

CHAPTER 9

Marine Department

<p>Provision of marine scavenging service</p>
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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.

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PROVISION OF MARINE SCAVENGING SERVICE

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PART 1: INTRODUCTION

1.1 This PART describes the background to the audit on the provision of marine scavenging service.

Background

1.2 Marine refuse is an eyesore and attracts much public attention. Some of the marine refuse comes from local vessels moored in the typhoon shelters or from the shore where fishermen sell their fish catches. Public cargo working areas, shipyards, reclamation sites, waterfront construction sites and off-shore fish farms are also potential sources of marine refuse.

1.3 The Marine Department (MD) provides marine scavenging service in Hong Kong waters, including foreshore areas and typhoon shelters (Note 1). The quantities of marine refuse collected for the ten years from 1994 to 2003 are shown in Table 1.

Note 1: *The Food and Environmental Hygiene Department is responsible for cleaning beaches, other than gazetted beaches, and areas where no other government departments are responsible for cleaning. The Leisure and Cultural Services Department is responsible for cleaning gazetted beaches. The Agriculture, Fisheries and Conservation Department is responsible for cleaning marine parks and mariculture zones.*

Table 1
Quantity of marine refuse collected
(1994 to 2003)

Year	Marine refuse collected (Tonnes)
1994	5,413
1995	3,810
1996	4,520
1997	5,460
1998	6,749
1999	8,050
2000	8,713
2001	9,394
2002	9,277
2003	11,464

Source: MD records

1.4 The MD provides scavenging service by operating seven specialised scavenging vessels and employing a fleet of scavenging vessels from private sector contractors. As at 31 March 2004, the fleet provided by the contractors included 11 marine refuse reception vessels (RVs — see Photograph 1) and 46 motorised sampans (MOPANs — see Photograph 2). The MOPANs collect marine refuse from their duty areas and transfer the refuse collected to the RVs. The RVs then transfer the marine refuse to the Marine Refuse Collection Points (MRCPs). There are four MRCPs (viz. the Ap Lei Chau MRCP, the Causeway Bay MRCP, the Cha Kwo Ling MRCP and the Yau Ma Tei MRCP — see Figure 1, and Photographs 3 and 4). In 2003-04, the total cost for the marine scavenging service (Note 2) was \$48.5 million.

Note 2: *The MD also provides domestic waste collection service for ocean-going vessels moored in the Victoria Harbour, and local vessels and lighters moored in typhoon shelters. Some RVs and MOPANs are involved in providing such service.*

Photograph 1

Refuse reception vessel



Source: Photograph taken by Audit staff

Photograph 2

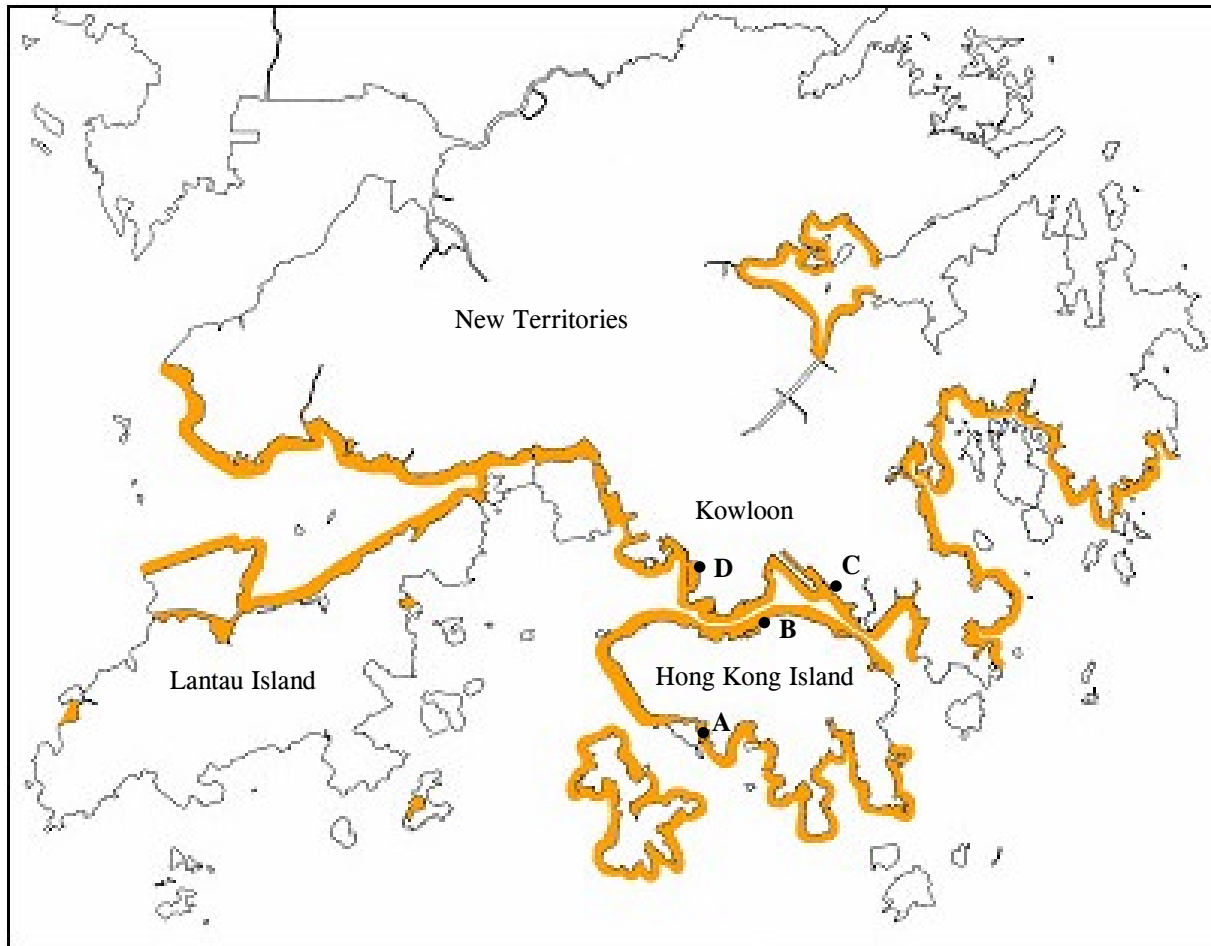
Motorised sampan



Source: Photograph taken by Audit staff

Figure 1

**Duty areas of contractors' scavenging vessels
and locations of Marine Refuse Collection Points**



- Legend:
- Duty areas
 - A** Ap Lei Chau MRCP
 - B** Causeway Bay MRCP
 - C** Cha Kwo Ling MRCP
 - D** Yau Ma Tei MRCP

Source: MD records

Photograph 3

**Refuse container and pillar jib crane
at the Causeway Bay Marine Refuse Collection Point**



Source: Photograph taken by Audit staff

Photograph 4

**Refuse container and pillar jib crane
at the Yau Ma Tei Marine Refuse Collection Point**



Source: Photograph taken by Audit staff

Audit review

1.5 The Audit Commission (Audit) has recently conducted a review on the provision of marine scavenging service by the MD. The audit focused on the following areas:

- (a) MD's scavenging vessels (see PART 2);
- (b) monitoring contractors' performance (see PART 3);
- (c) MRCPs (see PART 4);
- (d) overtime work of the crews of the Sea Cleaners (see PART 5); and
- (e) other actions to tackle the marine refuse problem (see PART 6).

1.6 In the course of the audit review, Audit examined the records and interviewed the staff of the MD. Audit has found that there are areas where improvement can be made in the provision of scavenging service and has made a number of recommendations to address these issues.

General response from the Administration

1.7 The **Director of Marine** has said that he thanks Audit for the efforts in undertaking the value for money audit and making the recommendations. The MD will positively consider the recommendations with a view to continuing to improve the efficiency, effectiveness and quality of the marine scavenging service. The Director has also said that:

- (a) the majority of marine refuse is generated from land sources and enters the marine environment through storm water drains and other run-offs, or is simply blown or thrown into the sea from the primary refuse source of land littering and dumping;
- (b) the audit exercise has revealed a number of undesirable situations, arrangements and occurrences. Whilst some of these are due to administrative oversight, most of the issues are related to inherent shortcomings of the existing system and arrangements for providing the scavenging service. The MD is aware of the inherent shortcomings and for some time has been working to improve the existing system and arrangements; and

- (c) a study to comprehensively review the existing system and arrangements and to develop improvement measures for providing the scavenging service was commissioned in 2003. The study has recently been completed. The MD is now in the course of reforming the overall system and arrangements to provide the scavenging service. The MD plans to fully implement the reforms in early 2005 after the expiry of the existing contracts.

1.8 The **Secretary for the Environment, Transport and Works** has noted the audit observations. She has said that she welcomes the audit recommendations and will urge the MD to follow the audit recommendations as appropriate.

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: MARINE DEPARTMENT'S SCAVENGING VESSELS

2.1 This PART examines the provision of scavenging service by the MD's scavenging vessels and suggests measures to improve the cost-effectiveness of the service.

Marine Department's scavenging vessels

2.2 The MD provides scavenging service in Hong Kong waters by operating its fleet of scavenging vessels and by employing scavenging vessels from private sector contractors.

2.3 For decades, the MD has contracted out a proportion of its scavenging service. In the early nineties, the MD examined the feasibility of fully contracting out the scavenging service. In 1992 and 1994, the MD conducted tendering exercises with a view to contracting out the entire scavenging service. However, the exercises were unsuccessful because the MD considered that the tender prices were too high.

