CHAPTER 4

Marine Department

Management of the government fleet

Audit Commission
Hong Kong
31 March 2006

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 46 of the Director of Audit contains 9 Chapters which are available on our website at http://www.aud.gov.hk.

Audit Commission
26th floor, Immigration Tower
7 Gloucester Road
Wan Chai
Hong Kong

Tel : (852) 2829 4210
Fax : (852) 2824 2087
E-mail : enquiry@aud.gov.hk

MANAGEMENT OF THE GOVERNMENT FLEET

Contents

Page

Appendices

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines its objectives and scope.

Marine Department

1.2 The Marine Department (MD) is responsible for the efficient management of the government fleet. The MD's main activities include operating its crewed fleet, providing marine transport services to government departments and performing maintenance of government vessels. The Government Dockyard at Stonecutters Island is the MD's operational base for operation of its crewed fleet and maintenance of government vessels. In 2004-05, the MD incurred an expenditure of $400 million on the management of the government fleet.

Government fleet

1.3 As at November 2005, the government fleet was made up of 727 government vessels of different types and sizes under the operational control of various government departments (see Appendix A). Government departments with government vessels allocated to them are responsible for the efficient use and deployment of such vessels.

1.4 Of the 727 government vessels, 133 were major mechanised vessels, with the remaining 594 being smaller size or non-mechanised vessels (e.g. beach crafts/rafts). The 133 major mechanised vessels were operated in the following manner:

(a) 40 vessels were under the operational control of the MD. Among them, 33 vessels were manned and operated by MD crew staff and 6 vessels were manned, operated and maintained by a contractor. These vessels were used for supporting the MD's operations and meeting the marine transport needs of other departments that did not have their own fleet. One remaining vessel, which had been decommissioned, was pending disposal;

(b) 18 vessels that were under the operational control of six government departments were manned and operated by MD crew staff; and

(c) 75 vessels that were mainly purpose-built vessels (e.g. police launches and fire boats) were manned and operated by the staff of the five departments concerned.

Marine transport services provided by contractors

1.5 In addition to its crewed fleet, the MD has contracted out marine transport services. As at December 2005, the MD engaged six contractors to provide 20 vessels for meeting its and other government departments' marine transport needs.

Maintenance of government vessels

1.6 The MD performs maintenance of all government vessels. Routine maintenance is performed regularly and repairs are done as and when necessary. The MD has outsourced about 80% of the maintenance and repair work to contractors. The remaining 20%, which related mainly to workshop jobs and minor urgent repairs, has continued to be done in-house by MD staff. The MD stocks maintenance materials at the Government Dockyard store and supplies such materials to its maintenance contractors and in-house staff.

Audit review

1.7 The Audit Commission (Audit) has recently carried out a review of the MD's activities relating to the management of the government fleet. The audit focused on the following areas:

(a) operation of the MD crewed fleet (see PART 2);

(b) administration of in-house maintenance work (see PART 3);

(c) administration of maintenance contracts (see PART 4);

(d) stock management (see PART 5); and

(e) other areas for improvement (see PART 6).

Audit has found that there are areas where improvements can be made and has made a number of recommendations to address the issues.

General response from the Administration

1.8 The **Director of Marine** accepts all the audit recommendations. In addition, he thanks Audit for the conduct of such a comprehensive and constructive audit.

Acknowledgement

1.9 Audit would like to acknowledge with gratitude the full cooperation of the staff of the MD during the course of the audit review.

PART 2: OPERATION OF THE MARINE DEPARTMENT CREWED FLEET

2.1 This PART examines the operation of the MD crewed fleet to identify areas for improvement.

Fleet operation

2.2 The MD provides crew staff to man and operate the government fleet. From an examination of the deployment of crew staff and the operation of the MD crewed fleet, Audit has noted that there is room for improvement in the following areas:

(a) the manning scale for the MD crewed fleet (see paras. 2.3 to 2.9);

(b) the size of the MD's reserve pool (see paras. 2.10 to 2.15);

(c) the manning arrangement of two MD crewed vessels (see paras. 2.16 to 2.20); and

(d) the utilisation of the MD crewed fleet (see paras. 2.21 to 2.29).

Manning scale for the MD crewed fleet

2.3 As at December 2005, the MD had 345 crew staff (at staff costs of $76 million a year) to operate government vessels and 20 crew staff to perform special duties (Note 1). Of the 345 crew staff, the MD deployed 283 crew staff to man and operate 59 vessels (Note 2) and maintained 62 crew staff in a reserve pool to provide relief for 303 (283 + 20) crew staff. The MD crew staff are mainly Senior Launch Master (SLM), Launch Master (LM) and Launch Assistant (LA – Note 3).

Note 1: *Such special duties include manoeuvring vessels to and from allocated berths for docking and repairing, checking and testing the engines of unmanned and repaired vessels and working overnight as watchmen in other MD facilities or public piers.*

Note 2: *They comprised 41 MD vessels (i.e. 33 major mechanised vessels and 8 speed boats) and 18 departmental vessels.*

Note 3: *The pay scales of LA, LM, SLM are Master Pay Scale Points 4 to 7, 8 to 13 and 13 to 16 respectively.*

2.4 In general, each vessel is manned by an SLM or LM and 1 to 3 LAs. The manning scale for each vessel varies with its specifications (e.g. length and power) and the operational requirements. There are four modes of operation, as follows:

(a) "***Day" operation.*** For a vessel on "Day" mode of operation, it is operated within the crew staff's conditioned hours of work (i.e. nine hours a day and five days a week) and is usually manned by a crew of two to four members;

(b) "***12-Hour" operation.*** For a vessel on "12-Hour" mode of operation, it is operated 12 hours a day throughout the year. It is most commonly manned by two crews of three members each, with a total of six crew staff;

(c) "***24-Hour" operation.*** For a vessel on "24-Hour" mode of operation, it is operated 24 hours a day throughout the year. It is manned by four crews of three members each, with a total of 12 crew staff; and

(d) "***Standby/Spare" operation.*** For a vessel on "Standby/Spare" mode of operation, it serves as a standby vessel to meet special operational needs or as a relief vessel for vessels under maintenance or repair. Crew staff will only be deployed to man and operate it when required.

Review of manning scale

2.5 The above manning scale has been in use since 1992, following a crew staff re-grading exercise (Note 4). In 1995, the MD completed a review of the manning scale. For glass reinforced plastic vessels with length of 10 to 15 metres, the MD proposed to revise the manning scale by replacing **1 LM and 2 LAs** with **2 LMs** (Note 5). According to the MD, the proposed manning scale was widely adopted in the private sector. The MD considered that the revised manning scale would enhance the efficiency and effectiveness of government vessels without compromising their safety standard. The MD estimated that **a net saving of 49 posts** would be achieved by adopting the revised manning scale. However, the implementation of the proposal was shelved after staff consultation.

Note 4: *In 1992, a re-grading exercise was conducted for merging the two old grades of Sailor and Launch Mechanic into a new grade of Launch Master with ranks of SLM, LM and LA.*

Note 5: *As at December 2005, there were 17 such glass reinforced plastic vessels. They were manned by 5 SLMs, 20 LMs and 50 LAs.*

2.6 In a study of the MD's fleet operation in 2000, the then Management Services Agency (MSA) found that the MD's manning scale was higher than that of the commercial sector (Note 6). The MSA suggested the MD to review its manning scale at an appropriate time, taking into account the local commercial experience. In December 2002, the MD implemented a trial scheme for testing the feasibility of the revised manning scale. The trial scheme, involving three vessels, ended in March 2003. MD officers informed Audit in February 2006 that, based on the result of the trial scheme, the use of the revised manning scale was feasible. However, because of possible problems with the creation of new posts and staff redundancies which might happen at the same time, the MD withheld the adoption of the revised manning scale.

