

GOVERNMENT OF PAKISTAN PLANNING COMMISSION
(INFRASTRUCTURE SECTORS)

PC-1 FORM

NAME OF PROJECT.

1. Procurement of 06 x Maritime Patrol Vessels (MPVs) for Pakistan Maritime Security Agency.

LOCATION.

2. Construction of ships will be under taken at Karachi Shipyards & Engineering Works (KS&EW) or builder's shipyard as commercially viable.

AUTHORITIES RESPONSIBLE FOR.

3. a. **Sponsoring**: Ministry of Defence Government of Pakistan
b. **Execution**: Pakistan Maritime Security Agency
c. **Operation and Maintenance**: Pakistan Maritime Security Agency under Ministry of Defence Government of Pakistan
d. **Concerned Federal Ministry**: Ministry of Defence Government of Pakistan.

PLAN PROVISION.

4. Plan will be executed in 03 phases as under:

<u>Phases</u>	<u>Proposed Work During Phase</u>	<u>Projected Time Frame</u>
Phase – I	Construction of first 02 Maritime Patrol Vessels	2014 – 2016
Phase – II	Construction of 02 Maritime Patrol Vessels	2017– 2018
Phase - III	Construction of 02 Maritime Patrol Vessels	2019 - 2020

PROJECT OBJECTIVES AND ITS RELATIONSHIP WITH SECTOR OBJECTIVES.

5. Project objectives include induction of new ships to undertake assigned roles and tasks to PMSA in light of PMSA Act 1994. The prime objectives include:

National Objectives.

- a. Prevention of unauthorized exploitation of economic resources of Pakistan.
b. Protection of Pakistani fishing vessels and crew.
c. Enforcement of national and international laws, agreements and conventions.
d. Conduct of counter-narcotics and anti-human trafficking/ smuggling operations.
e. Assistance to other departments and agencies in safeguarding and protecting offshore installations/structures in the EEZ.

- f. Provision of effective secondary maritime force for deployment in any emergency, war or conflict.
- g. Provide assistance for hydrographic and oceanographic research.
- h. Provide assistance for oil, gas and other mineral exploration.

International Objectives.

- a. Coordinate conduct (SAR) Search and Rescue in area allocated by IMO in accordance with SOLAS.
- b. Coordinate disaster management related activities on behalf of Govt of Pakistan.

DESCRIPTION, JUSTIFICATION, TECHNICAL PARAMETERS AND TECHNOLOGY TRANSFERASPECTS.

6. a. **Description.** Pakistan's coastline stretching from Sir Creek in the East to the mouth of Gwatar Bay in the West is approximately 990 KM long. At present PMSA's AoR extending upto 200 NM south of the coastline, is 240,000 sq km, which is likely to be increased to 295,000 sq km upon acceptance of extended Continental Shelf claim at the UN. This area is blessed with enormous natural resources. Moreover, this area is a major transit corridor for transportation of oil to rest of the world. Therefore, its importance is bound to increase further with the passage of time. Despite of its importance, Pakistan EEZ due to unregulated Makran Coast is vulnerable to many illegal activities which include Norco trafficking, smuggling of oil, liquor & contrabands and human smuggling. In addition to that poaching, mainly by Indian fishermen, in our resource rich Indus Delta region is a great economic and ecological threat to Pakistan. Based on empirical data, it is estimated that Indian fishermen catch approximately **Rs.8 Billion** worth of fish from our waters per annum, besides causing huge ecological damage to various rare fish species. Furthermore, piracy which originated from territorial waters of Somalia has expanded around the North Arabian Sea during recent years and Pirate Action Groups operating from mother vessels have attacked ships close to Pakistan's EEZ.
- b. It is imperative to mention here that Pakistan ratified Safety of Life At Sea (SOLAS) convention of 1974 and the IMO allocated Pakistan a vast area extending to 840 NM from the coast for coordination and conduct of SAR. In order to fulfill this international obligation in an efficient manner, Pakistan Maritime Security Agency has been delegated the responsibility of maintaining Maritime Rescue Coordination Centre (MRCC) by the government to readily respond to emergencies and coordinate SAR operations with in this area.
- c. PMSA being sole maritime LEA in country is alive to above mentioned maritime challenges however; major capacity building of PMSA is essential in order to undertake assigned roles and tasks in areas of responsibility in a befitting manner.
- d. **Justification.** At present, surface fleet of PMSA is comprised of 04 x Corvettes of Chinese origin. These corvettes were procured in 1989-1990 and have been assigned to patrol, navigate and protect around 240,000 Sq km of our EEZ, which

corresponds to 60,000Sq km area per corvette, translating to 6000 hours of nonstop patrolling. Being of old vintage, less tonnage and draught, these vessels are not capable to operate beyond Sea State 3. The rough sea conditions results in heavy wear and tear of material. In view, it is pertinent to mention that existing corvettes have outlived their life and recurring defects have been hampering PMSA to pursue its assigned roles and tasks.