2.4 In the mid-nineties, the MD's scavenging fleet consisted of six Water-witches (8.7 metre long scavenging vessels decommissioned in late 2001) and one Disfloater (a 13 metre long scavenging vessel — see Photograph 5). In 1995, the MD decided to expand its scavenging fleet to improve the scavenging service. In early 1996, the Finance Committee of the Legislative Council approved the procurement of six Sea Cleaners (21.3 metre long scavenging vessels — see Photograph 6). The capital cost of the six Sea Cleaners was \$34.6 million. Each Sea Cleaner is manned by four crew members (i.e. a Senior Launch Master, a Launch Master and two Launch Assistants). In 2003-04, the staff cost of the crews for the six Sea Cleaners was \$5.96 million.

Photograph 5

Disfloater



Source: Photograph taken by Audit staff

Photograph 6

Sea Cleaner



Source: Photograph taken by Audit staff

2.5 After the decommissioning of the six Water-witches in late 2001, the scavenging fleet of the MD consists of the Disfloater and six Sea Cleaners. The specifications and the years of commissioning of the Disfloater and the Sea Cleaners are shown in Table 2.

Table 2
Specifications and year of
commissioning of the Disfloater and the Sea Cleaners

Scavenging vessel	No. of crew members	Length (Metre)	Capacity for marine refuse (Cubic metre)	Year of commissioning
Disfloater	6	13.0	7.4	1990
Sea Cleaners	4	21.3	14.1	1998 to 1999

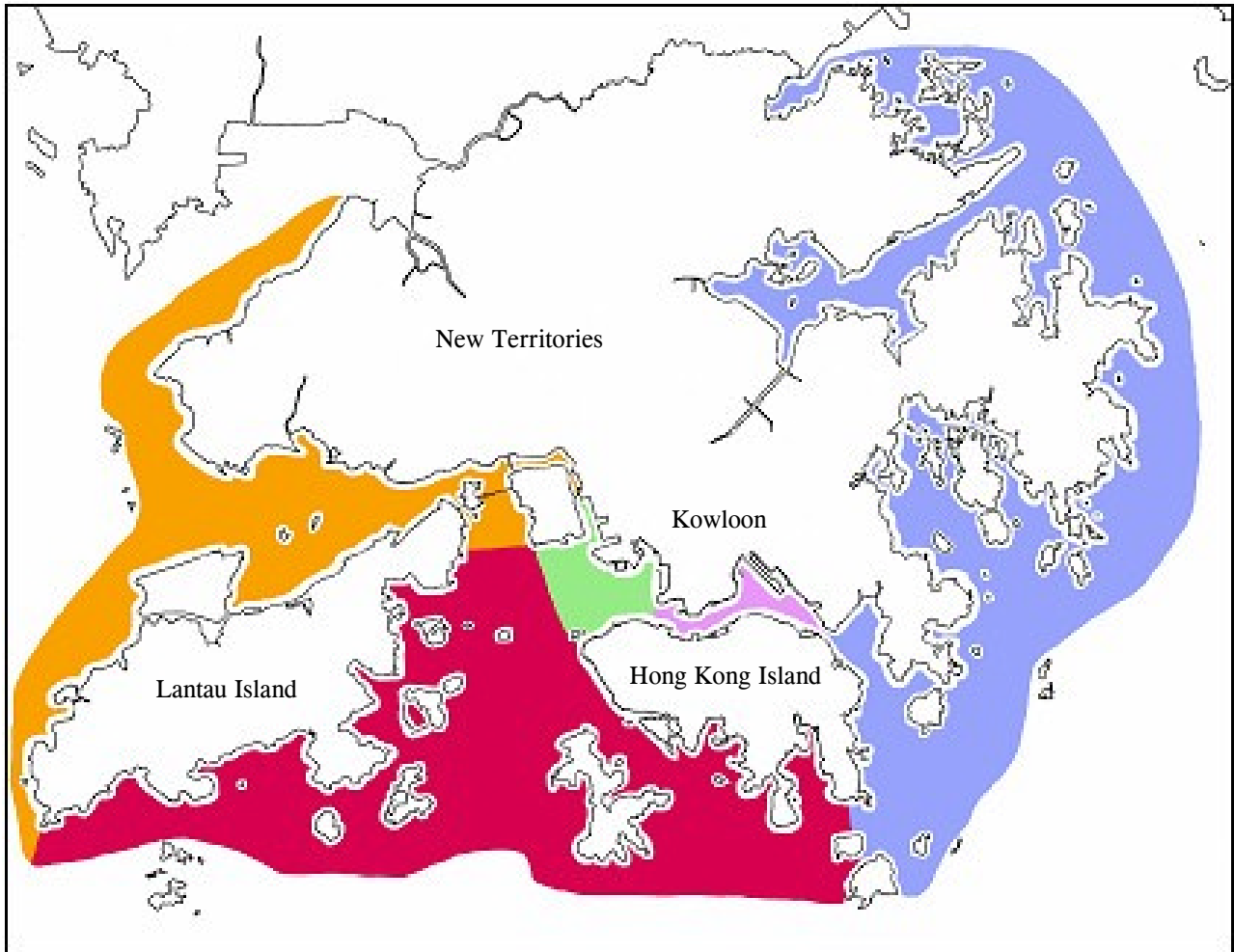
Source: MD records






Audit observations

Overlapping of duty areas

2.6 The MD's scavenging vessels perform scavenging duties according to a duty roster prepared by the Pollution Control Unit (PCU) of the MD. The PCU divides Hong Kong waters into five duty areas (i.e. Eastern, Harbour Central, Harbour West, Islands and Tuen Mun — see Figure 2). Each duty area is served by a Sea Cleaner. The remaining Sea Cleaner is assigned to carry out ad hoc special duties. The Disfloater is assigned to carry out scavenging duties in the Victoria Harbour. Audit noted that the duty areas of the Sea Cleaners overlapped with that of the Disfloater and those of the contractors' MOPANs. For example, inside the Victoria Harbour, three groups of scavenging vessels (i.e. the contractors' MOPANs, the Sea Cleaners and the Disfloater) provided scavenging service concurrently.

Figure 2
Duty areas of Sea Cleaners



- Legend:
-  Eastern Duty Area
 -  Harbour Central Duty Area
 -  Harbour West Duty Area
 -  Islands Duty Area
 -  Tuen Mun Duty Area

Source: MD records

Frequency of unloading marine refuse collected by the Sea Cleaners

2.7 Audit examination of the log books of the MD's scavenging vessels in 2003-04 revealed that, on average, each Sea Cleaner unloaded marine refuse less than two times per month at the MRCs. Details are shown in Table 3. This indicated that the quantities of marine refuse collected by the Sea Cleaners were so small that they rarely needed to unload marine refuse.

Table 3

**Average number of times each Sea Cleaner
unloaded marine refuse at Marine Refuse Collection Points
(2003-04)**

Month	Average number of times
Apr 2003	1.83
May 2003	2.00
Jun 2003	2.67
Jul 2003	1.83
Aug 2003	1.50
Sep 2003	1.50
Oct 2003	1.50
Nov 2003	1.67
Dec 2003	1.33
Jan 2004	2.17
Feb 2004	2.33
Mar 2004	1.67
	<hr/>
Total	<u>22.00</u>
	<hr/>
Average per month	1.83

Source: MD records

Sea Cleaners collected 35% of the marine refuse they were expected to collect

2.8 In the 1996 Finance Committee Paper seeking funds for procuring the six Sea Cleaners, the MD stated that the provision of the Sea Cleaners would increase the quantity of marine refuse collected by about 34% (see para. 2.4). Audit noted that in 1995, the total quantity of marine refuse collected was 3,810 tonnes (see Table 1). Therefore, the six additional Sea Cleaners were expected to collect about 1,295 (3,810 × 34%) tonnes of marine refuse a year. However, Audit observed that in 2003-04, the Sea Cleaners only collected 459 tonnes of marine refuse, representing 35% of the quantity they were expected to collect.

Cost-effectiveness of the Marine Department's scavenging vessels

2.9 Audit reviewed the costs of operating the three types of scavenging vessels (i.e. the contractors' scavenging vessels, the Disfloater and the Sea Cleaners) in 2003-04. Audit notes that the operating costs per vessel for MD's scavenging vessels are about four to six times more than those of the contractors' scavenging vessels. The operating costs for the three types of scavenging vessels in 2003-04 are shown in Table 4.

Table 4
Operating costs per scavenging vessel
(2003-04)

Scavenging vessel	Operating costs per vessel (\$ million)
Contractors' scavenging vessel	0.46 (Note)
Disfloater	2.36
Sea Cleaner	3.30

Source: MD records

Note: This includes the operating costs of the RVs and the MOPANs.

2.10 Audit analysed the quantities of marine refuse collected by the three types of scavenging vessels in 2003-04. Audit noted that the quantity of marine refuse collected per vessel varied from 76.5 tonnes to 304.37 tonnes. Details are shown in Table 5.

Table 5
Quantity of marine refuse collected per scavenging vessel
(2003-04)

Scavenging vessel	Marine refuse collected (Tonnes)
Contractors' scavenging vessel	169.55
Disfloater	304.37
Sea Cleaner	76.50

Source: MD records

2.11 Audit analysis indicated that the cost of collecting marine refuse per tonne by the MD's scavenging vessels was much higher than that of the contractors' scavenging vessels. The cost of collecting marine refuse per tonne by the Sea Cleaners was about 16 times that of the contractors' scavenging vessels. For the Disfloater, the cost was nearly 3 times that of the contractors' scavenging vessels. For the three types of scavenging vessels, the cost of collecting marine refuse per tonne in 2003-04 is shown in Table 6.