Audit observations and recommendations

2.7 As the most common manning scale of "three members per crew" now adopted by the MD is higher than that of "two members per crew" adopted in the commercial sector (including the MD's contractors) and as the MD's trial scheme has confirmed the feasibility of the revised manning scale, **Audit considers that the MD should critically consider adopting the revised manning scale. In this connection, the MD's manpower position should be taken into consideration in drawing up an implementation plan.**

2.8 **Audit has *recommended* that the Director of Marine should:**

(a) **critically consider adopting the revised manning scale in the MD's fleet operation; and**

(b) **draw up an implementation plan, taking into account the MD's manpower position, for applying the revised manning scale.**

Response from the Administration

2.9 The **Director of Marine** agrees with the audit recommendations. He has said that he will consider the adoption of the revised manning scale through natural wastage in order to avoid crew staff redundancies and strong union opposition. The MD will be ready to implement the audit recommendations at the right opportunities such as when a large number of crew staff leave the service.

Note 6: *In 2000, the MSA conducted a management study of the MD's fleet operation with a view to making recommendations on the provision of efficient and cost-effective marine transport services to government users and on the enhancement of efficiency in the management and utilisation of staff resources in fleet operation. The study was completed in July 2000.*

Size of the MD's reserve pool

2.10 To provide relief for 303 crew staff (see para. 2.3) when they were on leave or under training, the MD had a reserve pool of 62 crew staff (or 20% of 303 crew staff) as at December 2005. Reserve pool staff not assigned to perform relief duties would be placed on standby duty. Table 1 shows the staff deployment by functions as at December 2005.

Table 1

Deployment of crew staff by functions (as at December 2005)

Function	SLM	LM	LA	Senior Launch Mechanic	Launch Mechanic	Total
Manning vessels	53	41	188	–	1	**283**
Special duties	3	1	16	–	–	**20**
Reserve pool	2	12	46	2	–	**62**
Total	**58**	**54**	**250**	**2**	**1**	**365**

Source: MD records

Crew staff in reserve pool

2.11 The MD keeps daily records on the utilisation of reserve pool staff and compiles monthly utilisation rate for review by its management. To facilitate monitoring, the MD has set **a utilisation target of 95%** for its reserve pool staff. Table 2 shows the actual utilisation of the reserve pool staff in 2005.

Table 2

Utilisation of reserve pool staff in 2005

Month	Number of staff in the reserve pool (as at month end)	Staff utilisation rate
January	68	100%
February	56	100%
March	61	100%
April	48	99%
May	50	100%
June	50	100%
July	**77** (Note 1)	**92%** (Note 2)
August	**71**	**84%** (Note 2)
September	**71** (Note 3)	**64%**
October	**71** (Note 3)	**73%**
November	**71** (Note 3)	**71%**
December	**62** (Note 3)	**79%**

Source: *Audit analysis based on MD records*

Note 1: *In July 2005, 27 crew staff, who previously worked for manning and operating seven specialised scavenging vessels, were posted to the reserve pool as a result of the MD's outsourcing of marine scavenging services.*

Note 2: *The utilisation rates for July and August 2005 were high, despite the posting of 27 crew staff to the reserve pool, because more crew staff were on leave or under training during these two months.*

Note 3: *In the second half of 2005, 15 crew staff had either retired or been transferred out of the reserve pool. They are not counted for the purpose of calculating the staff utilisation rates.*

2.12 Table 2 shows that since July 2005, staff in the reserve pool could not be fully utilised. The utilisation rate had remained **below 80%** for the four months ended December 2005, despite the fact that 10 crew staff in the reserve pool had been redeployed in the second half of 2005 to help man the government vessels.

Audit observations

Need to keep the utilisation of reserve pool staff under review

2.13 The utilisation of reserve pool staff had dropped below the target of 95% since July 2005. With a utilisation rate below 80%, this suggested that some crew staff were not gainfully employed.

2.14 As mentioned in paragraph 2.12, the MD redeployed 10 crew staff in the reserve pool to help man the government vessels in the second half of 2005. Audit examined their redeployment and is concerned about the consequential over-manning of the vessels. These 10 staff were redeployed as follows:

(a) ***Redeployment of four crew staff to two explosive carriers.*** The Civil Engineering and Development Department (CEDD) uses two explosive carriers, "Eversafe No. 1" and "Eversafe No. 2" (see Photograph 1), for the delivery of explosives from the storage depot at Kau Shat Wan, Lantau Island to work sites. Normally, explosives have to be delivered to the sites in the morning to enable the preparation works for the blasting to be completed later that day. Either one of the two vessels is used on each working day (Note 7). Prior to the last quarter of 2005, the MD deployed only a crew of 4 members to man them. In the last quarter of 2005, the MD deployed another crew of 4 members (1 SLM and 3 LAs) from the reserve pool to man the two vessels, making up a total of 8 crew staff. Audit however could not find documentary evidence to show the justifications for providing the additional 4 crew staff to man the two vessels. In fact, Audit has found that the two vessels were not heavily used. For the 18 months ended September 2005, the two vessels had normally been used for the morning sessions only and were idle in the afternoon (Note 8);

Note 7: *As an explosive carrier is a purpose-built vessel, it is difficult to find a relief vessel when it undergoes overhaul or repair. The two explosive carriers serve as relief vessels for each other.*

Note 8: *These two vessels usually leave the Government Dockyard at 8:45 a.m. and return before 1:00 p.m. During the 18 months ended September 2005, they returned to the Government Dockyard after 2:00 p.m. only on 34 occasions (i.e. less than twice a month).*

Photograph 1

"Eversafe No. 1" and "Eversafe No. 2"

Source: MD records

(b) ***Redeployment of two crew staff to a vessel in "Standby/Spare" mode of operation.*** One vessel, "Marine 117", has been used as a "Standby/Spare" operation vessel by the Harbour Patrol Section of the MD since May 2005. Up to the last quarter of 2005, the vessel was not manned by any crew staff (see para. 2.4(d)). In the last quarter of 2005, the MD deployed two crew staff (1 LM and 1 LA) from the reserve pool to man the vessel. Audit could not find documentary evidence to show that the Harbour Patrol Section had made a request for the provision of crew staff or for a change in the vessel's mode of operation;

(c) ***Redeployment of three crew staff to another vessel in "Standby/Spare" mode of operation.*** One vessel, "Marine 29", has been used as a "Standby/Spare" operation vessel for the Port State Control Section of the MD. Similar to the case mentioned in sub-paragraph (b) above, in the last quarter of 2005, the MD deployed three crew staff (1 SLM and 2 LAs) from the reserve pool to man this vessel. Audit could not find documentary evidence to show that the MD's Port State Control Section had made a request for the provision of crew staff or for a change in the vessel's mode of operation. In fact, Audit has noted that the utilisation of this vessel had remained low for the 12 months ended September 2005 (see item (a) of Table 4 in para. 2.22); and

(d) ***Redeployment of one crew staff to the VIP vessel "Tin Hau".*** This vessel (see Photograph 2) has been used as a "Day" operation vessel of the MD for providing marine transport services for very important persons (VIPs) in official, ceremonial and social functions. Until the third quarter of 2005, "Tin Hau" had been manned by five crew staff, the scale of which already exceeded the approved manning scale of four crew staff (see para. 2.23(b) for details). In the third quarter of 2005, the MD further deployed one more crew staff (1 LA) from the reserve pool to man this vessel, i.e. a total of six crew staff.

Photograph 2

"Tin Hau"

Source: MD records

2.15 **Audit is concerned that the reserve pool might have been over-staffed, as a result of which the MD redeployed some of its reserve pool staff to man the government vessels. This might result in over-manning of the vessels.**

Manning arrangement of two MD crewed vessels

2.16 In addition to the examples in paragraph 2.14, Audit has further noted from a sample examination of MD records that two more vessels might have been over-manned, as explained in paragraphs 2.17 and 2.18.

