

**SUPPLY OF DOCUMENTATIONS**

**ONBOARD DOCUMENTATIONS**

1. One set of hard and soft copy of following documentation shall be provided to each MPV prior delivery:

a. Technical Manuals Technical manuals of all major fitted equipment, machinery and systems containing following information:

- (1) General information and Safety Precautions.
- (2) Operational Manual/Procedure.
- (3) Functional Maintenance. Manual/Catalogue
- (4) Schedule Maintenance. Manual
- (5) Troubleshooting Guide.
- (6) Corrective Maintenance Manual.
- (7) Removal and Installation Procedures.
- (8) Illustrated Spare Part List.

b. Two sets of **As Built Drawings** (1 each for Ship and HQ PMSA Tech Department) are essentially required at the time of commissioning of the ship.

c. Consolidated list of fuel, lubricating oils, greases, chemicals, cooling fluids and corrosion preventive fluids used onboard indicating its quality total quantity, onboard stock quantity, brand Name, substitutes, specifications, OEMs and applicable test standards.

d. Docking Plan.

e. Inclining report.

f. Ship Information Book.

g. Damage Control and Fire Fighting Manual containing DC/FF organization and operational characteristics of DC/FF equipment and system.

h. Hydrostatic Data Booklet containing both intact and damage stability characteristics under light, normal and full load.

j. **Catalogues**

(1) Illustrated Spare Part Catalogues of all major fitted equipment, machinery and systems, if not included in its Technical Manuals.

(2) Consolidated Spare Parts Catalogue containing equipment name, part No, OEMs name, total quantity fitted and onboard recommended quantity for all the major equipment, systems, machinery, valves, piping, hull pates, cabling, paints, lubricating oils, outfitting, domestic appliances, ropes, deck fittings etc.

(3) Catalogue for Technical Manuals of equipment and systems fitted on ships containing identification Number and Description of equipment and system manuals as per following format:

- (a)Section-1 Ship's Hull.
- (b)Section-2 Marine Engineering.
- (c)Section-3 Weapon/Sensors & Internal Commn.

(4) Catalogue of Portable Specialized Support Equipment (PSSE), Special to Type Test Equipment (STTE), Common User Hand Tools (CUHT), Common Use Mechanical Testing Equipment (CUMTE), and Common Range Electrical Testing Equipment (CRETE) required for operation and maintenance of ship fitted equipment systems containing description, part No, quantity required calibration periodicity and manufacture name as per following format:

- (a)Section-1 Ship's Hull.
- (b)Section-2 Marine Engineering.
- (c)Section-3 Weapon/Sensors & Internal Commn.

k. **Reports**

- (1) FAT Reports.
- (2) Stage Inspection Reports.

- (3) HATs Reports.
- (4) SATs Reports.

## **CONTENTS REQUIREMENTS OF ONBOARD TECHNICAL MANUALS**

2. The details of technical contents to be included in the technical manuals are contained in following paragraphs.

### **Chapter 1, General Information and Safety Precautions**

All safety precautions necessary for the protection of personnel and the ship shall be included or cross-reference as the initial paragraph (s) ahead of the introduction. These precautions shall be prepared in accordance with MIL-M-15071h 3.3.3.1. Otherwise, the content of this chapter shall be such that command level, supervisory personnel, and other users having a general interest in the equipment can easily and rapidly determine the purpose, physical and functional characteristics, and the operational capabilities of equipment.

### **Chapter 2, Operating Instructions**

Operating instructions shall included all the procedures necessary to enable operating personnel to efficiently and effectively use the equipment in accomplishing its designation task. These operating instructions shall be in sufficient detail to allow operators, not trained on this equipment of independently and safety separating the equipment without additional training or explanation. In this chapter, Operators maintenance instructions and schedules shall also be included. These instructions shall define maintenance tasks and schedule to be performed by the operator. The maintenance tanker shall be limited in scope such that they will not be in conflict with his operational will not be beyond his technical training will not be dangerous will not be the responsibility of the maintenance technicians and will not potentially compromise the operation of the equipment. Normally these tasks will be restricted to minor adjustments. Cleaning filter replacement, servicing and lubrication.

### **Chapter 3, Functional Description**

For hull, mechanical and electrical equipment manuals Chapter 3 shall include a description of how the equipment operates. The description shall

be simplified technical language and shall be supported by simple line illustrations, preferably on the same page. A building block technical shall be used to functionally describe the operation of the equipment.