Table 6
Cost of collecting marine refuse per tonne
(2003-04)

Scavenging vessel	Cost of collecting marine refuse per tonne (\$)
Contractors' scavenging vessel	2,713
Disfloater	7,754
Sea Cleaner	43,137

Source: MD records

Checking and warming up the engines of the scavenging vessels

2.12 According to the log books of the MD's scavenging vessels, on every working day, the crews of the Sea Cleaners spent one hour from 8:00 a.m. to 9:00 a.m., and the crew of the Disfloater spent 45 minutes from 8:00 a.m. to 8:45 a.m., to check and warm up the engines of the scavenging vessels. The Sea Cleaners then left the bases at the Government Dockyard and Tai Po Kau at 9:00 a.m., and the Disfloater left the Government Dockyard at 8:45 a.m. Audit considers that this practice has shortened the time available for the scavenging vessels to carry out scavenging duties and has affected the cost-effectiveness of the scavenging vessels. There is a need to review the time spent on checking and warming up the engines so that the scavenging vessels could leave their bases sooner to carry out scavenging duties.

Performance of non-scavenging duties by the Sea Cleaners

2.13 Audit examination of the log books of the MD's scavenging vessels revealed that, in 2003-04, the Sea Cleaners were often deployed to carry out transportation duties. Details of such duties are shown in Table 7.

Table 7

**Transportation duties carried out by the Sea Cleaners
(2003-04)**

Nature of duty	No. of occasions
Conveying staff from one place to another	61
Conveying Marine Inspectors to perform inspection duty	40
Transportation of documents and supplies	11
Total	<u><u>112</u></u>

Source: MD records

Note: The total time taken for these transportation duties was 172 hours.

Audit recommendations

- 2.14 **Audit has recommended that the Director of Marine should:**
- (a) **review the existing arrangements of providing marine scavenging service in the same water areas by both the MD's scavenging vessels and the contractors' scavenging vessels (see para. 2.6);**
 - (b) **review the cost-effectiveness of using the MD's vessels to provide scavenging service, and explore ways to improve the cost-effectiveness of the MD's scavenging vessels (e.g. by shortening the time spent on checking and warming up the engines at the beginning of every working day — see paras. 2.9 to 2.12);**
 - (c) **consider decommissioning some of the MD's scavenging vessels and increasing the proportion of the scavenging service provided by the contractors (see paras. 2.9 to 2.11); and**
 - (d) **strictly monitor and control the use of the Sea Cleaners with a view to ensuring that they are not used solely for carrying out transportation duties (see para. 2.13).**

Response from the Administration

- 2.15 **The Director of Marine has said that:**

Overlapping of duty areas

- (a) the MOPANs, the Sea Cleaners and the Disfloater have different capabilities and limitations. The MOPANs are more effective in handling small and light weight marine refuse and working close to the shore and in confined water areas near piers and mooring areas. The Sea Cleaners and the Disfloater are more suited for handling larger size marine refuse (e.g. dunnage pallet and fenders) and working in relatively more open and exposed water areas with rough sea conditions because of their robust build and faster speed. Overlapping of duty areas is necessary to enable the three different types of vessels to work together in a complementary manner. As cleanliness of the water area inside the Victoria Harbour is of particular concern to the general public, the Disfloater is also deployed to serve this priority duty area;

- (b) the MD has reviewed the existing arrangements of providing marine scavenging service in the same water areas by both the MD's scavenging vessels and the contractors' scavenging vessels. One of the measures of reforming the overall system and arrangements of providing marine scavenging service is to outsource the portion of the service provided by the MD's scavenging vessels. As a result, overlapping of duty areas will be kept to a minimum and only in water areas where such an arrangement is necessary or desirable;

Frequency of unloading marine refuse collected by the Sea Cleaners

- (c) the MD has checked with the masters of the Sea Cleaners and found that the log books had not been properly maintained in that the unloading of marine refuse had quite often not been recorded in the log books. It is obvious from the statistics of the amount of refuse collected by the Sea Cleaners that they had to unload many times more than those recorded in the log books. The MD has given instructions to all the masters of the Sea Cleaners and the Disfloater that they must unload the refuse at an MRCP daily and maintain proper records of the unloading activities in the log books;

Quantity of marine refuse collected by the Sea Cleaners and cost-effectiveness of the Marine Department's scavenging vessels

- (d) the relevant Finance Committee paper was prepared in 1996 and the anticipated figures therein were very rough estimates based on information then available. Due to the increasing public demand for a cleaner marine environment, the number of contractors' scavenging vessels has increased from 37 in 1996 to 64 in 2004. With a larger contractors' scavenging fleet, and the introduction of a foreshore cleansing team and other additional measures, the MD has been able to scavenge much more marine refuse close to the shore and effectively prevent much refuse from entering exposed water areas away from the shore. This has resulted in a smaller quantity of marine refuse for the Sea Cleaners to collect than the originally anticipated quantity;
- (e) the MD has reviewed the cost-effectiveness of using its vessels to provide scavenging service and is aware of the relatively low productivity and poor cost-effectiveness of operating the Sea Cleaners by the Government. The MD had considered decommissioning some of its scavenging vessels and increasing the proportion of the scavenging service provided by the contractors. The MD plans to decommission the Disfloater in 2005-06 and outsource the services provided by the Sea Cleaners as one of the reform measures;

Checking and warming up the engines of the scavenging vessels

- (f) the Sea Cleaners and the Disfloater are maintained by the Government Dockyard. In order to ensure good maintenance and functioning of the government vessels, the crews of all government vessels are required to follow guidelines to prepare the engines, including checking and warming up, before carrying out their duties. Although the engine preparation shortens the time available for the scavenging vessels to carry out scavenging duties, such preparation is essential to ensure the safe use and good upkeep of the vessels. Nevertheless, the MD will critically review the actual time used for engine preparation with a view to reducing it to a minimum; and

Performance of non-scavenging duties by the Sea Cleaners

- (g) although the conveyance and transportation duties of the Sea Cleaners might not have been recorded in detail in the log books, they were all related to the operations of the PCU. These operations included routine, urgent or surprise inspections, checking reported pollution situations, and deployment and repositioning of oil pollution control equipment. Generally, the Sea Cleaners were only used as a last resort when other suitable vessels from the Government Dockyard were not available. However, the MD will strictly monitor and control the use of the Sea Cleaners. Since April 2004, the PCU has hired a contractor's launch mainly for conveyance and transportation duties.

PART 3: MONITORING CONTRACTORS' PERFORMANCE

3.1 This PART reviews the marine scavenging service provided by the contractors and suggests measures to improve its cost-effectiveness.

Contractors' scavenging vessels

3.2 Marine scavenging service is also provided by the contractors' scavenging vessels. As at 31 March 2004, the fleet of the contractors' scavenging vessels consisted of 11 RVs and 46 MOPANs. In 2003-04, the total cost of the scavenging service provided by the contractors was \$25.3 million. Each scavenging team consists of one or two RVs and several MOPANs. Marine refuse is scooped manually by the contractors' staff on the MOPANs, using a net attached to a pole. The marine refuse collected is then transferred to the RVs.

3.3 The two types of contracts for providing scavenging service are as follows:

- (a) ***Vessel-hiring contracts.*** The MD hires scavenging vessels through public tender. The MD assigns the contractors' scavenging vessels to different duty areas to carry out scavenging duties during the specified operating hours. Before 1 April 2004, the contracts between the contractors and the MD required the contractors to provide scavenging service from 8:30 a.m. to 6:00 p.m. daily, except on Sundays and public holidays. The MD might require the contractors to work on Sundays and public holidays subject to paying additional charges to the contractors. Since 1 April 2004, the scheduled operating hours of the scavenging vessels have been changed to 8:00 a.m. to 6:00 p.m. under the new contracts; and
- (b) ***Objective-based contracts.*** The contractors are required to provide scavenging service at assigned duty areas from 8:00 a.m. to 6:00 p.m. daily (including Sundays and public holidays) to keep the duty areas up to an agreed cleanliness standard. Marine Inspectors of the MD carry out inspections to ensure that the standard is met. As long as the cleanliness of the assigned duty area of a contractor is up to the required standard and the contractor has carried out scavenging duties for the whole duty area not less than twice in the working day, the contractor is only required to carry out scavenging duties whenever marine refuse is found in the duty area throughout the operating hours. As at 1 June 2004, the scavenging service of four typhoon shelters (viz. the Causeway Bay Typhoon Shelter, the Cheung Chau Typhoon Shelter, the Shau Kei Wan

Typhoon Shelter and the Tuen Mun Typhoon Shelter) was provided under the objective-based contracts.

Supervision of the contractors' scavenging vessels

3.4 The PCU is responsible for the supervision and monitoring of the scavenging service provided by the contractors' scavenging vessels. The PCU monitors the performance of the contractors' scavenging vessels by:

- (a) deploying Pollution Control Assistants (PCAs) or Marine Services Assistants (MSAs) on board some RVs to oversee the provision of service by the scavenging vessels. As at 31 March 2004, six PCAs and MSAs were deployed to the RVs. The PCAs and MSAs keep attendance records of the scavenging vessels to ensure that they carry out scavenging duties throughout their operating hours. For the other five RVs without the PCA or the MSA stationed on board, the contractors keep attendance records of the scavenging vessels; and
- (b) carrying out surprise inspections of the contractors' scavenging vessels.