2.17 Two vessels of the Department of Health (DH), "Chee Hong" and "Chee Wan", were used by the Hospital Authority (HA) for providing floating clinic services to the remote areas of Hong Kong (Note 9). The MD had deployed two crews, each of four members (i.e. a total of **eight**), to man these two DH vessels. Before September 2005, both vessels had been operating for five days a week. In August 2005, the HA advised the MD that, starting from September 2005, "Chee Hong" would only be used for one day a week (i.e. on Wednesdays) and "Chee Wan" for two days a week (i.e. on Tuesdays and Thursdays). As a result, since September 2005, the HA has scaled down its floating clinic services by operating the vessels for three days a week.

2.18 Up to December 2005, the number of crew staff deployed to man these two DH vessels had remained unchanged. **As the two vessels only operate for three days a week (i.e. one vessel on Wednesdays, and the other on Tuesdays and Thursdays), there is a need for the MD, in consultation with the DH/HA, to review and revise the manning arrangements.**

Audit recommendations

2.19 **Audit has *recommended* that the Director of Marine should:**

(a) **critically review the manpower resources in the reserve pool to make sure that it is not over-staffed and that the crew staff in the reserve pool are always gainfully employed;**

(b) **if it is found that there are surplus crew staff in the reserve pool, draw up an action plan to deal with the surplus staff; and**

(c) **in consultation with the relevant government departments/organisations, critically review the optimum manning arrangements for MD crewed vessels, particularly those listed in paragraphs 2.14 and 2.17.**

Note 9: *Following the transfer of the management of the General Out-patient Clinics from the DH to the HA in July 2003, the operation of the two floating clinics was also transferred to the HA. However, the DH has remained as the owner of the two vessels.*

Response from the Administration

2.20 The **Director of Marine** agrees with the audit recommendations.

Utilisation of the MD crewed fleet

2.21 The MD is responsible for the efficient management of the government fleet (see para. 1.2). As a long established practice, it has required its in-house users and other user departments to submit monthly returns on the utilisation of the MD crewed fleet. The data to be submitted include the used time and available time for each vessel (Note 10). Based on the information submitted, the MD compiles monthly reports on the utilisation of its crewed fleet for review by its management. The following formula is used for calculating the utilisation rate:

$$\text{Utilisation rate} = \frac{\text{Used time}}{\text{Available time}} \times 100\%$$

2.22 Audit has analysed the utilisation of 59 MD crewed vessels for the 12 months ended September 2005. The result of the analysis indicated that 49 government vessels (or 83%) had a utilisation rate of 50% or more, whereas 10 vessels (or 17%) had a utilisation rate of less than 50%. Details are shown in Tables 3 and 4.

Note 10: *According to the MD, used time commences when an officer boards a vessel to carry out his duties and ceases when he departs the vessel. It also includes:*

(a) waiting time for the officer to carry out duties onboard other vessels or ashore;

(b) normal time required for preparing the vessel before commencing duty; and

(c) travelling time between the Government Dockyard and the operation base.

Available time includes the scheduled working hours of a vessel and overtime, but excludes breakdown and overhaul time.

Table 3

Utilisation rates of MD crewed vessels
(for the 12 months ended September 2005)

Utilisation rate	Number of MD vessels	Number of departmental vessels	Total	
90% – 100%	16	5	**21**	
80% – 89%	8	1	**9**	
70% – 79%	6	3	**9**	49
60% – 69%	4	2	**6**	
50% – 59%	1	3	**4**	
40% – 49%	**–**	**1**	**1**	
30% – 39%	**1**	**1**	**2**	
20% – 29%	**2**	**1**	**3**	10
10% – 19%	**1**	**1**	**2**	
0% – 9%	**2**	**–**	**2**	
	6	4		
Total	**41**	**18**	**59**	

Source: Audit analysis based on MD records

Table 4

Ten vessels with utilisation rates less than 50%
(for the 12 months ended September 2005)

Vessel name	Mode of operation	Number of crew staff deployed	Utilisation rate	User
MD vessels				
(a) Marine 29	Standby/Spare	–	**12%** (Note 1)	Port State Control Section, MD
(b) Marine 33	Standby/Spare	–	**21%** (Note 1)	MD Pool
(c) Marine 38	Standby/Spare	–	**27%** (Note 1)	Pollution Control Unit, MD
(d) Marine 112	Standby/Spare	–	**0%**	Harbour Patrol Section, MD
(e) Marine 205	Standby/Spare	–	**0%** (Note 2)	MD Pool
(f) Tin Hau	Day	6	**34%**	MD Pool
Departmental vessels				
(g) Port Health	24-Hour	12	**15%**	DH
(h) Eversafe No. 1	Day	4 (Note 3)	**27%**	CEDD
(i) Eversafe No. 2	Day		**33%**	CEDD
(j) Immigration 1	Day	3	**47%**	Immigration Department

Source: Audit analysis based on MD records

Note 1: The MD only reported the used time of these vessels. It did not report their available time because they were "Standby/Spare" vessels and had no scheduled working hours. Audit estimated their available time based on similar vessels of the MD for compiling their utilisation rates.

Note 2: The vessel was transferred from the Customs and Excise Department to the MD in August 2005. After the transfer, the vessel was under overhaul and had not been used for the period from 4 August to 30 September 2005.

Note 3: These are explosive carriers. Either one of them is used on each working day for delivering explosives from the storage depot at Kau Shat Wan to work sites (see para. 2.14(a)).

Audit observations

Low utilisation of MD and departmental vessels

2.23 ***MD vessels.*** Tables 3 and 4 show that six (or 15%) of the 41 MD vessels had low utilisation rates which ranged from 0% to 34% for the 12 months ended September 2005. These six vessels comprise the following:

(a) ***Five "Standby/Spare" operation vessels.*** Their utilisation rates ranged from 0% to 27%. With a total capital cost of $21 million and maintenance cost of $1 million in 2004-05, their low utilisation is a cause for concern. **Audit considers that the MD should critically review the cost-justification for retaining all these five "Standby/Spare" operation vessels.** The MD needs to explore the feasibility of reducing the number of "Standby/Spare" vessels; and

(b) ***VIP vessel "Tin Hau".*** As mentioned in paragraph 2.14(d), "Tin Hau", which is manned by six crew staff, is the only government vessel providing VIP marine transport services. Its utilisation had dropped from **five times a month** in 2002-03 to **less than four times a month** in 2004-05, as shown in the case study below. **Audit considers that the MD should explore how it can promote the wider use of "Tin Hau" within the Government.**

Utilisation of "Tin Hau"

Case particulars

In December 1996, the MD sought funding approval from the Finance Committee (FC) of the Legislative Council for constructing a new vessel "Tin Hau". "Tin Hau" would replace an old vessel with the same name for providing marine transport services for VIPs in official, ceremonial and social functions. The MD informed the FC that as the operation of the new "Tin Hau" would be highly automated, the number of crew staff required to man the vessel could be reduced from six to four, with a saving of $474,000 in annual staff cost.

"Tin Hau", constructed at a cost of $15 million, was put into operation in November 1998. With a maximum capacity of 40 passengers, it can accommodate large groups of VIP visitors in a spacious and comfortable setting. According to the MD, no comparable vessel in the government fleet could provide the same service.

In recent years, the utilisation of "Tin Hau" had been decreasing. Based on the booking records, "Tin Hau" was only used for 62, 45 and 44 occasions in 2002-03, 2003-04 and 2004-05 respectively. On average, its utilisation had dropped from 5.2 times per month in 2002-03 to 3.7 in 2004-05.

