 1 x DP) - 2 x Ext ANT Signals <p>Interfaces (internal):</p> <ul style="list-style-type: none"> - 1 x Mini PCIe - 1 x M.2 2230 E key (for WiFi/BT) - 6 x USB2.0 - 1 x USB3.1 - 1 x SATA - 1 x COM1 (RS232) - 1 x COM2 (RS422) - 1 x Audio <p>Battery:</p> <ul style="list-style-type: none"> - Replaceable embedded battery 7.4V/4400 mAh Li-Ion battery <p>Power Input:</p> <ul style="list-style-type: none"> - DC 12-32V with Built-in Vehicle adapter & Surge Protector B type <p>Case:</p> <ul style="list-style-type: none"> - CNC milled Aluminum <p>Dimensions (W x D x H):</p> <ul style="list-style-type: none"> - 250 x 144 x 30.5 mm (9.84 x 5.67 x 1.20 in) with bumpers - 242.5 x 142 x 26 mm (9.55 x 5.59 x 1.02 in) without bumpers <p>Weight:</p> <ul style="list-style-type: none"> - 1.15 kg (2.53 lb) with battery <p>Certifications:</p> <ul style="list-style-type: none"> - CE, FCC, WEEE, REACH, RoHS 2.0, IP67, MIL-STD-810G and MIL-STD-461G <p>Operating System:</p> <ul style="list-style-type: none"> - Windows 10 <p>Communications:</p> <ul style="list-style-type: none"> - GNSS – Ublox M8N (GPS/GLONASS) 	
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		<ul style="list-style-type: none"> - WLAN (a/b/g/n/ac) / Bluetooth - WWAN 4G <p>Display:</p> <ul style="list-style-type: none"> - Night Vision - Invisible mode <p>Security:</p> <ul style="list-style-type: none"> - TPM2.0 <p>Extended Temperature:</p> <ul style="list-style-type: none"> - -30°C to 60°C (-22°F to 140°F) <p>Operational</p> <p>Miscellaneous:</p> <ul style="list-style-type: none"> - 0.3M Pixels front camera - External charger 	
4.2	Forward Observer System	<p>Digital Goniometer & Computer:</p> <ul style="list-style-type: none"> - Main computer with unique interfacing, integrating and user interaction software. - Two handle grips - Laser firing trigger - Full numeric keyboard and function keys - Built-in compass - Internet GPS receiver - Mechanical interface - Three input/output connectors: - External power connector - External computer connector - LRF connector <p>Tripod:</p> <ul style="list-style-type: none"> - High quality military tripod serves as stable, adjustable basis for precise target acquisition and north retention <p>Laser Range Finder:</p> <ul style="list-style-type: none"> - Handheld - Electro-Optical - Measure Distance - Laser Class 1, 1550nm - Magnification is X7 - Range capability is 10000 to 25000 meters - Accuracy of ±5m <p>Thermal Imager:</p>	

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		<ul style="list-style-type: none">- Handheld- Field of view: Narrow 2.7° x 2.2° / Wide 8.2° x 6.6°- Dual FOV thermal imaging camera- 3 to 5 um spectrum band- Unique image processing circuitry and software algorithms- Electric zoom is x1 to x4, continuous- Display is Miniature, high resolution OLED- Viewer is Binocular, fully adjustable- Communication port is serial rs422- Power source options are rechargeable, disposable external AC and DC- Weight: 2.9 kg (including battery)- Operating Temperature: -30°C to +55°C <p>System:</p> <ul style="list-style-type: none">- System set-up is <7 minutes- System weight must not be >25 kgs <p>Accessories:</p> <ul style="list-style-type: none">- Rechargeable battery- battery charger- cable- backpack	
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4.3	Basic Accessories and Spare Kits	<p><i>Composed of the following:</i></p> <ul style="list-style-type: none"> - Carrying Box (for tools and accessories) - Cover (for Sight Socket) - Heat Protector (lower) - Heat Protector (upper) - Cleaning Rod - Barrel Brush - Wrench for Firing Pin - Tommy Bar - Hammer - Screw Driver - Brush - Grease Tin - Oil Tin - Oiler - Grease Gun - Aiming Post - Wrench (for separating the split barrel) - Backpack Carrier (for Barrel) - Backpack Carrier (for Bipod) - Backpack Carrier (for Base Plate) 	
5.0 INTEGRATED LOGISTIC SUPPORT (ILS)			
5.1	Trainer's Training for Operations and Maintenance 81mm and Mortar System	<ul style="list-style-type: none"> - 20 students; - 5 days for each Mortar System; - With POL, training ammunitions and other incidental expenses 	
5.1.1	Documents and Manuals for the 81mm Mortar (in English Format and with electronic copy)	<p>Operator's Guide</p> <ul style="list-style-type: none"> - must provide the data and description of the mortar, the type of ammunition to be used, the probable malfunctions and the immediate action drills to be done in case of malfunction <p>Parts Catalogue with National Stock Number</p> <ul style="list-style-type: none"> - must provide the listing of all parts as well as the spare part with a National Stock Number of 	