Field visits to observe the operations of motorised sampans

3.5 During the period from 22 March 2004 to 14 April 2004, Audit observed the operations of four selected MOPANs working separately in:

- (a) the water areas from the Sandy Bay to the Ka Lung Court (Cyber Port Area);
- (b) the water area at Ting Kau (Ting Kau Area);
- (c) the water area outside Tsim Sha Tsui East (Tsim Sha Tsui East Area); and
- (d) the water areas from the Wan Chai Ferry Pier to the Fleet Arcade (Wan Chai Area).

Each selected MOPAN was observed for one to three days throughout its operating hours.

Audit observations

Motorised sampans found not fully engaged in carrying out scavenging duties

3.6 During the field visits, Audit found that the MOPANs had not been fully engaged in carrying out scavenging duties during their operating hours. Some MOPANs could not be found in their duty areas and some MOPANs were found not carrying out scavenging duties. The results of the field visits are summarised in Appendices A to D.

3.7 As a result of the field visits, Audit has found that:

- (a) the MOPANs usually started to work later than their scheduled operating hours. Except for the MOPAN working in the Cyber Port Area on 29 March 2004 and that working in the Tsim Sha Tsui East Area on 23 March 2004, all MOPANs started to work 15 to 52 minutes later than the start of their scheduled operating hours;
- (b) the MOPANs took breaks of 105 minutes (i.e. 1.75 hours) to 182 minutes (i.e. 3.03 hours) at noon;
- (c) some MOPANs occasionally stopped carrying out scavenging duties for prolonged period of time during their scheduled operating hours. For example, on 23 March 2004, the MOPAN working in the Tsim Sha Tsui East Area stopped carrying out scavenging duties for 113 minutes (i.e. from 9:20 a.m. to 9:50 a.m., from 10:07 a.m. to 10:55 a.m. and from 3:15 p.m. to 3:50 p.m.);
- (d) the MOPANs stopped carrying out scavenging duties for 81 minutes (1.35 hours) to 119 minutes (1.98 hours) before the end of their scheduled operating hours;
- (e) the MOPAN working in the Wan Chai Area carried out scavenging duties in the morning of 28 March 2004 with two crew members, contrary to the contractual requirement that three crew members should be present on the MOPAN in providing scavenging service; and
- (f) the total time, that an individual MOPAN could not be found in the duty area or was found not carrying out scavenging duties on a working day, varied from 4.32 hours (i.e. the MOPAN working in the Ting Kau Area on 8 April 2004) to 6.22 hours (i.e. the MOPAN working in the Tsim Sha Tsui East Area on 23 March 2004).

*Marine Department's views on motorised sampans
found not fully engaged in carrying out scavenging duties*

3.8 In April 2004, Audit sought the MD's views on the audit observations. In response, the MD informed Audit in May 2004 that:

- (a) the MD had put in place a system requiring the scavenging vessels to report for duty at designated reporting points in the morning before starting work for the day. The arrangement was to ensure that all the scavenging vessels did report for work and were in all aspects ready for carrying out the work. The audit observation that the MOPANs were not found in their assigned duty areas by 8:00 a.m. or 8:30 a.m. was probably due to the fact that they had to report for duty first to the designated reporting points before proceeding to the assigned duty areas (Note 3);
- (b) the MD agreed that the four MOPANs had not been fully engaged in scavenging duties during their operating hours in that they had ceased work about one to two hours earlier than they should;
- (c) the probable causes for the lax and indifferent behaviour of the MOPAN workers were:
 - (i) indiscipline of the MOPAN workers with a nonchalant working attitude;
 - (ii) lack of supervision of the work of the MOPANs by the contractors; and
 - (iii) ineffective monitoring of contract performance by the MD.

The causes mentioned in (i) and (ii) above might have been exacerbated by the timing of the field visits which were conducted in the last 10 days of the 2-year contracts from 1 April 2002 to 31 March 2004. The contractor concerned did not tender for new contracts;

- (d) it was a breach of the contract for the MOPANs to cease work early. However, as the contract covering the MOPANs working in the Cyber Port Area, the Tsim Sha Tsui Area and the Wan Chai Area had already ended with all payments

Note 3: *In Audit's view, this arrangement affects the efficiency of the MOPANs in providing scavenging service. The MD should put in place cost-effective measures to ensure that the scavenging vessels start carrying out scavenging duties at the start of their scheduled operating hours.*

settled, the MD was somewhat constrained in taking follow-up actions. For the MOPAN working in the Ting Kau Area, the MD was taking follow-up actions to require the contractor to provide explanations. The MD would take further action as necessary;

- (e) the MD was well aware that the lax and indifferent behaviour of the MOPAN workers was an inherent shortcoming of vessel-hiring contracts, given the limited number of officers available for supervision work. As a long-term measure to improve supervision and monitoring, the MD was in the course of replacing the vessel-hiring contracts by objective-based contracts. This new arrangement had already been implemented to cover the water areas in four typhoon shelters and improvement had been apparent. The MD would extend the objective-based contract arrangement to cover all the service areas after the expiry of the existing contracts in early 2005;
- (f) the MD had only six PCAs available full time and four Marine Inspectors available part time to supervise some 70 vessels working all over the waters of Hong Kong on scavenging duties and domestic waste collection duties for ocean-going vessels and local vessels. Nevertheless, the MD would do the utmost to strengthen the monitoring of the contractors' performance to ensure that the MOPANs would not stop carrying out scavenging duties early. The MD would also exert greater efforts to require the contractors to motivate their workers and to enhance their direct supervision on the MOPANs;
- (g) the duty records of the PCU's officers who supervised the contractors' scavenging vessels indicated that the officers had mainly been engaged in duties in other water areas on the days of audit field visits. The Marine Inspector who carried out a surprise inspection on the MOPAN working in the Wan Chai Area on 23 March 2004 at 10:15 a.m. found that it was carrying out scavenging duties;
- (h) from time to time, the MD found occasions when contractors had not performed up to its requirements. The MD had taken follow-up actions on such cases including issuing warning letters to the contractors, conducting meetings with them and recovering contract payments paid to them;
- (i) as the RVs had to receive all the collected marine refuse from the MOPANs and unload the marine refuse before completing their work for the day, it was unavoidable that some MOPANs might not work until 6:00 p.m. everyday. The MD agreed that it was unreasonable for the MOPANs to cease work as early as 4:00 p.m.; and

- (j) the MD would take note of the audit observations and continue to improve the contract administration arrangements.

Refuse reception vessels at the Ap Lei Chau Marine Refuse Collection Point and the Yau Ma Tei Marine Refuse Collection Point

3.9 During the audit field visits in March 2004 to the Ap Lei Chau MRCP and the Yau Ma Tei MRCP (see PART 4), Audit noted that at each of the MRCPs, an RV was moored within a short distance (about one hundred metres) from the MRCP throughout the period of performing its duty. Audit observed that the MOPANs sailed to the two RVs to discharge the marine refuse collected onto the RVs. The RV at the Ap Lei Chau MRCP then unloaded the marine refuse into the refuse container at the MRCP, once in the morning and once in the afternoon. The RV at the Yau Ma Tei MRCP unloaded the marine refuse into the refuse container at the MRCP only once in the afternoon. As the RVs were moored so close to the MRCPs, the two RVs served no useful purposes in transferring the marine refuse collected by the MOPANs into the refuse containers at the MRCPs. In Audit's view, it is more cost-effective to instruct the MOPANs to unload their marine refuse directly into the refuse containers at the MRCPs so that the service of the two RVs under the contract, at a cost of \$2.3 million in 2003-04, can be dispensed with.

Supervision of the contractors' scavenging vessels

3.10 The PCU's supervision of the contractors' scavenging vessels was not effective. Audit has observed that:

- (a) ***the working hours of the Marine Inspectors do not match the operating hours of the contractors' scavenging vessels.*** The contracts for scavenging service specify the operating hours of the contractors' scavenging vessels. For the 2-year contracts from 1 April 2002 to 31 March 2004, the operating hours of the scavenging vessels were from 8:30 a.m. to 6:00 p.m. For the new contracts effective from 1 April 2004, the operating hours are from 8:00 a.m. to 6:00 p.m. The duty hours of the Marine Inspectors supervising the contractors' scavenging vessels do not match those of the contractors' scavenging vessels. The duty hours of the Marine Inspectors are from 8:30 a.m. to 5:00 p.m. from Monday to Friday and from 9:00 a.m. to 12 noon on alternate Saturday. The MD informed Audit in August 2004 that since early 2003, the Marine Inspectors of the PCU performed shift duties by staggering their working hours to cover the operating hours of the contractors' scavenging vessels. The MD found the arrangements effective. In Audit's view, despite the staggered working hours of the Marine Inspectors, the supervision and monitoring of the contractors'

scavenging vessels at the start and towards the end of the scheduled operating hours are still not very effective (see para. 3.7(a) and (d)); and

- (b) ***the records prepared by the PCU staff are not consistent.*** Audit examination of the attendance records prepared by the PCAs and the MSAs, and the surprise inspection records prepared by the Marine Inspectors has revealed the following irregularities:
- (i) on a number of occasions, the same scavenging vessel, recorded in the attendance record of the PCA or the MSA as having provided scavenging service in a water area on a date, was also recorded as having provided scavenging service in another water area during surprise inspection by the Marine Inspector on the same date. Details are given in Appendix E; and
 - (ii) the MD instructed eight scavenging vessels to work overtime at the Aberdeen Typhoon Shelter on Sundays in March 2003. During a surprise inspection by a Marine Inspector on 2 March 2003, only three, instead of eight, scavenging vessels were found present. However, the contractor was paid overtime payment for eight scavenging vessels.