Before September 2005, "Tin Hau" was manned by 5 crew staff (i.e. 2 SLMs and 3 LAs). In September 2005, the MD increased the manning level to 6 crew staff. The operating cost of "Tin Hau", including staff cost, was $3.5 million in 2004-05. Its annual depreciation was $1 million (over a life expectancy of 15 years).

Audit findings

With a capital cost of $15 million and an operating cost of $3.5 million in 2004-05, Audit is concerned about the low utilisation of "Tin Hau".

According to the FC paper of December 1996, only four crew staff were required to man "Tin Hau". However, as at December 2005, the MD had deployed six crew staff to man it.

Source: MD records

2.24 ***Departmental vessels.*** As mentioned in paragraph 1.4(b), 18 departmental vessels were manned and operated by MD crew staff. Tables 3 and 4 also show that four (or 22%) of these 18 departmental vessels had low utilisation rates ranging from 15% to 47% for the 12 months ended September 2005. On Audit's enquiries in December 2005 with the MD and the user departments concerned, they informed Audit that there was an operational need to continue running these vessels. **However, as these four vessels are manned by MD crew staff, the MD may wish to monitor their utilisation and consider, where necessary, gainfully employing the crew staff to perform other duties when the vessels are idle.**

Audit recommendations

2.25 **Audit has *recommended* that the Director of Marine should:**

(a) **closely monitor the utilisation of the MD crewed fleet;**

(b) **take prompt action to deal with vessels with low utilisation rates. Such action may include, for example, reviewing the justifications for retaining all five "Standby/Spare" operation vessels mentioned in paragraph 2.23(a) and promoting the wider use of "Tin Hau" within the Government (see para. 2.23(b)); and**

(c) **take appropriate action to gainfully employ those crew staff for vessels with low utilisation to perform other duties, especially when their vessels are idle (e.g. the two explosive carriers of the CEDD).**

Response from the Administration

2.26 The **Director of Marine** agrees with the audit recommendations.

2.27 The **Director of Health** has said that the vessel "Port Health" (see item (g) of Table 4) is operated by the MD's staff, involving four crews of three members each, on a 24-hour basis. The vessel is used by the DH's Port Health Officers for the purposes of providing emergency medical assistance within Hong Kong waters, inspection of ships without valid pratique and on board investigation of infectious diseases. Such activities are demand-driven and unscheduled by nature.

2.28 The **Director of Civil Engineering and Development** has said that, in pursuing the audit recommendation to gainfully employ the crew staff for the CEDD's explosive carriers (see items (h) and (i) of Table 4) to perform other duties when the vessels are not in use, it is important for the MD to take note that the CEDD's level of service to the industry must not be compromised. The CEDD expects that:

(a) the normal operation of the explosive delivery service will not be adversely affected; and

(b) an effective standby arrangement is in place to meet the need for urgent delivery of explosives at short notice.

2.29 The **Director of Immigration** has said that:

(a) while taking note of the utilisation rate of 47% for the vessel "Immigration 1" (see item (j) of Table 4), the Immigration Department has reviewed its operations and taken appropriate measures to distribute the workload among its seven vessels more evenly; and

(b) the MD's implementation of the audit recommendation in paragraph 2.25(c) should not affect immigration operations that may call for the use of "Immigration 1" at any time during its operation hours.

PART 3: ADMINISTRATION OF IN-HOUSE MAINTENANCE WORK

3.1 This PART examines the MD's administration of its in-house maintenance work for government vessels.

In-house maintenance work

3.2 The MD's Maintenance Section (MS) is responsible for maintaining government vessels. For some years, the MD has outsourced about 80% of its vessel maintenance work to contractors, with the remaining 20% being performed by in-house staff of the MS. The in-house maintenance work relates mainly to urgent minor repairs and workshop services, and covers three trades of work, namely "hull and deck", "mechanical" and "electrical".

3.3 As at November 2005, the MD had a total of 81 staff, with an annual staff cost of $16 million, working on in-house maintenance (see Appendix B for details). Of these 81 staff, 63 worked in ten specialised workshops at the Government Dockyard in different streams of work under the three trades. The remaining 18 staff worked in general workshops at five regional forward bases of the Marine Police and performed minor repair work (Note 11).

3.4 All MD workshop staff are required to complete daily time sheets providing information on the maintenance jobs they perform, the vessels involved and the manhours spent on each job. In addition, monthly summaries are prepared for each of the four workshops under the "hull and deck" trade of work (involving 33 staff), showing an analysis of the work done, the numbers of vessels and jobs involved and manhours spent for each of the work assignments. The summaries are reviewed by the MD management. No similar summaries are however prepared for the other six specialised workshops under the "mechanical" and "electrical" trades of work and for the five general workshops at forward bases (involving 48 staff).

Audit observations

3.5 ***Wider adoption of the practice of preparing summaries.*** The monthly summaries are useful for providing information to help the MD management understand the workload of the workshops and understand how the staff resources have been used on different types of vessel maintenance work. It is a good practice to be adopted. **Audit**

Note 11: *The five regional forward bases of the Marine Police are located in Sai Kung, Tai Lam Chung, Ma Liu Shui, Sai Wan Ho and Aberdeen.*

considers that this practice should be extended to the other 11 specialised and general workshops.

3.6 ***Setting estimates of work time.*** At present, no standard or budget time is set for individual work assignments. As a result, the information in the monthly summaries alone cannot help the MD management assess the efficiency and effectiveness of the workshops. **To help better assess performance, the MD should consider providing additional information (such as supervisors' estimates of manhours required for completing individual work assignments) in the summaries.**

Review by the Management Services Agency in 2001

3.7 In a study of 2001 (Note 12), the MSA made the following recommendations:

(a) **The MD should retain its specialised workshops and retain an appropriate level of in-house maintenance services.** The MSA considered that these workshops could provide for vessel maintenance work to cater for emergency or security needs, during non-provision of services by contractors, or short duration maintenance jobs in a more cost-effective manner than contractors;

(b) **In considering further outsourcing, the MD should focus on those maintenance jobs that were more cost-effective to be performed by contractors; and**

(c) **The MD should review the MS's organisation structure, including the manpower of its workshops, due to the outsourcing of its marine transport services.**

The MD accepted the MSA recommendations.

3.8 To implement the MSA recommendations, in May 2001 the MD worked out the following action plan for reducing the size of its workshops:

(a) ***Cost comparisons.*** The MD undertook that it would, as an on-going initiative, monitor closely the cost differentials of similar jobs done by contractors and in-house staff to see if further outsourcing would be desirable; and

---

Note 12: *In 2001, the MSA conducted a management study of the MD's vessel maintenance with a view to establishing a cost-effective and efficient system in the provision of such services comparable to the best practice in the private sector. The study was completed in April 2001.*

(b) ***Development of a manpower plan to reduce staff size.*** A manpower plan was drawn up for reducing the staff size of MD workshops, taking into account the number of maintenance staff who would retire or leave the civil service in the years to 2010. The plan was to streamline the structure of MD workshops and aimed to reduce the staff size to the optimum level in 2006, by that time the staff establishment of the workshops would have been reduced from 106 in 2000 to 93 (including 12 non-civil service contract staff).

Audit observations

3.9 ***No cost comparison.*** Although the MD undertook to conduct regular cost comparisons to measure the cost differentials of similar jobs done by contractors and by in-house staff, Audit could not find any evidence of such cost comparisons. On Audit's enquiries, MD officers advised in November 2005 that due to other work priorities, they had not yet conducted such cost comparisons.