e. **Technical Parameters.** Technical parameters of MPVs are appended below:

- (1) Full load displacement (Metric tons) - 500 –600 tons
- (2) Navigational Draught - ≤ 3 meters (less is desirable)
- (3) Endurance -21 days at sea without replenishment
- (4) Range -4500 NM at Cruising Speed
- (5) Area of Operation - Arabian Sea/Indian Ocean
- (6) Speed.
 - (a) Maximum Speed - 30 Knots
 - (b) Cruising Speed - 12-16 Knots
- (7) Weapons.
 - (a) 1 x 37 mm/30 mm main gun (semi-automatic).
 - (b) 2 x 12.7mm guns (Manual) (fitted for).
- (8) Sensors.
 - (a) 01 x Navigational Radar (Kelvin Huges Sharp Eye).
 - (b) Automatic Identification System (AIS).
 - (c) IR Search, Tracking and Recording System.
- (9) Navigation. The ship will have the following navigation equipment:
 - (a) 02 x Gyros (Preferably Ring Laser)
 - (b) 01 x Magnetic Compass
 - (c) EM Log associated with distance meters
 - (d) Electro hydraulic steering system with Aft steering position

- (e) 3 x GPS
 - (f) Navigation lights
 - (g) Pelorus and 04 gyro repeaters
 - (h) Echo sounder
- (10) Communication Facilities.
- (a) External Communication Equipment
 - I. 01 x SATCOM
 - II. 1 x HF (1KW)
 - III. 2 x HF (150W)
 - IV. 3 x UHF
 - V. 3 x VHF Base sets (Bridge/MRO)
 - VI. 02 x HF receivers
 - VII. 01 X HFTx/Rx (Portable)
 - VIII. 10 in number V/UHF handheld Radios
 - (b) Internal Communication Equipment
 - I. INTERCOM
- (11) Propulsion Machinery
- (a) 04 x main engines (diesel), preferably by MTU
 - (b) 04 x propellers and 04 x rudders
- (12) Auxiliary Machinery
- (a) 03 x SSDGs (02 x sea operations and 01 x harbour)
 - (b) Air compressor
 - (c) Air conditioning and ventilation system
 - (d) Steering Control System.
 - (e) Reverse Osmosis (RO) Plant
 - (f) Sea Water System
 - (g) Fresh Water System
 - (h) Fuel purification and polishing system

(13) Damage Control And Fire Fighting Arrangements

- (a) Fire detection and alarm monitoring system
- (b) Adequate no of fire main pumps
- (c) Automatic Fire Fighting arrangements (sprinkling system)
- (d) Adequate no of fire hydrants
- (e) 2 x standard shore connections for fire main
- (f) 2 x Charging Panels for Breathing Apparatus (BA)
- (j) Bilge / flood alarm system
- (k) De-flooding arrangements

PROGRAMME MANAGEMENT REVIEW MEETING AND TECHNICAL ACCEPTANCE COMMITTEE.

7. The composition and functions of Programme Management Review Meetings and Technical Acceptance Committee are at Annex A.

CAPITAL COST ESTIMATES.

8. Total cost of the project will be approximately US\$135 Million{135x105 = Rs.14,175 Million (Rupees Fourteen Thousand One Hundred Seventy Five Million Only)}. However, the complete project will be under taken in three phases, each comprising of approx. US\$ 45 Million {45x105 = Rs.4,725 Million (Rupees Four Thousand Seven Hundred Twenty Five Million Only)}. Details of stage wise payments alongwith time line of first phase is appended below. Payment of Phase – II and III will be undertaken on the same lines.

S No	Milestone	Cash Payment (Percentage)	Total Payment (in Million)
a.	Contract Effective Date	15%	6.75
b.	Steel Cutting	15%	6.75
c.	Keel laying + Hull Construction	20%	9.0
d.	Installation of main machinery, weapons, sensors, firefighting & other associated equipment	10%	4.5
e.	Launching	20%	9.0
f.	Harbour & Sea Trials	10%	4.5
g.	Delivery	10%	4.5
Total		100%	45 M

ANNUAL OPERATING AND MAINTENANCE COST AFTER COMPLETION OF THE PROJECT.