Audit recommendations

3.11 Audit has recommended that the Director of Marine should:

- (a) **introduce effective measures to ensure that the contractors' scavenging vessels are fully engaged in carrying out scavenging duties during their operating hours (see paras. 3.6 and 3.7);**
- (b) **strengthen the existing system of supervision and monitoring of the contractors' scavenging vessels, especially near the end of the contractual period when the contractors may slacken off in performing their duties (see paras. 3.6 and 3.8(c));**
- (c) **examine the cost-effectiveness of deploying PCAs and MSAs on board the RVs (see para. 3.10);**
- (d) **consider recovering part of the contract payments made to the contractors because their MOPANs were found not fully engaged in performing scavenging duties (see paras. 3.6 and 3.7);**

- (e) review the need to retain the service of the two RVs moored very close to the Ap Lei Chau MRCP and the Yau Ma Tei MRCP, and consider instructing the MOPANs working in the water areas near the MRCPs to unload the marine refuse directly into the refuse containers at the MRCPs (see para. 3.9); and
- (f) review critically the operation of marine scavenging service under the objective-based contracts before applying this type of contract arrangement to all the service areas (see para. 3.3(b)).

Response from the Administration

3.12 The Director of Marine has said that:

Supervision of the contractors' scavenging vessels

- (a) appropriate measures will be introduced to strengthen the monitoring of the contractors' work in order to ensure that the contractors' scavenging vessels are fully engaged in carrying out scavenging duties during their operating hours;
- (b) the MD will endeavour to strengthen the existing system of supervision and monitoring of the contractors' scavenging vessels, and will pay particular attention to the contractors' performance near the end of the contracts;
- (c) through an internal review conducted recently, the MD has found that there is room for improvement in the documentation prepared by the PCU staff. Actions are being taken to ensure that complete, accurate and consistent records are maintained and that any irregularities such as those mentioned in paragraph 3.10(b) will not recur;
- (d) as part of the reform of the overall system and arrangements for marine scavenging service, the MD will revamp the arrangements for the deployment of PCAs and MSAs on board the RVs for the supervision of contractors in accordance with the new contract requirements;
- (e) the MD will attempt to recover part of the payments made to the contractors due to their MOPANs not fully engaged in performing scavenging duties;

Refuse reception vessels at the Ap Lei Chau Marine Refuse Collection Point and the Yau Ma Tei Marine Refuse Collection Point

- (f) the RVs at the Ap Lei Chau MRCP and the Yau Ma Tei MRCP serve as temporary refuse storage boats for the MOPANs working in southern part of the Hong Kong Island, Stanley Bay and Repulse Bay, and Stonecutters Island and Yau Ma Tei Anchorage areas respectively. Because of the physical characteristics of these two MRCPs (i.e. no landing steps and the height of the seawall), the MOPANs with low freeboard cannot safely berth alongside and unload the refuse directly into the refuse containers at the MRCPs. Therefore, the RVs moored close to the two MRCPs are deployed as reception facilities for the MOPANs to unload their marine refuse collected. The RVs are deployed to other locations to collect marine refuse from scavenging vessels as and when necessary;

- (g) the need for retaining the service of the two RVs has been reviewed and they are found to be necessary for the current contracts. Nevertheless, upon the implementation of the reform for the provision of marine scavenging service, such arrangements may not be necessary in the future; and

Objective-based contracts

- (h) the objective-based contract adopted in the four typhoon shelters has achieved better cleanliness conditions in the typhoon shelters. It demonstrates that this model is effective and the policy review has established that the mode of objective-based contracts should be the broad direction of outsourcing the marine scavenging service in the future. Furthermore, in the study completed recently, the MD has critically reviewed the adoption of the objective-based contracts to cover all the service areas and concluded that such arrangement was feasible and desirable.

PART 4: MARINE REFUSE COLLECTION POINTS

4.1 This PART examines the operation of the MD's MRCs and suggests measures to improve their cost-effectiveness.

Function of the Marine Refuse Collection Points

4.2 An MRC is a facility at the waterfront where marine refuse collected by the scavenging vessels is unloaded for subsequent transportation to a landfill by lorry. Refuse containers (see Photographs 3 and 4) are placed at the MRCs for temporary storage of the marine refuse awaiting transportation to landfills. The capacity of each refuse container is 40 cubic metres. The refuse container can be towed onto a lorry and then transported to a landfill.

4.3 The contractors' scavenging vessels are divided into teams. Each team consists of one or two RVs and several MOPANs. When a MOPAN has collected a certain quantity of marine refuse, it unloads the refuse to a designated RV instead of travelling to the MRC. After the RV has received loads of marine refuse from the MOPANs, it travels to the MRC and unloads the refuse into the refuse container at the MRC. The MD's scavenging vessels (i.e. the Sea Cleaners and the Disfloater) also unload marine refuse into the refuse container at the MRC. The MRC is used to improve the efficiency and cost-effectiveness of the scavenging service.

Pillar jib cranes

4.4 A pillar jib crane (see Photographs 3 and 4) is installed at each of the four MRCs to facilitate the transfer of marine refuse from the scavenging vessels to the refuse containers at the MRC and, for heavy pieces of marine refuse, from the MRC onto the lorry. The pillar jib crane does not load the refuse container onto the lorry for transporting to the landfill. The capital cost of the four pillar jib cranes at the MRCs is \$1.95 million.

Operation of the Marine Refuse Collection Points by contractor

4.5 The MD has contracted out the operation of the MRCs (including the removal of marine refuse from the MRCs to landfills). The cost of operating the MRCs under the

old contract for the period from 1 April 2002 to 31 March 2004 was \$94,000 a month. The cost of operating the MRCPs for the period from 1 April 2004 to 31 March 2005 by the new contractor is \$70,000 a month.

- 4.6 The duties of the contractor, same as those specified in the old contract, include:
- (a) operating the pillar jib cranes and transferring marine refuse from the scavenging vessels to the refuse containers at the MRCPs;
 - (b) providing sufficient staff at the MRCPs during the operating hours of the scavenging vessels from 9:00 a.m. to 7:00 p.m. (8:30 a.m. to 6:00 p.m. for the old contract); and
 - (c) ensuring that the MRCPs are kept clean and clear of marine refuse. All marine refuse should be removed from the MRCPs daily.

Field visits to the Marine Refuse Collection Points

4.7 In March 2004, Audit paid several field visits to the Ap Lei Chau MRCP, the Causeway Bay MRCP and the Yau Ma Tei MRCP to observe their operations throughout their operating hours from 8:30 a.m. to 6:00 p.m. The audit findings of the field visits are shown in Table 8.

Table 8

**Audit findings of field visits
to three selected Marine Refuse Collection Points
(March 2004)**

MRCP	Date of field visit	No. of times of removing marine refuse	Provision of staff	No. of times of unloading marine refuse by a scavenging vessel	No. of times of using pillar jib crane
Ap Lei Chau	11.3.2004	0	No	2	0
Ap Lei Chau	12.3.2004	1	No	2	0
Ap Lei Chau	30.3.2004	1	No	2	0
Causeway Bay	1.3.2004	0	No	1	0
Causeway Bay	15.3.2004	0	No	1	0
Causeway Bay	16.3.2004	1	No	1	0
Causeway Bay	21.3.2004	1	No	0	0
Yau Ma Tei	18.3.2004	0	(Note)	6	2
Yau Ma Tei	19.3.2004	2	(Note)	4	1

Source: Audit records of field visits

Note: There was a shed inside the Yau Ma Tei MRCP. If the contractor's staff stayed inside the shed, their presence could not be observed from outside the MRCP. Therefore, Audit could not ascertain whether the contractor's staff were present during the field visits by observing from outside the MRCP.

Audit observations

Non-compliance with contractual requirements

4.8 During the field visits, Audit observed that the contractor did not fulfil a number of requirements specified in the contract. Details of the non-compliance are mentioned in paragraphs 4.9 and 4.10.

4.9 ***Daily removal of all marine refuse from the MRCPs.*** According to the contract, the contractor was required to remove all marine refuse from the MRCPs daily (see para. 4.6). On four out of nine days of the field visits, Audit noted that the contractor did not remove the marine refuse from the MRCPs (see Table 8).

4.10 ***Provision of staff at the MRCPs.*** According to the contract, the contractor was required to provide sufficient staff at the MRCPs during the operating hours of the scavenging vessels, and the contractor was responsible for transferring marine refuse from the scavenging vessels into the refuse container at the MRCPs (see para. 4.6). However, during the field visits to the three selected MRCPs, Audit noted that the Ap Lei Chau MRCP and the Causeway Bay MRCP were not manned by the contractor's staff (see Table 8).

Marine Department's views on non-compliance with contractual requirements

4.11 In April 2004, Audit sought the MD's views on the audit observations. In response, the MD informed Audit in May 2004 that:

- (a) the contractor was required to remove all the marine refuse in the MRCPs daily. Failure to do so constituted a breach of the service specifications. It was suspected that such a breach might have occurred due to the sluggish working attitude of the workers and the contractor, particularly as March 2004 was the last month of the two-year contract (1 April 2002 to 31 March 2004). The contractor was informed on 16 March 2004 that its bid for the new contract had not been successful. Such a breach might also be due to ineffective monitoring of contract performance by the MD because of resources constraints;
- (b) the contract required provision of sufficient staff at the MRCPs during a specified period of time. The main purpose of this service specification was to ensure that, during the period of operation of the marine cleansing vessels, there was support of shore staff at the MRCPs to assist the transfer of marine refuse

from the vessels to the MRCPs, particularly if the pillar jib cranes had to be used;

- (c) in terms of cost, the MRCP operations constituted about 2% of the MD's total marine cleansing budget. Given staff resources constraints, efforts to supervise the MRCP operations had to be and had been pragmatically scaled;
- (d) the MD regularly carried out inspections of the MRCPs by deploying its available staff. In some cases, the MD discovered that the contractor had not fulfilled all its contractual requirements. For these cases, the MD had given warnings to the contractor; and
- (e) as part of the initiative to improve the scavenging service, the MD had plans to improve the situation by including the operation of the MRCPs in the objective-based contract arrangement scheduled for implementation in early 2005 (see para. 3.3(b)). This would eliminate the need to have officers to do frequent checks at the MRCPs. In the interim, the MD would step up control as much as it could.