3.10 ***Need to closely monitor the staff size.*** As at November 2005, the MD had reduced the staff size of its workshops to 87 (i.e. 81 workshop staff in strength plus 6 vacancies), which was close to the 2006 target of 93 (see para. 3.8(b)). It would appear that the MD had achieved its staff reduction target ahead of schedule. However, in the absence of staff productivity standards, it would be difficult to determine if the existing staff size is at the optimum level. **In this connection, Audit considers that the MD needs to keep its staffing position under review.** Audit noted that at a management meeting of August 2005, the General Manager of the Government Dockyard reported that there were still surplus artisans in carpentry and sail-making and rigging workshops, whilst there was a shortage of artisans for machinery operation (Note 13). To enable the artisans to be multi-skilled, the General Manager requested the Senior Maintenance Manager in charge of the MS to consult the artisans concerned to see if they would like to receive training on machinery operation. MD officers advised Audit that the response from the artisans was lukewarm. As the MD has planned to outsource the services of nine vessels and certain fleet supporting services from 2006-07 to 2010-11, it would mean that the MD's in-house maintenance work will be further reduced. **The MD should keep the staffing position of the workshops under review. It should also assess if there are still surplus staff and take appropriate action to redeploy them to work areas where they will be gainfully employed.**

Note 13: *The artisans in the stream of machinery operation are responsible for operating the equipment and plant facilities such as crane/boat lifting machinery. They are not workshop staff.*

Audit recommendations

3.11 **Audit has *recommended* that the Director of Marine should:**

(a) **require maintenance workshop supervisors to prepare monthly summaries, in a similar manner as the four "hull and deck" workshops;**

(b) **include supervisors' estimates of manhours required for individual work assignments in the monthly summaries;**

(c) **conduct regular cost comparisons to evaluate the cost-effectiveness of in-house maintenance work and assess the potential for further outsourcing; and**

(d) **keep the staffing position of the workshops under review, assess if there are surplus staff and take appropriate action to redeploy them to work areas where they will be gainfully employed.**

Response from the Administration

3.12 The **Director of Marine** agrees with the audit recommendations.

PART 4: ADMINISTRATION OF MAINTENANCE CONTRACTS

4.1 This PART examines the MD's procedures for the administration of contracts for maintenance of government vessels. The following three aspects have been reviewed:

(a) the wider use of term contracts (see paras. 4.2 to 4.7);

(b) the provision of free workshops to selected contractors (see paras. 4.8 to 4.12); and

(c) the MD's monitoring of contractors' performance (see paras. 4.13 to 4.20).

Maintenance contracts

4.2 As mentioned in paragraph 3.2, the MD has outsourced about 80% of its vessel maintenance work to contractors. The maintenance work, mainly overhaul and running repairs, is contracted out by the following means:

(a) ***Term contracts.*** Term contracts are awarded to contractors for the maintenance work of similar types (e.g. engine maintenance) over a contract period of one to two years. The contractors are normally required to provide the services as and when required and then to charge the MD based on the contract rates. As such, term contracts have provided a means to the MD for obtaining competitive prices from the market for the outsourcing of its maintenance work, without resorting to a separate tender exercise on each occasion; and

(b) ***One-off contracts.*** For one-off contracts, the MD has to invite tenders or seek quotations for the outsourcing work on each occasion. A one-off contract normally covers only the maintenance work of a particular vessel. As compared with term contracts, the use of one-off contracts is ad hoc in nature and will involve more administrative work.

4.3 In 2004-05, the MD made total payments of $75 million for contract maintenance work. Payments under the one-off contracts made up 73% (or $55 million), whereas payments under the term contracts made up the remaining 27% (or $20 million).

Audit observations

4.4 In its study of 2001 (see Note 12 in para. 3.7), the MSA pointed out that, comparing with one-off contracts, the use of term contracts in outsourcing vessel maintenance work could improve overall efficiency and reduce vessel downtime. Noting that the MD had used term contracts for 28% and 33% of its maintenance work in

1999-2000 and 2000-01 respectively, the MSA recommended that the MD should continue the existing policy of wider use of term contracts. The MD accepted the recommendation.

4.5 In general, term contracts have the advantages of reducing administrative work, improving efficiency and reducing vessel downtime. Audit however found that, instead of increasing, the MD's use of term contracts had decreased. As mentioned in paragraph 4.3, the use of term contracts stood at 27% in 2004-05, which was even less than the levels of 28% and 33% then noted by the MSA for 1999-2000 and 2000-01 respectively. In this connection, the MD may wish to ascertain the reasons leading to the limited use of term contracts in the MD. If term contracts are still considered the more cost-effective means vis-à-vis one-off contracts, the MD may wish to explore means of making better use of term contracts.

Audit recommendations

4.6 **Audit has *recommended* that the Director of Marine should:**

(a) **for various types of maintenance work, ascertain if the use of term contracts is more cost-effective vis-à-vis one-off contracts;**

(b) **ascertain the reasons leading to the limited use of term contracts; and**

(c) **explore how the MD can make better use of term contracts for its vessel maintenance work, including drawing up a plan for using more term contracts.**

Response from the Administration

4.7 The **Director of Marine** agrees with the audit recommendations.

Provision of free workshops to selected contractors

4.8 ***Long established practice*.** The MD has a long established practice of providing workshops at its dockyard free of charge to its contractors. There are a total of 14 such workshops at the Government Dockyard, with a total area of 768 square metres. The workshops are set up with facilities that include gear, equipment and fittings. The practice of providing workshops and facilities to the contractors free of charge is intended to help them carry out their maintenance work, particularly running repair work, more efficiently.

4.9 ***Workshop allocation points system.*** The MD has used a workshop allocation points system to determine the priorities for the allocation of the 14 workshops to its contractors each year. Points are allotted to each contractor based on the value of maintenance work performed in the past 12 months and expected to be performed in the following 12 months (Note 14). Fourteen contractors with the highest points allotted will be provided with workshops free of charge for one year (Note 15).

Audit observations and recommendations

4.10 Audit notes that while the provision of workshops free of charge to contractors may enable them to meet the MD's repair needs speedily, this arrangement results in **disparity in treatment between the contractors.** The provision of workshops free of charge to the selected contractors has the effect of subsidising them and enhancing their competitiveness. In 2005, 25 approved contractors who were **not** provided with workshops free of charge had to compete with the 14 selected contractors. As a result, the contractors might not be competing on a level playing field.

4.11 **Audit has *recommended* that the Director of Marine should critically review the desirability of continuing the existing arrangement of providing workshops free of charge to selected contractors, taking into account that this may result in unfair competition, and explore alternative options to the provision of workshops free of charge.**

Response from the Administration

4.12 The **Director of Marine** agrees with the audit recommendations.

Note 14: *Points are allotted using the following formula: (1 ×value of tender work performed in the past 12 months) + (4 × value of running repair work performed in the past 12 months) + (1 ×value of work to be performed under term contracts in the following 12 months).*

Note 15: *Under the existing practice, before a contractor is provided with a workshop, he needs to give the MD an undertaking that he will meet certain workshop requirements, including keeping the workshops tidy and refraining from using the workshops for non-MD work. The MD also reserves the right to require a contractor to vacate the workshop upon notice. If any of the first-selected 14 contractors declines the allocation, another contractor with the next highest points will be allocated the workshop.*

Monitoring of contractors' performance

MD's list of approved contractors

4.13 The MD maintains an approved list of contractors for its vessel maintenance work. Prior to June 2005, only contractors on the list were eligible to bid for the MD's vessel maintenance work. Effective from June 2005, to enhance the competition for higher value contracts, the MD allows, in addition to the contractors on the list, all interested parties to bid for contracts of value over $1.3 million. For 2004-05, about 80% of the MD's maintenance payments related to contracts of value up to $1.3 million.