9. Annual operating cost of 06 ships will be approximately 207 Million Rupees.

DEMAND AND SUPPLY ANALYSIS.

10. Old existing PMSA Corvettes have outlived their lives. New ships will assist PMSA in fulfilling the assigned roles and tasks.

FINANCIAL PLAN AND MODE OF FINANCING.

11. Financing of project will be through Government of Pakistan Public Service Development Projects, Budget. However, while exploring alternate options for financing the project, one of the ship builder firm agreed to finance the project on following terms and conditions:

a. **OPTION-1 (Financing through loan):** A Preferential seller's credit covering 80% of the total price will be arranged by the firm on the following terms and conditions:

(1) 15% of the total price shall be arranged by Govt of Pakistan/ PMSA and paid by T/T to firm as advance payment against submission of an advance payment guarantee of the same amount within one month upon signing the contract. Upon receipt of the 15% advance payment by firm, the contract comes into effect.

(2) 5% of the unit price of respective ship shall be arranged by Govt of Pakistan/ PMSA and paid by irrevocable L/C to firm upon delivery of respective ship in firm's shipyard.

(3) Repayment of the credit for respective ship shall be made in semi-annual repayment by means of promissory note in (05) years after delivery of respective ship, that is, in ten (10) semi-annual installments starting from 6 months after the delivery date of respective ship.

(4) At present, the current Annual interest rate of this credit is three point three nine percent (3.39%) which will be finalized before Contract signing as per the rates indicated by the Bank. A management fee of 0.8% of the total credit amount may be charged upon the contract effective date by the bank also.

(5) In case the Ministry of Finance, Government of Pakistan, issues to contracting firm six sovereign guarantees for the six ships before the Contract Effective Date, the Credit Insurance Premium may not be required. Otherwise, the basis for the calculation of Export Credit Insurance Premium is the total amount of all the principals and interests to be paid after delivery of respective ship. The rate of the Export Credit Insurance Premium for this credit will be finalized before Contract signing as per the rates indicated by Bank.

(6) In case the Credit Insurance Premium is required, prior to Contract Effectiveness Date, PMSA shall pay this premium by means of T/T to firm.

(7) Interest amount accrued during the period from the first draw down to the delivery of respective ship shall be paid twice a year (every six month) and shall be fully paid before the date of delivery of respective ship.

(8) Totally sixty (60) promissory notes shall be issued by the PMSA and guaranteed by the State Bank of Pakistan (SBP) alongwith six sovereign

guarantees for the six ships issued by Ministry of Finance, Government of Pakistan (the Guarantor) to firm all before Contract Effective Date, i.e. ten (10) promissory notes and one (1) sovereign guarantee for each ship.

b. **Validity:** The Financing Proposal will be valid until 31 March 2014.

c. **Remarks:** The above Financing Proposal is subject to finalization by the bank before contract signing and the mutual agreement on the terms & conditions of the contract. If required, as an optional package, firm is also willing to provide Kit of Material (KOM) and Transfer of Technology (TOT) to KS&EW to construct some of the six ships in Karachi. Details of this mode of cooperation and number of ships to be constructed in KS&EW in a later stage. A Preferential seller's credit covering 80% of the total price for the ships to be constructed in KS&EW can also be arranged by the firm, the terms of financing arrangement is the same as mentioned above.

d. **OPTION-2 – (Lumsum Payment):** Six (06) Maritime Patrol Vessels shall be built and delivered to Govt of Pakistan/ PMSA in Contracting Firms shipyard as per the Agreement in accordance with the Technical specifications of 600T Maritime Patrol Vessel for Pakistan Maritime Security Agency.

e. **PRICE:** The unit price for one Maritime Patrol Vessel to be constructed in China is USD 18,000,000.00, say United States Dollars Eighteen Million Only. The total price for six (6) Maritime Patrol Vessels to be constructed in Builder's shipyard is USD 108,000,000.00, say United States Dollars one Hundred & Eight Million Only. The said prices for ships to be constructed in firm's shipyard do not include the cost of:

(1) ILS package. If required, ILS Specification and price can be submitted later.