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		<p>the said spare parts</p> <p>Maintenance and Servicing Guide Manual</p> <ul style="list-style-type: none"> - must provide the maintenance and servicing of the 81mm Mortar. It must provide procedures in repair of assemblies and parts <p>Technical Manual</p> <ul style="list-style-type: none"> - must include among others the Basic Issue Items List, Repair Parts and Special Tools List 	
5.1.2	<p>Documents and Manuals for the Ballistic Computers (in English Format and with electronic copy)</p>	<p>Operator's Guide</p> <ul style="list-style-type: none"> - must provide the data and description of the Ballistic Computers and the probable malfunctions and the immediate action drills to be done in case of malfunction <p>Parts Catalogue with National Stock Number</p> <ul style="list-style-type: none"> - must provide the listing of all parts as well as the spare part with a National Stock Number of the said spare parts <p>Maintenance and Servicing Guide Manual</p> <ul style="list-style-type: none"> - must provide the maintenance and servicing of the Ballistic Computer - it must provide procedures in repair of assemblies and parts <p>Technical Manual</p> <ul style="list-style-type: none"> - must include among others the Basic Issue Items List, Repair Parts and Special Tools List 	
5.1.3	<p>Documents and Manuals for the Forward Observer System (in English</p>	<p>Operator's Guide</p> <ul style="list-style-type: none"> - must provide the data and description of the Forward Observer System and the probable malfunctions and the immediate action drills to be done in case of malfunction 	

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	Format and with electronic copy)	<p>Parts Catalogue with National Stock Number</p> <ul style="list-style-type: none"> - must provide the listing of all parts as well as the spare part with a National Stock Number of the said spare parts <p>Maintenance and Servicing Guide Manual</p> <ul style="list-style-type: none"> - must provide the maintenance and servicing of the Forward Observer System - it must provide procedures in repair of assemblies and parts <p>Technical Manual</p> <ul style="list-style-type: none"> - must include among others the Basic Issue Items List, Repair Parts and Special Tools List 	
5.2	Support and Warranty		
5.2.1	Warranty on the goods to be delivered	<ul style="list-style-type: none"> - 2 years effective upon issuance of the Certificate of Final Acceptance 	
5.2.2	Guarantee on the availability of spare parts	<ul style="list-style-type: none"> - minimum of 20 years reckoned from the date of final acceptance 	
5.2.3	Insurance on the goods to be supplied	<ul style="list-style-type: none"> - shall be fully insured by the Supplier in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transport, storage and delivery - shall remain at the risk and title of the Supplier until final acceptance by a TIAC 	
6.0	Standard		
6.1	At least ISO 9001 of 2015 Certified		
6.2	AQAP Certified		

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7.0	Compatibility	
7.1	The bidder is capable to manufacture, supply and deliver 60mm, 81mm and 120mm Mortar Systems, its Ballistics Computers, Sight Assemblies, Forward Observer Systems and its Training Rounds.	

- - END OF TECHNICAL SPECIFICATIONS - -