4.14 To qualify for inclusion in the approved list of contractors, a contractor has to meet certain requirements (e.g. experience and staff size). There are two groups of approved contractors. Group I contactors can bid for contracts of value up to $50,000. Group II contractors can bid for contracts of value up to $1.3 million. A contractor is normally placed in Group I first. He may be promoted to Group II after gaining certain levels of experience and showing good performance.

Demerit points system

4.15 To ensure that contractors in the approved list are always performing their maintenance work satisfactorily, the MD has laid down conditions under which they will be penalised for poor performance. For example, they will be suspended from bidding if they have accumulated a certain number of demerit points within a continuous period of 12 months. They may even be downgraded or removed from the approved list. In this connection, the MD has devised a demerit points system under which an approved contractor will be allotted demerit points for offences committed. Appendix C shows examples of such offences and the corresponding demerit points.

4.16 According to the MD's procedures (as laid down in its circular on the performance appraisal system for approved contractors), the MD's inspecting staff should in the first instance give a verbal warning to the contractor concerned on an offence committed. Demerit points will only be allotted to the contractor if he does not rectify the wrongdoing without delay. The MD's procedures have further stipulated that the MD may allot demerit points to the contractor, without serving any verbal warning, if the offence committed has already resulted in damage to government property or has caused a delay to a vessel's maintenance schedule.

Audit observations and recommendations

4.17 Audit notes that the MD has laid down comprehensive guidelines on how its inspecting staff should apply the demerit points system. This avoids inconsistency of judgements of different staff handling similar offences. However, Audit considers that there is scope for improvement in the MD's procedures.

4.18 The MD's procedures have laid down the requirement for giving verbal warning and allowing the contractors time to rectify the wrongdoing before allotting any demerit points to them. The procedures have further provided **two** circumstances where the contractors would be allotted demerit points without giving verbal warning. They are:

(a) the offences have already resulted in damage to government property; and

(b) the offences have caused delay to a vessel's maintenance schedule (see para. 4.16).

Audit considers that the circumstances leading to allotting demerit points without giving verbal warning may not only be limited to the two mentioned above. For example, committing an offence that relates to non-compliance with certain work safety requirements and that leads to personal injury may warrant the allotment of demerit points without giving any verbal warning. **In Audit's view, the actions to be taken depend on the seriousness of the offences committed. Where serious offences have been committed, Audit considers that the allotment of demerit points without verbal warning to the contractor is warranted.**

4.19 **Audit has *recommended* that the Director of Marine should provide clearer directions, by revising the MD's guidelines, to:**

(a) **help his inspecting staff determine the actions to be taken based upon the seriousness of the offences committed; and**

(b) **elaborate on the circumstances where demerit points can be allotted to the contractors without prior verbal warning.**

Response from the Administration

4.20 The **Director of Marine** agrees with the audit recommendations.

PART 5: STOCK MANAGEMENT

5.1 This PART examines the MD's management of its stock of vessel maintenance materials.

Expenditure on vessel maintenance materials

5.2 The MD stocks vessel maintenance materials, mainly spare parts, at the Government Dockyard store and supplies such materials to its contractors and in-house staff for performing maintenance and repair work of government vessels. The MD spends about $100 million a year on the procurement of vessel maintenance materials, as shown in Table 5.

Table 5

Expenditure spent on vessel maintenance materials for 2001-02 to 2004-05

Year	Expenditure ($ million)
2001-02	100
2002-03	98
2003-04	103
2004-05	113

Source: MD records

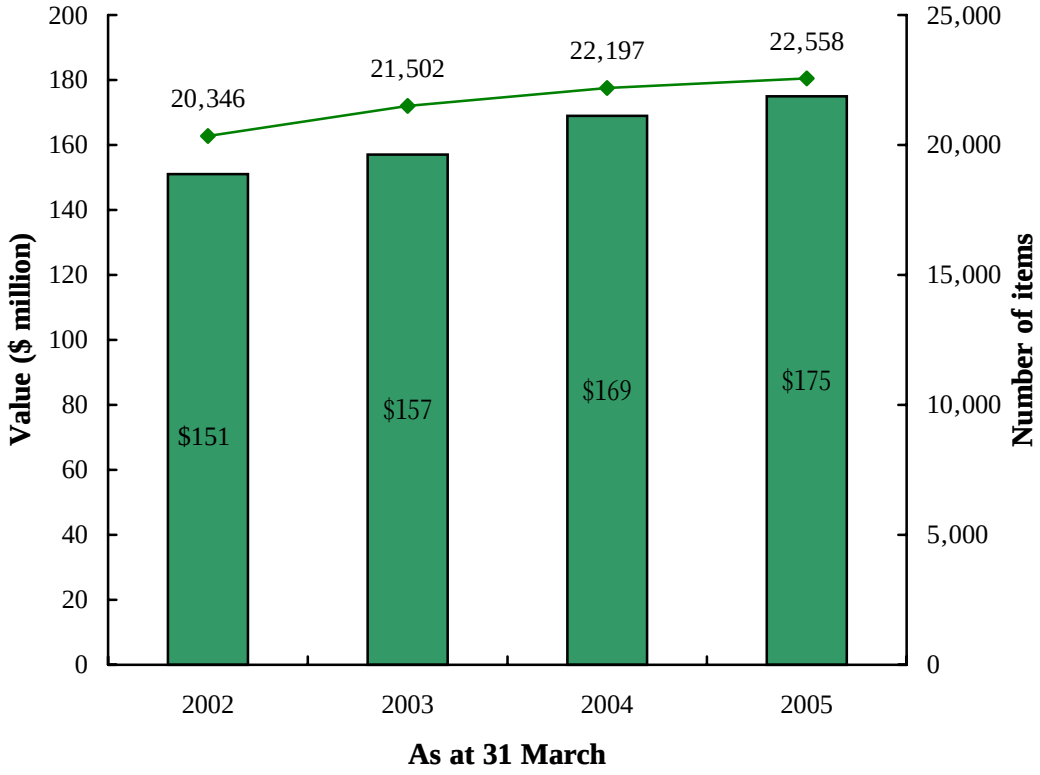
5.3 Table 5 shows that, although there was a slight decrease for 2002-03, the expenditure had increased to $113 million for 2004-05.

Stock value and stock level

5.4 Figure 1 shows that the MD's stock value and items had been increasing. The stock value had increased by 16% from $151 million as at 31 March 2002 to $175 million as at 31 March 2005. The number of stock items had increased by 11% from 20,346 to 22,558 during the same period.

Figure 1

MD's stock from 2002 to 2005
(as at 31 March)



Source: *MD records*

Note: *The MD valued its stock at historical cost.*

Measures to improve management of stock level

5.5 In the study of 2001 (Note 16), the MSA noted that the MD's stock value was high. The MSA also found that this was due to the wide variety of major parts (e.g.

Note 16: *In its study of the MD's vessel maintenance in 2001 (see Note 12 to para. 3.7), the MSA also studied spare parts management with a view to identifying efficiency measures for improvement, taking into consideration commercial practices.*

engines, gearboxes and propellers) and the need for the MD to maintain a high stock ratio for these major parts (Note 17). The MSA further reported the following:

(a) ***Wide variety of major parts.*** The MD could not specify the engine type and associated spare parts when procuring new vessels. This was because, under the Government's Stores and Procurement Regulations (SPRs), when inviting tenders, government departments should word their tender specifications in easily comprehensible general terms based on the functional and performance characteristics of the goods or equipment required. They were not allowed to make any reference to a particular trademark or name, patent, design or type, specific origin, producer or service provider (Note 18). In the case of the MD, this had resulted in having various types of engines and spare parts installed on government vessels. The MD had since September 2000 implemented a rationalisation programme to help reduce the variety of major parts by identifying outdated or odd engines/equipment and replacing them by commonly used and up-to-date models; and

(b) ***Stock ratios of major parts.*** Because the MD had in earlier years procured more than the required quantities for some major parts, it was taking actions to reduce the stock quantity, including better coordination over the procurement of major parts for new vessels.