(2) Voyage and relevant fee of the ships from contract effecting country to Pakistan.

f. The unit price for each shipset of 600T Maritime Patrol Vessel is USD 18,000,000.00 in Builder's shipyard. The sea freight and insurance pertaining to KOM is estimated about USD 450,000.00 each shipset. The unit price for each shipset with KOM for 600T Maritime Patrol Vessel is USD 22,500,000.00 at KS & EW, say United States Dollars Twenty Two point Five Million Only at KS & EW. This optional price does not include the cost of ILS (Integrated Logistics Support) package.

g. The financial comparison between of both the options is as under:

S.No	Construction venue	Cost of per ship in US Dollars (Millions)	Cost of per ship in Pak Rupees (Millions)
1.	Builder's Shipyard	US \$ 18 M	18 X 105 = 1890 M
2.	KS & EW	US \$ 22.5 M	22.5 X 105 = 2362.5 M

g. **Payment Schedule:** Payment schedule for six (06) Maritime Patrol Vessels for Govt of Pakistan/ PMSA is as follows:

(1) 15% of the total price to be paid by T/T as advance payment against submission of an advance payment guarantee of the same amount within one month upon signing the contract. Upon receipt of the 15% advance payment by firm, the contract comes into effect, and the date is called hereinafter as the Contract Effective Date (CED).

(2) The remaining 85% of the total price to be drawn from an irrevocable L/C, where:

(a) 25% of the unit price of the ship to be paid upon steel cutting of respective ship.

(b) 20% of the unit price of the unit price of the ship to be paid upon keel laying of respective ship.

(c) 20% of the unit price of the ship to be paid upon launching of respective ship.

(d) 10% of the unit price of the ship to be paid upon start of HAT (Harbour Acceptance Test) of respective ship.

(e) 10% of the unit price of the ship to be paid upon delivery of respective ship.

12. **TAXES AND DUTIES:** All the taxes and duties incurred in contract effecting country in connection with the execution of the contract shall be borne by the Firm, and all the taxes and duties incurred outside the contract effecting country in connection with the execution of the contract shall be borne by PMSA/Govt. of Pakistan.

13. **REMARKS:** The above budgetary price is subject to the mutual agreement on the terms and conditions of the specifications and contract. If required, as an optional package, contract executing firm is also willing to provide KOM and transfer of technology to KS&EW to construct some of the six ships in Karachi. Details of this mode of cooperation and number of ships to be constructed in KS&EW will be submitted upon detailed discussion with KS&EW in a later stage.

PROJECT BENEFITS AND ANALYSIS

14. a. **Financial:** Induction of new ships will have enormous financial benefits. Taking into account major factor of poaching, these ships will increase capacity building of PMSA in eradication of poaching activities by Indian fishermen resultantly saving almost Rs.8 Billion, which is being robbed by Indian fishermen every year in our fishery rich Indus Delta Region. Moreover, new ships will have following inherited advantages over existing PMSA Corvettes:

(1) Due to old vintage, existing PMSA Corvettes have high POL consumption which leads to detrimental burden on limited PMSA budget. However, the same can be addressed with the induction of new ships.

(2) High POL consumption and speed limitation have led to limited endurance. This is hindering PMSA to undertake patrolling/ surveillance of vast area of responsibility i.e 240,000 Sq km of Pakistan EEZ.

(3) Due old machinery, maximum speed of existing PMSA Corvettes have been limited to 10 knots which is hampering PMSA to undertake assigned roles and tasks in befitting manner. New ships will not have such speed limitation and will increase PMSA capabilities to undertake high speed operations on high seas:

(4) Due to less tonnage, existing PMSA Corvettes has very limited sea keeping capabilities and cannot operate beyond Sea State 3. However, new ships will be able to operate till sea state 5. This will enhance capacity building of PMSA by manifolds and PMSA will be able to operate at sea throughout the year.

(5) As PN has already gained the expertise in maintenance and spare supportability due to newly inducted FAC(M) in fleet, the same will be utilized by PMSA in order to maintain new ships.

(6) As per the procedure in vogue, personnel being deployed onboard PMSA Ships are on deputation from PN therefore no additional foreign training will be required to operate new ships at sea.

b. **Economic:** About 95% of total trade of Pakistan is being carried out by sea. Therefore, safety of Sea Line of Communications (SLOCs) is the foremost pillar of Pakistan's economy. Provision of new ships will further enhance PMSA existing capabilities to safe guard maritime zones of Pakistan as well as to ensure safety of SLOCs.

c. **Employment Generation:** This project will provide direct employment to 800 employees of KS&EW as well as indirect employment to thousands of workers working in downstream industries.

d. **Environmental Impact:** At present, PMSA is manning Disaster Response Centre (DRC) to handle all marine disasters including incidents of marine pollution, monitors and coordinates follow up activities within the maritime zones of Pakistan on behalf of Ministry of Climate Change. Moreover, as per the National Marine Disaster Contingency Plan of Pakistan, which is the principal directive to handle marine disasters at sea, PMSA is the lead agency for responding to marine disasters in the maritime zones of Pakistan. Induction of new ships will help PMSA to preserve marine culture and environment of Pakistan EEZ.