Pillar jib cranes not used

4.12 During the field visits, Audit noted that the pillar jib cranes installed at the Ap Lei Chau MRCP and the Causeway Bay MRCP were not used for transferring marine refuse from scavenging vessels into the refuse containers at the MRCPs (see Table 8). Audit examination of the electricity consumption records of the two MRCPs in 2003-04 revealed that there was no electricity consumption at the Ap Lei Chau MRCP and only one unit of electricity was consumed at the Causeway Bay MRCP. The extremely low electricity consumption indicated that the pillar jib cranes, powered by electricity, at the Ap Lei Chau MRCP and the Causeway Bay MRCP were not used for the whole year in 2003-04. Audit considers that the MD should have carefully evaluated the operational need for installing a pillar jib crane, with an average cost of \$0.49 million, at each MRCP.

Marine Department's views on pillar jib cranes not used

4.13 In April 2004, Audit sought the MD's views on the audit observations. In response, the MD informed Audit in May 2004 that:

- (a) the pillar jib cranes were provided at the MRCPs as available tools should they be needed for handling heavy pieces of marine refuse. Under the arrangements, the RV might choose to use their own gear or ask the MRCP staff to operate the

pillar jib cranes for the marine refuse unloading operation. The MD's experience was that the pillar jib cranes were only needed when the marine refuse to be landed was particularly heavy; and

- (b) the audit observation that the pillar jib cranes at the two MRCPs were rarely used did not appear to suggest any irregularities.

Low utilisation of Marine Refuse Collection Points

4.14 The objective of establishing the MRCPs is to improve the cost-effectiveness of the scavenging vessels by combining loads of marine refuse from the scavenging vessels into one large load of marine refuse for transferring to a landfill by lorry. This objective is fulfilled if the MRCP receives many loads of marine refuse from the scavenging vessels on each day. During the field visits to the Ap Lei Chau MRCP, the Causeway Bay MRCP and the Yau Ma Tei MRCP, Audit observed that the three MRCPs were used by scavenging vessels for unloading marine refuse only a few times a day. For example, on average, the Causeway Bay MRCP was visited by an RV less than once a day (see Table 8). The RV received marine refuse collected by MOPANs operating in the Wan Chai and Central water areas. As the Causeway Bay MRCP is not very far from the Yau Ma Tei MRCP and the Cha Kwo Ling MRCP, it is unlikely that the effectiveness of the RV will be seriously affected if it were instructed to unload its marine refuse at the Yau Ma Tei MRCP or the Cha Kwo Ling MRCP. In this connection, Audit has noted that another RV, which receives marine refuse collected by MOPANs operating in the Causeway Bay Typhoon Shelter and the Shau Kei Wan Typhoon Shelter, unloads marine refuse at the Yau Ma Tei MRCP. Audit considers that, in view of their very low utilisation, the MD should critically examine the feasibility of closing some MRCPs.

Marine Department's views on low utilisation of Marine Refuse Collection Points

4.15 In April 2004, Audit sought the MD's views on the audit observations. In response, the MD informed Audit in May 2004 that:

- (a) the arrangements were that the MOPANs unloaded the marine refuse collected onto the RVs, which then took the marine refuse to one of the MRCPs for unloading. How often the RVs needed to unload marine refuse into the refuse containers at the MRCPs depended on the quantity of marine refuse collected; and
- (b) the MRCPs were supporting facilities for the overall marine cleansing operations. Although the MD would wish to have more MRCPs to facilitate the

scavenging work, the unpleasant nature of MRCPs had caused difficulties in finding suitable locations. Working under such constraints, the MD allowed the scavenging vessel operators to make alternative arrangements to unload the collected marine refuse and to transfer them to landfills. The MD however required the operators to ensure that the alternative arrangements would be such as to avoid any complaints. Because the scavenging vessel contractors (particularly those vessels working for remote duty areas like Sai Kung, Tai Po, Tuen Mun and outlying islands) could land the marine refuse in places other than the MRCPs, thus the observations at the MRCPs appeared to suggest a low usage rate. The audit observation that the RV unloaded marine refuse at the Causeway Bay MRCP only on a few occasions did not appear to suggest any irregularities.

New Marine Refuse Collection Points

4.16 The MD plans to build three new MRCPs at Sai Kung, Tai Po and Tuen Mun. The new Tuen Mun MRCP will be located at a proposed Joint-user Complex and Wholesale Marine Fish Market. The locations of the remaining two new MRCPs have not yet been finalised. Audit notes that at present, the scavenging vessels providing scavenging service at Sai Kung and Tai Po unload marine refuse at Refuse Collection Points operated by the Food and Environmental Hygiene Department (FEHD). The scavenging vessel providing scavenging service at Tuen Mun unloads marine refuse at the Yau Ma Tei MRCP. Audit considers that the MD should re-examine its justifications for building the three new MRCPs because:

- (a) alternative arrangements exist for the unloading of marine refuse collected at Sai Kung, Tai Po and Tuen Mun; and
- (b) the utilisation of existing MRCPs is low (see para. 4.14).

Audit recommendations

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

- (a) **introduce additional control measures to monitor the contractor's performance, especially near the end of the contractual period, when the contractor may slacken off in performing its duties, with a view to ensuring that the contractor fulfils all the requirements specified in the contract (see paras. 4.8 to 4.11);**

- (b) **consider taking actions to recover part of the contract payments made to the contractor due to its non-compliance with the contractual requirements (see para. 4.8);**
- (c) **re-examine the need for retaining all the four existing MRCPs with a view to closing the under-utilised MRCPs (see para. 4.14);**
- (d) **in consultation with the Director of Food and Environmental Hygiene, explore the feasibility of using the existing or new Refuse Collection Points operated by the FEHD for unloading marine refuse instead of building new MRCPs (see para. 4.16);**
- (e) **review the justifications for building the three proposed MRCPs at Sai Kung, Tai Po and Tuen Mun and the justifications for installing a new pillar jib crane at each of the proposed MRCPs (see para. 4.16); and**
- (f) **if the building of any new MRCPs with pillar jib cranes is justified, consider relocating the pillar jib cranes installed at the Ap Lei Chau MRCP and the Causeway Bay MRCP to the new MRCPs (see para. 4.12).**

Response from the Administration

4.18 The **Director of Marine** has said that:

- (a) the MD will step up the control measures in monitoring the contractor's performance with a view to ensuring that the contractor fulfils all the contractual requirements. The MD will pay particular attention to the contractor's performance near the end of the contract. To further improve the situation, the MD plans to include the operation of the MRCPs in the objective-based contract arrangements scheduled for implementation in early 2005;
- (b) as all the contract payments for the two-year contract ended 31 March 2004 have already been made, the MD can only take legal action to recover part of the contract payments from the contractor. Considering the administrative cost likely to be incurred in taking legal action and the small amount of the contract payments involved, it may not be cost effective or advisable to pursue this course of action;

- (c) the MD plans to close the Causeway Bay MRCP and the Cha Kwo Ling MRCP when the two sites have to be vacated for territorial development projects;
- (d) the MD will further approach the FEHD to explore the feasibility of using its existing or new Refuse Collection Points for unloading marine refuse instead of building new MRCPs;
- (e) the MD will critically review the justifications for building the three proposed MRCPs at Sai Kung, Tai Po and Tuen Mun and the justifications for installing a new pillar jib crane at each of the proposed MRCPs; and
- (f) the MD will consider removing the pillar jib cranes installed at the Ap Lei Chau MRCP and the Causeway Bay MRCP to the new MRCPs, if the building of any new MRCPs with pillar jib cranes is justified.

4.19 The **Director of Food and Environmental Hygiene** has said that, at present, the FEHD does not encounter difficulty in absorbing the small amount of marine refuse deposited in the Refuse Collection Points at Wong Shek Pier in Sai Kung and Sam Mun Tsai in Tai Po. The FEHD will continue to assist the MD to dispose of marine refuse at these two spots provided that the Refuse Collection Points can cope with the quantity.

PART 5: OVERTIME WORK OF THE CREWS OF THE SEA CLEANERS

5.1 This PART reviews the overtime work of the crews of the Sea Cleaners and suggests measures for improvement.

Working hours of the crews of the Sea Cleaners

5.2 Each Sea Cleaner is manned by a crew of four staff (i.e. a Senior Launch Master, a Launch Master and two Launch Assistants). Their conditioned hours of work, including lunch breaks, are 45 hours gross per week. Their normal working hours are from 8:00 a.m. to 5:00 p.m. from Monday to Friday.

Regulations and guidelines on overtime work

5.3 According to Civil Service Regulation (CSR) 663(2), regular or excessive overtime should be avoided as far as possible. Such work should be strictly limited, properly controlled and compensated by a consolidated overtime allowance at a rate less than that for occasional overtime. Heads of Departments should review the overtime situation at least annually with a view to identifying any problems and taking rectification measures.