5.6 In order to reduce the MD's stock level, the MSA recommended that the MD should:

(a) reduce the variety of major parts to be installed on new vessels by requesting tenderers to provide alternative options on engine types and major parts to be used on new vessels in tendering exercises;

(b) reduce the variety of major parts in existing vessels by continuing the MD's rationalisation programme on a regular basis;

Note 17: *The stock ratio of a major part refers to the ratio between the stock quantity and the number installed on the vessels.*

Note 18: *The SPRs state that "There should be no requirement for or reference to a particular trademark or name, patent, design or type, specific origin, producer or service provider, unless there is no sufficiently precise or intelligible way of describing the procurement requirements and words such as 'or equivalent' are included in the tender documents." The purpose of this regulation is to require the procuring departments to ensure that the tender specifications are drawn up in a manner which meets the Government's procurement principle of maintaining open and fair competition.*

(c) establish the optimum stock ratios of major parts and review periodically the optimum stock ratios, making reference to the practices of ship owners and shipyards in Singapore, Mainland China and Hong Kong etc.;

(d) monitor the procurement of major parts together with new vessels by referring to the established optimum stock ratios, taking into account their stock level; and

(e) eliminate obsolete/dead stock.

5.7 The MD accepted the MSA recommendations and worked out in May 2001 an action plan to implement the recommendations. In its action plan, the MD set a target of reducing the value of major parts by 10% in about four years' time (i.e. by 2005), with a target of reducing 2.5% a year in asset value.

Audit observations and recommendations

5.8 The number of major mechanised vessels maintained by the MD had decreased from 146 as at March 2002 to 134 as at March 2005. However, the MD's expenditure on vessel maintenance materials had increased. Similarly, the stock value and the number of stock items had also increased.

5.9 Furthermore, the MD had missed its targets of reducing the value of major parts by 2.5% a year and by 10% in four years' time. Audit found that, instead of decreasing, the value of major parts had been increasing as shown in Table 6.

Table 6

Stock position for the MD's major parts

	As at 31 March				Increase (2005 over 2002)
	2002 (a)	2003 (b)	2004 (c)	2005 (d)	(e) = $\frac{(d) - (a)}{(a)} \times 100\%$
Stock value ($ million)	37	43	46	45	**22%**
Stock items (number)	284	320	351	377	**33%**

Source: Audit analysis based on MD records

5.10 The stock value of major parts as at March 2005 had increased by 22% as compared with the value as at March 2002. Similarly, the number of stock items as at March 2005 had increased by 33% as compared with the number as at March 2002.

5.11 As the holding of excessive stock leads to tying up of capital, incurring additional storage costs and increasing the risk of holding obsolete stock, Audit considers that the MD needs to review its stock position. **Audit has *recommended* that the Director of Marine should conduct a stock review to ascertain the reasons for the increased stock level and take appropriate measures to improve the stock position.**

Response from the Administration

5.12 The **Director of Marine** agrees with the audit recommendations.

Stock valuation

5.13 The MD used to value its stock at replacement cost. In order to reflect the actual stock value, the MSA recommended in its 2001 study that the MD should follow the industry practices and value its stock at historical cost. The MD accepted the MSA recommendation. As a result, since May 2001, the MD has valued its stock at historical cost.

5.14 In applying the historical cost in the valuation of those spare parts procured with new government vessels (Note 19), Audit notes that the MD has recorded them **at zero value** in its inventory records. Such a costing method is adopted because the MD considers the spare parts are part and parcel of the new vessels, the cost of which is borne by the procuring departments and the spare parts do not involve cost to the MD.

5.15 Audit ascertained that, during the period May 2001 to August 2005, some 1,000 items of spare parts had been procured with the new vessels and recorded at zero value in the MD's inventory records. Of these 1,000 items, the unit prices for about 760 items (or 76%) were readily available in the shipbuilders' delivery notes. Audit estimates that these 760 items valued at around $14 million.

Note 19: *In the procurement of government vessels, the MD acts as the procurement agent for government departments. It vets user departments' requests for procurement of government vessels. After obtaining MD endorsement, the departments concerned need to obtain the necessary funding for procurement of vessels.*

Audit observations and recommendations

5.16 **Audit considers that the recording of the spare parts procured with the new vessels at zero value in the MD's inventory records is not entirely appropriate.** This is because:

(a) cost has in fact been incurred in procuring these spare parts. In their bids submitted for the new vessels, tenderers were required to quote the unit prices for such spare parts; and

(b) the zero value treatment may result in lax control over these spare parts, such as when exercising the authority for write-offs (Note 20). In this connection, Audit notes that some of the spare parts are very costly (e.g. a spare engine costs $575,000).

5.17 **Audit has *recommended* that the Director of Marine should:**

(a) **revise the stock valuation method by recording at cost all spare parts that are procured with new vessels (Note 21) in the MD's inventory records; and**

(b) **make appropriate adjustments in the MD's inventory records for those spare parts recorded at zero value.**

Response from the Administration

5.18 The **Director of Marine** agrees with the audit recommendations.

Note 20: *According to the SPRs, the authority for approving the write-off of stock items depends on their cost (e.g. officers of D1 and D2 ranks can approve the write-off of stock items not exceeding $20,000 and $100,000 respectively where fraud or negligence on the part of a public officer is not involved).*

Note 21: *Audit notes that the unit prices for such spare parts are readily available in the delivery notes. If not available, the MD can consider tracing their unit prices to tender documents or contacting the shipbuilders direct to ascertain the prices.*

PART 6: OTHER AREAS FOR IMPROVEMENT

6.1 This PART examines other areas for improvement relating to the MD's management of the government fleet. They are extra downtime of vessels and performance measurement in the Controlling Officer's Report (COR).

Extra downtime of vessels

6.2 Based on MD management reports, in 2004-05, 134 major mechanised vessels had spent 3,921 docking days for routine overhaul, which exceeded the budget of 3,396 docking days by 525 days (or 15%). Some 70% of the extra downtime of 525 days was due to the following reasons:

(a) ***Waiting for spare parts (130 days).*** The MD reported that the spare parts involved were mainly non-standard parts which had required longer time to procure and deliver;

(b) ***Extra work not covered in tender specifications (119 days).*** The MD reported that the extra work was mainly mechanical work, which was found to be required upon disassembling the machines during overhauls;

(c) ***Crew staff for sea trial not available (62 days).*** The MD reported that due to public holidays, crew staff of the MD and user departments did not conduct sea trial; and

(d) ***Bad weather.*** This accounted for 46 days.

6.3 Audit analysis of the extra downtime attributable to the above four reasons over the four years to 2004-05 (see Table 7) shows that the extra downtime due to "waiting for spare parts" and "crew staff for sea trial not available" had increased significantly, rising from 62 days to 130 days, and 13 days to 62 days, respectively.

Table 7

Analysis of the extra downtime
(for 2001-02 to 2004-05)

Major reason	Extra downtime (Number of days)			
	2001-02	**2002-03**	**2004 (Note)**	**2004-05**
Waiting for spare parts	**62**	26	130	**130**
Extra work not covered in tender specifications	93	125	101	119
Crew staff for sea trial not available	**13**	11	60	**62**
Bad weather	187	40	38	46
Others	126	36	135	168
Total	**481**	**238**	**464**	**525**

Source: *MD records*

Note: *The analysis for 2003-04 was not available as the MD had only prepared the analysis for the calendar year 2004.*

Audit observations and recommendations

6.4 The MD's preparation of the yearly analysis of the extra downtime for its major mechanised vessels has provided useful information for management control. The practice should continue. **As downtime reduces the availability of vessels, it should be minimised as much as possible.**

6.5 **Audit has *recommended* that the Director of Marine should critically review the reasons for the extra downtime, with particular reference to downtime due to "waiting for spare parts" and "crew staff for sea trial not available", and take appropriate measures to reduce downtime.** Such measures include, for example, improving stock management and making arrangements for conducting sea trial on public holidays.