e. **Comparison of PMSA and Indian Coast Guard:** After Mumbai attacks, Indian Coast Guard has been given special budget. The Indian Coast Guard is eyeing a major expansion with the acquisition of 15 ships and 23 aircraft to give it 'deep water' capability. ICG started with 02 frigates and 05 patrol boats leased from the IN, currently operates 76 ships and 45 aircraft. Moreover, 24 ships, including five Fast Patrol Vessels, two Advance Offshore Patrol Vessels and 11 Interceptor Boats, are under construction in yards across India. PMSA being sole maritime Law Enforcement

Agency in country is akin to Indian Coast Guard, therefore, needs major capacity building measures. Moreover, India is trying to establish its hegemony in the region, the undesirable effects does not need any emphasis. In order to maintain the balance of power, the capacity building of PMSA is considered paramount to maintain the influence of Pakistan in the region.

f. **Maritime Challenges:** Taking cognizance of present-day and future maritime environment the primary contours of maritime challenges at sea specific to Pakistan could be:

- (1) Maritime Terrorism
- (2) Narco Traffic
- (3) Gun running
- (4) Piracy in the Gulf of Aden and Somali Basin with potential to extend to our AOR
- (5) Poaching by the Indian fishermen in the Indus Delta Region.
- (6) Smuggling / trafficking of human and other commodities.
- (7) Marine Pollution and Oil-related Environmental Disasters

g. In order to keep the Maritime Zones of Pakistan safe from above challenges and to keep the Pakistan's EEZ free from illicit activities, the capacity building of PMSA is the need of the time.

h. **Impact of Delays on Project Cost and Viability:** Due to limited sea worthy capabilities of existing PMSA Corvettes, PMSA is unable to operate at sea in entire monsoon season. Keeping in view current security situation in Pakistan, exploitation of said deficiency in monsoon season by terrorists cannot be ruled out. Therefore any delay in induction of new ships which will be able to operate at sea in monsoon season may have devastating effects on Pakistan.

IMPLEMENTATION SCHEDULE.

15. Project will be initiated just after release of funds.

RESULT BASED MONITORING (RBM) INDICATORS.

16. It is pertinent to mention that PMSA deposit a large amount in government treasury every year. Details of funds which have been deposited by PMSA in Government Treasury are as appended:

a. To highlight PMSA's efforts in eradication of drugs trafficking, it is significant to mention that since 1990, PMSA seized almost 85 tons of narcotics worth Rs 15 Billion in open market.

b. It may be noted that till to date, PMSA apprehended numerous boats involved in smuggling and human trafficking activities. PMSA apprehended smuggling goods including oil, liquor and contrabands worth Billions of Rupees during last decade.

c. PMSA Ships during last year have apprehended 109 Indian fishing boats alongwith 354 Indian fishermen being involved in poaching. PMSA in 2012 alone has deposited Rs 90.5Million in Govt treasury after auction of apprehended fishing boats and seized fish/ nets.

17. Furthermore, collective worth of amount being deposited in Govt Treasury and items being apprehended/confiscated in one year is much more than projected per annum operational and maintenance cost of new ships. The same will increase exponentially after induction of new ships in PMSA fleet.

MANAGEMENT STRUCTURE AND MANPOWER REQUIREMENT INCLUDING SPECIALIZED SKILLS DURING CONSTRUCTION AND OPERATIONAL PHASE.

18. Since Pakistan Navy has recently inducted Fast Attack Craft (Missile), which were built in KS&EW and the requirement of Pakistan Maritime Security Agency is similar, therefore, all required facilities and infrastructure is already available with KS&EW and no additional management structure and manpower will be required for this project. Moreover, upon induction of new ships in the inventory of PMSA, the existing corvettes will be phased out and the crew of phased out corvettes would be utilized to operate the new ships therefore no additional manpower will be required to operate new ships at sea.

ADDITIONAL PROJECTS/DECISIONS REQUIRED TO MAXIMIZE SOCIO-ECONOMIC BENEFITS FROM THE PROPOSED PROJECT

19. Project will be placed before CDWP/ ECNEC and will be executed after approval.

20. Certified that the project proposal has been prepared on the basis of instructions provided by the planning Commission for the preparation of PC-1 for infrastructure sector projects.

Prepared by:

RAJA RIZWAN JAVED
Commander Pakistan Navy
Director (Operations)
Pakistan Maritime Security Agency

Checked by:

ATHER MUKHTAR SI(M)
Rear Admiral
Director General
Pakistan Maritime Security Agency

Approved by:

Ministry of Defence