5.4 In January 2001, the MD issued the MD Headquarters Circular No. 2/2001 — Guidelines on Control and Administration of Overtime. According to the Guidelines:

- (a) overtime work may only be undertaken when it is strictly unavoidable (i.e. the duties are essential, must be performed at that time, cannot be deferred and cannot be performed at the time by another officer who will not be required to perform overtime work);
- (b) excessive or regular overtime is discouraged. When overtime becomes a regular pattern of work or has reached an excessive level, Vote Controllers should review the work patterns and consider alternative methods of deploying staff or service delivery, and clear the same with the senior management where appropriate; and
- (c) overtime situation is reviewed at least once a year with a view to identifying any problem areas and taking rectification measures.

Overtime work of the crews of the Sea Cleaners

5.5 The crews of the Sea Cleaners claim overtime allowance or time-off in lieu for the following types of overtime work:

- (a) **Daily overtime work from 5:00 p.m. to 6:00 p.m.** The crews of the Sea Cleaners claim compensation for one hour overtime from 5:00 p.m. to 6:00 p.m. to clean the vessels on every working day; and
- (b) **Overtime work on Saturdays, Sundays and public holidays.** On Saturdays, two Sea Cleaners are assigned to work overtime to carry out scavenging duties. On Sundays and public holidays, one Sea Cleaner is assigned to work overtime to carry out scavenging duties.

5.6 The overtime allowance paid to the crews of the Sea Cleaners for the years from 2000-01 to 2003-04 is shown in Table 9.

Table 9

**Overtime allowance paid to the crews
(2000-01 to 2003-04)**

Year	Overtime allowance paid (\$ million)
2000-01	0.51
2001-02	0.63
2002-03	0.80
2003-04	0.81

Source: MD records

5.7 In 2003-04, the crews of the Sea Cleaners claimed overtime for 12,600 hours, with 6,800 hours compensated by overtime allowance and 5,800 hours compensated by time-off in lieu. The average rates of overtime allowance in 2003-04 for the crews of the Sea Cleaners are shown in Table 10.

Table 10**Average rate of overtime allowance for the crews
(2003-04)**

Rank	Average rate of overtime allowance (\$ per hour)
Senior Launch Master	146
Launch Master	124
Launch Assistant	90

*Source: Audit calculation based on the Staff Cost Ready
Reckoner No. 2003/1 issued in December 2003*

It is noted from Table 10 that the overtime allowance for the crew of one Sea Cleaner is \$450 (\$146 + \$124 + 2 × \$90) per hour.

Audit observations

5.8 As a matter of routine, the crews of the Sea Cleaners claimed overtime from 5:00 p.m. to 6:00 p.m. on every working day for cleaning the vessels. Audit has the following observations:

- (a) ***Audit findings of field visits.*** On 8, 23 and 29 June 2004, Audit visited the Government Dockyard at Stonecutters Island to observe the overtime work of the crews of the Sea Cleaners. Audit found that the crews of five Sea Cleaners at the Government Dockyard (Note 4) did not work overtime for one hour from 5:00 p.m. to 6:00 p.m. on these three working days. Audit found that members of the crews started to leave the Sea Cleaners at about 5:10 p.m. shortly after the vessels had berthed at the Government Dockyard. The time at which the last member of the crews left the five Sea Cleaners was about 5:40 p.m. According to the log books of these five Sea Cleaners, all the crews of the five Sea Cleaners were recorded as having worked overtime for one hour from 5:00 p.m. to 6:00 p.m.;

Note 4: *Usually, at the end of a working day, five Sea Cleaners berth at the Government Dockyard and the remaining Sea Cleaner berths at Tai Po Kau.*

- (b) **Review of overtime situation.** The MD did not review the overtime situation of the crews of the Sea Cleaners at least once a year with a view to identifying any problems and taking rectification measures, contrary to CSR 663 and MD Headquarters Circular No. 2/2001;
- (c) **Nature of the overtime work.** It is inappropriate to require staff of relatively senior ranks (i.e. Senior Launch Master, Launch Master and Launch Assistant) to work overtime on cleaning duties on the Sea Cleaners. The pay scales and the average annual staff costs of the crews of the Sea Cleaners in 2003-04 are shown in Table 11.

Table 11

**Average annual staff cost of the crews of the Sea Cleaners
(2003-04)**

Rank	Points in the Master Pay Scale	Average annual staff cost (\$)
Senior Launch Master	13 to 16	337,884
Launch Master	8 to 13	274,128
Launch Assistant	4 to 7	190,932

Source: Staff Cost Ready Reckoner No. 2003/1 issued in December 2003

Staff on the Model Scale 1 Pay Scale (e.g. Workman II on Points 0 to 8 with an average annual staff cost of \$155,724) should be deployed to carry out the daily cleaning duties on the Sea Cleaners. The MD should also explore the feasibility of contracting out the daily cleaning work on the Sea Cleaners; and

- (d) **Rate of overtime allowance.** Regular overtime work carried out by the crews of the Sea Cleaners was compensated at the same rate as occasional overtime. According to CSR 663, regular overtime work should be compensated by a consolidated overtime allowance at a rate less than that for occasional overtime.

Audit recommendations

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

- (a) review the weaknesses in internal control in the existing system and introduce measures to tighten up the controls to ensure that overtime work has actually been performed by the staff concerned (see para. 5.8(a));
- (b) review the overtime situation of the crews of the Sea Cleaners at least annually with a view to identifying any problems and taking rectification measures in accordance with CSR 663 and MD Headquarters Circular No. 2/2001. The review should include the justification for engaging regularly the crews of the Sea Cleaners in overtime work (see para. 5.8(b));
- (c) consider deploying staff on the Model Scale 1 Pay Scale for the daily cleaning work or contracting out the daily cleaning work, and dispensing with the overtime work of the crews of the Sea Cleaners for such duties (see para. 5.8(c)); and
- (d) compensate the regular overtime work of the crews of the Sea Cleaners by a consolidated overtime allowance at a rate less than that for occasional overtime in accordance with CSR 663 (see para. 5.8(d)).

Response from the Administration

5.10 The Director of Marine has said that:

Audit findings of field visits

- (a) investigation on the overtime claims of the crews of the Sea Cleaners is underway. The MD is in the course of introducing an electronic recording system for logging and monitoring the crew attendance and launch utilisation records of all government vessels, including the Sea Cleaners. Surprise inspections of the operations of the Sea Cleaners are also carried out. These arrangements will tighten up the controls to ensure that overtime work has actually been performed by the staff. The MD will continue to closely monitor the situation and introduce further measures as necessary;

Review of overtime situation

- (b) the MD reviews the overtime situation of the crews of the Sea Cleaners from time to time when it reviews the overtime situation of all the crews of the government fleet. As a whole, there is a shortage of staff for the government fleet and it is not possible to recruit staff under the present economic climate. The regular overtime work carried out by the crews concerned is therefore the only viable option to meet operational requirements. This issue is included in the MD's on-going study regarding the outsourcing of the operation of the

government fleet. Nevertheless, the MD will particularly review the overtime situation of the crews of the Sea Cleaners in accordance with CSR 663 and MD Headquarters Circular No. 2/2001. The MD will also review whether the operating hours of the Sea Cleaners can be shortened without compromising the scavenging service;

Nature of the overtime work

- (c) the MD is considering the audit recommendation to dispense with the overtime work of the crews of the Sea Cleaners for the daily cleaning duties in its on-going study regarding the outsourcing of the operation of the government fleet; and

Rate of overtime allowance

- (d) although there is regular overtime work for the Sea Cleaners, the crews of the Sea Cleaners are not the same all the time because they are subject to redeployment to other government vessels at least annually. Some crews of the Sea Cleaners are compensated by time-off in lieu. The MD will explore whether the consolidated overtime allowance at a rate less than that for occasional overtime set out in CSR 663 is applicable to the crews of the Sea Cleaners.

5.11 The **Secretary for the Civil Service** has said that he welcomes the audit report. He has also said that:

- (a) the Civil Service Bureau (CSB) urges the MD to review its control and administration of overtime in respect of its marine scavenging service in the light of the audit observations and recommendations, and having regard to the measures and guidelines set out in the CSB Circular on this subject and the relevant CSRs;
- (b) the CSB is concerned about the audit findings mentioned in paragraph 5.8(a) on possible fraudulent overtime claims. The CSB urges the MD to conduct an investigation as a matter of priority and take disciplinary action as appropriate if any misconduct or fraudulent practice is identified; and
- (c) under CSR 672, a Head of Department may authorise the payment of a consolidated overtime allowance at the rate of 1/210 of monthly salary per hour to any hours worked in excess of 150 hours overtime a month. The MD should take this CSR into account in considering whether to grant a consolidated overtime allowance for the overtime work carried out by the crews of the Sea Cleaners.

PART 6: OTHER ACTIONS TO TACKLE THE MARINE REFUSE PROBLEM

6.1 This PART examines the other actions taken by the MD in tackling the marine refuse problem, and suggests measures for improvement.

Other measures to tackle the marine refuse problem

6.2 In addition to providing scavenging service, the MD organises educational activities to enhance the public awareness of the importance of maintaining the cleanliness of the Hong Kong waters. It also takes enforcement action to deter people from dumping refuse into the sea.