Response from the Administration

6.6 The **Director of Marine** agrees with the audit recommendations.

Performance measurement

6.7 ***Guidelines on performance measures.*** According to the Guidelines issued by the Secretary for Financial Services and the Treasury in October 2005, the following provisions on performance measures (targets and indicators) to be included in the CORs are stated:

(a) when developing performance measures, Controlling Officers should apply the most relevant performance indicators that measure economy, efficiency and cost-effectiveness of the resources deployed; and

(b) the targets should indicate the extent to which the department's operational objectives are being achieved. They should highlight changes in the cost-effectiveness with which results are being achieved. In this respect, unit cost or productivity indicators should be provided.

6.8 ***Aim and performance measures in the COR.*** Under its Programme "Government Fleet" that involves estimated spending of $386 million for 2005-06, the MD has set the following aim and key performance measures in the COR:

(a) ***Aim:*** The aim is to provide cost-effective marine transport services to government departments; and

(b) ***Key performance measures:***

	Target	**2003 (Actual)**	**2004 (Actual)**	**2005 (Plan)**
Performance target				
Vessel availability to all users	**87%**	87.9%	88.7%	87%
Indicator				
Mechanised vessels in use	–	135	134	135
New vessel projects undertaken	–	17	16	13

Source: COR of MD for 2005-06

Audit observations

6.9 The COR for 2005-06 reflects the following performance results:

(a) the MD has been able to meet its target of 87% for vessel availability;

(b) the MD's maintenance work has by and large remained steady as reflected from the same number of major mechanised vessels in use over the years; and

(c) the MD's workload in vessel procurement appears to be reducing as the number of new vessel projects undertaken had fallen from 17 in 2003 to 13 in 2005.

6.10 **Audit considers that the existing key performance measures included in the COR could be enhanced to reflect the extent to which the MD has met the programme aim of providing cost-effective marine transport services to government departments.** This is because:

(a) the only target in the COR of "vessel availability to all users" measures the percentage of time that the vessels are available to provide services to users. It does not measure the extent to which the MD has provided cost-effective marine transport services to meet government departments' needs (see para. 6.7(b)); and

(b) although the two indicators of "mechanised vessels in use" and "new vessel projects undertaken" measure the MD's workload, they do not reflect the MD's performance in terms of economy, efficiency and cost-effectiveness of the $386 million deployed to the Programme (see para. 6.7(a)).

6.11 **To enhance performance reporting and accountability, Audit considers that the MD should consider including additional key performance measures in the COR.** In this connection, reference may be made to those performance measures that the MD has internally reported to its management for information. These include, for example, customer satisfaction level for vessel maintenance, crew staff availability level and success rate for sea trial. To reflect cost-effectiveness, the MD may also wish to consider including in the COR unit cost or productivity indicators, such as the utilisation of MD crew staff and maintenance cost per available hour of major mechanised vessels.

Audit recommendations

6.12 **Audit has *recommended* that the Director of Marine should consider reporting additional key performance measures in the COR to reflect the extent to which the MD has met its programme aim of providing cost-effective marine transport services to government departments.**

Response from the Administration

6.13 The **Director of Marine** agrees with the audit recommendations.

Appendix A
(para. 1.3 refers)

The government fleet as at November 2005

Department	Major mechanised vessel		Speed boat	Inflatable boat	Dinghy	Lighter	Beach craft/raft	Total
Marine Department	40		8	3	9	23	–	**83**
Immigration Department	7		–	–	–	**–**	–	**7**
Civil Engineering and Development Department	3		–	–	–	–	–	**3**
Department of Health	3		–	–	2	–	–	**5**
Correctional Services Department	2	18 (manned by MD crew staff)	–	–	–	–	–	**2**
Environmental Protection Department	1		–	1	–	–	–	**2**
Agriculture, Fisheries and Conservation Department	2		12	3	9	–	–	**27**
Hong Kong Police Force	1		47	58	3	10	–	**173**
Fire Services Department	55		11	17	–	–	–	**38**
Customs and Excise Department	10	75 (manned by staff of these departments)	6	8	–	–	–	**21**
Water Supplies Department	7		1	4	2	–	–	**9**
Auxiliary Medical Service	2		–	1	–	–	–	**1**
Civil Aid Service	–		–	7	2	–	–	**9**
Leisure and Cultural Services Department	–		2	82	14	3	246	**347**
Total	**133**		**87**	**184**	**41**	**36**	**246**	**727**

Source: MD records

Appendix B
(para. 3.3 refers)

Maintenance workshop staff of the MD as at November 2005

Workshop	Work Supervisor I	Work Supervisor II	Senior Artisan	Artisan	Total
Workshops at Government Dockyard					
(a) Hull and deck work					
Carpentry	1	1	1	10	**13**
Inflatable and glass reinforced plastic	1	1	–	7	**9**
Sail-making and rigging	1	–	1	5	**7**
Painting	1	–	–	3	**4**
(b) Mechanical work					
Mechanic and propeller	1	–	–	11 (3)	**12 (3)**
Fire extinguisher	–	–	–	1	**1**
Fuel pump	–	–	–	2 (1)	**2 (1)**
Urgent Repair Squad	1	–	1	2 (1)	**4 (1)**
(c) Electrical work					
Electrical	–	1	–	4 (3)	**5 (3)**
Air-conditioning	1	–	1	4	**6**
Sub-total	**7**	**3**	**4**	**49 (8)**	**63 (8)**
Workshops at 5 regional forward bases of Marine Police					
General	–	–	12 (1)	6 (1)	**18 (2)**
Total	**7**	**3**	**16 (1)**	**55 (9)**	**81 (10)**

Source: MD records

Note: Figures in brackets denote non-civil service contract staff.

Appendix C
(para. 4.15 refers)

Examples of offences and the corresponding demerit points

Offence	Demerit points
No or inadequate personal protection equipment provided to workers in carrying out work	2
Non-compliance with safety rules and instructions, but causing no personal injury or damage to government properties	2
Non-compliance with safety rules and instructions, causing personal injury involving hospitalisation of less than seven days or damage to government properties of less than $50,000	4
Non-compliance with safety rules and instructions, causing loss of life or personal injury involving hospitalisation of more than seven days or causing damage to government properties of $50,000 or more	6
Disposal of materials and industrial wastes not following MD instructions, but causing no accidents, fire and pollution	2
Disposal of materials and industrial wastes not following MD instructions, causing accidents, fire and pollution involving remedial work of less than 24 man-hours	3
Disposal of materials and industrial wastes not following MD instructions, causing accidents, fire and pollution involving remedial work of 24 man-hours or more	4
Inadequate supervision of work	2
Delay, without acceptable reasons, of not more than one day in completing work	2
Each additional day's delay in completing work	2
Performing work not according to instructions, procedures and tender requirements	2
Ignoring MD request for inspection of vessel maintenance work for the MD	2
Poor workmanship leading to failure of engine, sea trial or other damage to a vessel	2

Source: MD records

Acronyms and abbreviations

Audit	Audit Commission
CEDD	Civil Engineering and Development Department
COR	Controlling Officer's Report
DH	Department of Health
FC	Finance Committee
HA	Hospital Authority
LA	Launch Assistant
LM	Launch Master
MD	Marine Department
MS	Maintenance Section
MSA	Management Services Agency
SLM	Senior Launch Master
SPRs	Stores and Procurement Regulations
VIPs	very important persons