For Electronic and interior communications equipment manual Chapter 3 shall include a detailed analysis of the principles of operations of the overall equipment and its factions. The development of the equipment output in very mode of operation shall be described. The structures and organization of this chapter shall parallel the organization of chapter 5, troubleshooting. The descriptions shall be presented in successive levels of increasing detail.

#### **Chapter 4, Scheduled Maintenance**

The manual as delivered shall reflect the detailed maintenance requirements of the completed Maintenance Requirements Cards. This chapter shall contain preventive maintenance procedures and performance test instructions to be accomplished on a scheduled or condition monitoring basis. When a maintenance requirement card or reference standards book is available or prepared under the same contract this information may be correlated with the installation checkout requirements such that any maintenance of performance test procedure also regulated for checkout may be properly referenced from installation.

The following shall be included:

- a. Overhaul level maintenance routines.
- b. Overhaul procedure.
- c. Spare parts list having part numbers for overhaul level maintenance.
- d. Details of tolerances and wear limits according to manufacturer standard.
- e. List of all tools and test equipment required for overhaul level maintenance and repairs.

#### **Chapter 5, Troubleshooting Guide**

Troubleshooting procedures and data shall contain all information necessary for a technician malfunction in the equipment. Troubleshooting shall be presented based on locationg potential faults in a unit, assembly subassembly module, or a part depending upon the maintenance concept

for the level of maintenance being performed. When the troubleshooting concept limits the location of a fault to a repairable item (such as the unit, assembly, subassembly or module) for organizational level maintenance, troubleshooting procedures and data shall also be presented that will permit a repair of the item at the intermediate or depot-level maintenance facility, except when this information is included in another technical manual and the procedures can be directly referenced. When more than one level of maintenance shall be provided for organizational and intermediate-level troubleshooting procedures shall be separated such that the organizational level troubleshooting procedures are identified as "Organizational level troubleshooting" and are presented. Intermediate level troubleshooting procedures shall follow organizational level procedures and shall be identified "Intermediate level procedure immediately following this title the following statement shall be included "These procedures are authorized for intermediate-level for higher activate (tender/shore facility/depot). Depot-level troubleshooting procedures may be included as a separate appendix or shall follow the Intermediate level procedures and shall be identified as "Depot-level troubleshooting procedures". Immediately following this title, the following statement shall be included "These procedures are authorized for accomplishment by Depot level activates only.

## **Chapter 6, Corrective Maintenance**

This chapter shall contain instructions required to adjust and align the equipment, remove, repair, reinstall and align all repairable parts, modules, subassemblies, and assemblies. The instructions shall identify the action to be accomplished, safety precautions to be observed, tools, parts, materials and test equipment required preliminary control settings, test equipment setup instructions and step by step instructions with supporting illustrations to accompany the maintenance task. Corrective maintenance instructions shall be provided for all items designated repairable irrespective of the maintenance concept unless this information is included in another technical manual and can be referenced.

## **Chapter 7, Parts List**

Unless a separate illustrated parts breakdown is procured under a separate line item of the contract for the system/equipment the parts list shall conform to all requirements for chapter 7 herein. The parts list shall list and identify and shall reference or include an illustration that will show the location of all

repair parts in clouding attaching hardware. All mechanical parts subject to replacement although not provisioned as a spare part such as handles, slides, plates, covers etc included in the provisioning Documentation shall be included interprets lit and identified in their respective parts-location diagram.

## **Chapter 8, Installation**

Drawings and information concerning installation shall be provided in this chapter. The following type of information shall be included site selection or installation location guide lines (such as moisture precautions and maximum temperature allowed as appropriate), special tools and material requirements, unpacking and handing (if unusual procedures or precautions are required), preparation of foundations. National assembly procedures, mounting instructions bolting diagramed, safety precautions grounding and bonding, clearances for access, ventilation, fluid cooling requirement clam for motion under shook, and recommendations for reduction of electrical and electronic interference and other interface requirements as applicable in addition this chapter shall cover set to work procedure along with relevant settings performance data sheet. This should also provide installation specifications and test and trial procedure along with test forms having clearly indicated acceptable values.

## **Contents Requirements of Illustrated Part Catalogue**

3. IPC: It should contain exploded view of assemblies and sub assemblies along with identification of all components included there in.

## **OEM Certificates**

The contractor shall provide certificate after signing of the contract for machinery, equipment, assemblies and subassemblies by the respective OEM for remanufactured (REMAN) items in favor of PMSA.