Educational activities

6.3 The best solution to tackle the problem of marine refuse is to prevent the refuse from being carried into the Hong Kong waters. The MD conducts educational activities with a view to reminding the public, especially vessel owners, typhoon shelter users and cargo operators to keep the Hong Kong waters clean. These educational activities are as follows:

- (a) ***Joint educational campaigns.*** The MD conducts publicity campaigns with various District Offices and non-government organisations to raise the public awareness of the marine refuse problem. The campaigns are targeted at organisations (such as yacht clubs), and at popular hiking and picnic scenes (such as Tai Long Wan and Waterfall Bay);
- (b) ***Propaganda activities.*** The MD organises propaganda activities every year to promote the Clean Hong Kong campaign at typhoon shelters during the Lunar New Year and the fishing moratorium (Note 5);
- (c) ***Distribution of promotional videodisc.*** The MD provides a videodisc “A New Era of Harbour Cleanliness” to primary schools for viewing by students. In 2003-04, over 18,800 students watched the videodisc;
- (d) ***Visits to schools.*** When carrying out school visits to promote the MD’s activities, the MD disseminates messages promoting the importance of the cleanliness of the Hong Kong waters; and

Note 5: *During the fishing moratorium, fishing operations in the South China Sea are suspended and fishermen moor their fishing vessels in the typhoon shelters.*

- (e) **Public forums.** The MD participates in various forums to appeal to the public to support their work in maintaining a clean marine environment.

Enforcement action

6.4 The MD takes enforcement action to prosecute “litter-bugs”. Before May 2002, the prosecution procedure took two to three months to summon and fine a littering offender in court. With effect from May 2002, the MD is one of seven enforcement departments under the Fixed Penalty (Public Cleanliness Offences) Ordinance (Cap. 570). The fixed penalty for committing common public cleanliness offences was \$600 before June 2003. In June 2003, the fixed penalty was increased from \$600 to \$1,500. The MD takes enforcement action against marine littering, both as routine duties and as special operations after normal office hours, and on Sundays and public holidays. The number of marine littering cases heard in court and the number of fixed penalty tickets issued by the MD from January 1998 to March 2004 are shown in Table 12.

Table 12

**Marine littering cases heard in court and
fixed penalty tickets issued by the Marine Department
(January 1998 to March 2004)**

Year	Number of marine littering cases heard in court	Number of fixed penalty tickets issued by MD (Note)
1998	89	Not applicable
1999	132	Not applicable
2000	113	Not applicable
2001	67	Not applicable
2002	16	53
2003	1	111
2004 (Jan to Mar)	0	13

Source: MD records

Note: With effect from May 2002, the MD is one of seven enforcement departments under the Fixed Penalty (Public Cleanliness Offences) Ordinance.

Audit observations

6.5 Despite the organisation of educational activities to enhance public awareness of the marine refuse problem and the enforcement action taken by the MD, in recent years there was a steady increase in the quantity of marine refuse collected by the MD except in 2002. The annual increase in the quantity of marine refuse collected by the MD for the years from 1999 to 2003 is shown in Table 13.

Table 13

**Increase in marine refuse
collected by the Marine Department
(1999 to 2003)**

Year	Annual increase in quantity of marine refuse collected
1999	19.3%
2000	8.2%
2001	7.8%
2002	-1.2%
2003	23.6%

Source: MD records

6.6 The increase in quantity of marine refuse collected may partly be attributable to the increased resources devoted by the MD in collecting marine refuse. However, the increase may also reflect a deterioration of the marine refuse problem. Audit considers that, in addition to improving the efficiency and effectiveness of the marine refuse scavenging service, the MD needs to step up its educational activities and enforcement action in order to tackle the marine refuse problem.

Audit recommendations

6.7 **Audit has recommended that, in order to reduce the quantity of marine refuse, the Director of Marine should:**

- (a) **review the effectiveness of the existing educational activities in enhancing public awareness of the importance of keeping the Hong Kong waters clean (see para. 6.6);**
- (b) **consider conducting more publicity campaigns with government departments and non-government organisations to raise public awareness of the marine refuse problem (see para. 6.6);**
- (c) **devise other measures (e.g. by changing the mode and the target audience) to enhance the effectiveness of the educational activities (see para. 6.6); and**
- (d) **step up enforcement action with a view to increasing the deterrent effect against marine littering (see para. 6.6).**

Response from the Administration

6.8 The **Director of Marine** has said that he notes the audit recommendations mentioned in paragraph 6.7 and will positively consider how to take them forward.

**Motorised sampan
found not fully engaged in carrying out scavenging duties
(Cyber Port Area)**

Date	Time	Duration (minutes)	Remarks
29.3.2004	9:30 a.m. to 10:21 a.m.	51	Found not carrying out scavenging duties
	11:27 a.m. to 2:06 p.m.	144 (Note)	Not found in the duty area
	2:47 p.m. to 3:22 p.m.	35	Found not carrying out scavenging duties
	3:46 p.m. to 6:00 p.m.	119 (Note)	Not found in the duty area
		Total	
		<u>349</u> (i.e. 5.82 hours)	

Source: Audit records of field visits

Note: Audit deducted 15 minutes in calculating the duration because the MOPAN had spent 15 minutes for unloading marine refuse.

**Motorised sampan
found not fully engaged in carrying out scavenging duties
(Ting Kau Area)**

Date	Time	Duration (minutes)	Remarks
8.4.2004	8:00 a.m. to 8:40 a.m.	40	Not found in the duty area
	12 noon to 2:04 p.m.	124	Not found in the duty area
	4:25 p.m. to 6:00 p.m. (Note 1)	95	Not found in the duty area
		Total	
		<u>259</u> (i.e. 4.32 hours)	
14.4.2004	8:00 a.m. to 8:52 a.m.	52	Not found in the duty area
	11:40 a.m. to 12 noon	20	Found not carrying out scavenging duties
	12 noon to 1:45 p.m.	105	Not found in the duty area
	4:05 p.m. to 6:00 p.m. (Note 2)	115	Not found in the duty area
		Total	
		<u>292</u> (i.e. 4.87 hours)	

Source: Audit records of field visits

Note 1: The MOPAN unloaded marine refuse at 11:53 a.m. and 4:18 p.m.

Note 2: The MOPAN unloaded marine refuse at 11:36 a.m. and 3:44 p.m.

**Motorised sampan
found not fully engaged in carrying out scavenging duties
(Tsim Sha Tsui East Area)**

Date	Time	Duration (minutes)	Remarks
22.3.2004	8:30 a.m. to 9:00 a.m.	30	Not found in the duty area
	10:35 a.m. to 11:35 a.m.	60	Found not carrying out scavenging duties
	11:35 a.m. to 2:17 p.m.	162	Not found in the duty area
	4:20 p.m. to 6:00 p.m.	100	Not found in the duty area
		Total	
		<u>352</u>	(i.e. 5.87 hours)
23.3.2004	9:20 a.m. to 9:50 a.m.	30	Found not carrying out scavenging duties
	10:07 a.m. to 10:55 a.m.	48	Found not carrying out scavenging duties
	11:25 a.m. to 2:10 p.m.	165	Not found in the duty area
	3:15 p.m. to 3:50 p.m.	35	Found not carrying out scavenging duties
	4:25 p.m. to 6:00 p.m. (Note)	95	Not found in the duty area
		Total	
		<u>373</u>	(i.e. 6.22 hours)

Source: Audit records of field visits

Note: The MOPAN unloaded marine refuse at 4:20 p.m.

**Motorised sampan
found not fully engaged in carrying out scavenging duties
(Wan Chai Area)**

Date	Time	Duration (minutes)	Remarks
22.3.2004	8:30 a.m. to 8:45 a.m.	15	Not found in the duty area
	11:10 a.m. to 2:05 p.m.	175	Not found in the duty area
	4:02 p.m. to 6:00 p.m. (Note)	118	Not found in the duty area
		<u> </u>	
		Total	<u>308</u> (i.e. 5.13 hours)
23.3.2004	8:30 a.m. to 8:50 a.m.	20	Not found in the duty area
	11:09 a.m. to 2:07 p.m.	178	Not found in the duty area
	4:39 p.m. to 6:00 p.m.	81	Not found in the duty area
		<u> </u>	
		Total	<u>279</u> (i.e. 4.65 hours)
28.3.2004	8:30 a.m. to 9:00 a.m.	30	Not found in the duty area
	11:08 a.m. to 2:10 p.m.	182	Not found in the duty area
	4:26 p.m. to 6:00 p.m.	94	Not found in the duty area
		<u> </u>	
		Total	<u>306</u> (i.e. 5.1 hours)

Source: *Audit records of field visits*

Note: *The MOPAN unloaded marine refuse at 3:25 p.m.*

**Service provided by the same scavenging vessel recorded
at two water areas on the same date**

Date	Water area as recorded in attendance record	Water area as recorded in surprise inspection record
1.3.2003	Cheung Chau Typhoon Shelter	Tuen Mun Typhoon Shelter
2.3.2003	Shau Kei Wan Typhoon Shelter	Aberdeen Typhoon Shelter
20.3.2003	Cheung Chau Typhoon Shelter	Tuen Mun Typhoon Shelter
22.3.2003	Cheung Chau Typhoon Shelter	Tuen Mun Typhoon Shelter
29.3.2003	Cheung Chau Typhoon Shelter	Tuen Mun Typhoon Shelter
6.4.2003	Cheung Chau Typhoon Shelter	Tuen Mun Typhoon Shelter

Source: MD records

Acronyms and abbreviations

Audit	Audit Commission
CSB	Civil Service Bureau
CSR	Civil Service Regulation
FEHD	Food and Environmental Hygiene Department
MD	Marine Department
MOPAN	Motorised sampan
MRCP	Marine Refuse Collection Point
MSA	Marine Services Assistant
PCA	Pollution Control Assistant
PCU	Pollution Control Unit
RV	Refuse reception vessel