

COLLECTION AND REMOVAL OF MARINE REFUSE BY THE MARINE DEPARTMENT

Executive Summary

1. The work of the Marine Department (MD) in tackling marine refuse includes: (a) collecting vessel-generated refuse and scavenging floating refuse in specified areas of Hong Kong waters through contractual services; (b) conducting publicity campaigns to keep the harbour clean; and (c) performing daily patrols in Hong Kong waters to inspect the cleanliness condition of various zones of Hong Kong waters and conducting enforcement against marine littering. In 2020-21, MD's estimated annual recurrent expenditure (excluding MD staff costs) on the work in tackling marine refuse was about \$102 million, of which \$95 million (93%) was related to the outsourcing of marine refuse cleansing and disposal services. The Audit Commission (Audit) has recently conducted a review to examine the collection and removal of marine refuse by MD with a view to identifying areas for improvement.

Administration of marine refuse cleansing and disposal contracts

2. Since July 2005, MD has fully outsourced the marine refuse cleansing and disposal services. MD's existing contract for marine refuse cleansing and disposal services covering the whole of Hong Kong waters is for a term of five years (October 2017 to September 2022) at an estimated contract expenditure of about \$447 million. The core services of the contract include scavenging of floating refuse, collection of domestic refuse from vessels, disposal of refuse collected and foreshore cleansing. In addition to the contract for the whole of Hong Kong waters, in 2018, MD awarded an additional contract for marine refuse cleansing and disposal services in Tai Po District for a term of two years (October 2018 to September 2020) at a sum of about \$9.5 million. Under the contract, the contractor, which was the same contractor of the contract for the whole of Hong Kong waters, deployed a foreshore cleansing team to perform cleansing work mainly, but not limited to the foreshore water areas of Tai Po District. A new contract (October 2020 to September 2022) was awarded to the same contractor at a sum of about \$10 million in late

Executive Summary

September 2020 (paras. 1.11 to 1.14). Audit examination revealed the following areas for improvement:

- (a) ***Need to ensure proper reporting of the quantity of marine refuse collected.*** The quantity of marine refuse collected is an important performance indicator of MD's work in tackling marine refuse as included in MD's Controlling Officer's Reports (CORs). It is also included in tender documents for bidders' reference and is one of the main factors for drawing up the list of priority areas for the floating refuse scavenging services. The statistics of the quantities (in tonnes converted from number of baskets/bags) of floating refuse and domestic refuse collected were provided by the contractor. MD made use of these statistics for reporting in CORs without verifying the accuracy. Audit found that from 2012 to 2019, there were significant discrepancies between the quantities of municipal solid waste disposed of by the contractor as per records of the Environmental Protection Department (EPD) and the quantities of marine refuse collected as reported by MD in CORs. Overall, the former represented only 19.9% (ranging from 16.9% in 2019 to 25% in 2014) of the latter. Moreover, the former might include other municipal solid waste in addition to marine refuse (paras. 2.2 and 2.4);
- (b) ***Need to clearly specify the arrangement for charges incurred in refuse disposal at refuse transfer stations.*** Disposal of marine refuse was free at landfills and subject to disposal charges at refuse transfer stations. Before January 2016, the contractor had transported most of the floating refuse and domestic refuse collected to the South East New Territories Landfill (in Tseung Kwan O) for disposal. In view of the cessation of the South East New Territories Landfill to receive municipal solid waste with effect from 6 January 2016, since 1 January 2016, the contractor had disposed of the bulk of marine refuse collected at refuse transfer stations with disposal charges reimbursed by MD. Audit noted that the reimbursement arrangement continued in the existing contract for the whole of Hong Kong waters. However, the tender documents only stated that the contractor should be responsible for refuse disposal at public landfills or other sites as arranged and provided by the contractor and approved by the Director of Marine, and did not mention that charges incurred in refuse disposal at refuse transfer stations would be borne by the Government. As such, when submitting tenders in May 2017, other potential tenderers might not have a complete picture of the reimbursement arrangement of the charges incurred at refuse transfer stations (paras. 2.10 and 2.11);

Executive Summary

- (c) ***Need to take measures to address the potential overpayment of reimbursement to the contractor.*** According to the provisions of the contract for Tai Po District (October 2018 to September 2020), no reimbursement of disposal charges would be arranged by MD for the contractor's conveyance and disposal of refuse collected. Under the contract for the whole of Hong Kong waters (October 2017 to September 2022) and the contract for Tai Po District (October 2018 to September 2020), the same vehicle (i.e. Vehicle 1) was used by the contractor for the transportation of marine refuse from the marine refuse collection points (MRCPs) to the disposal sites. Based on the transaction record slips (showing the in and out weights of a vehicle before and after waste disposal) issued to the driver of Vehicle 1 by the refuse transfer stations, it was not practicable to distinguish between the quantities of refuse collected under the contract for the whole of Hong Kong waters and the contract for Tai Po District. Therefore, since the commencement of the contract for Tai Po District in October 2018, the reimbursement of disposal charges charged by refuse transfer stations to the contractor had also covered the disposal charges incurred for such contract, which should have been borne by the contractor under the provisions of that contract (paras. 2.5 and 2.13);
- (d) ***Unauthorised sub-contracting arrangements.*** According to the tender documents of the existing contract for the whole of Hong Kong waters (October 2017 to September 2022), if any part of the tenderer's proposal was to be executed by sub-contractors, the tenderer should submit with its tender, among others, the information of proposed sub-contractors. According to the tender documents of the contract for Tai Po District (October 2018 to September 2020), the contractor should not sub-contract all or any part of the services except with the prior written approval of the Government. Without having submitted any sub-contracting proposal to MD for prior written approval, the contractor had not informed MD that the daily transportation of marine refuse under the two contracts had been sub-contracted to the same sub-contractor for the whole contract periods until March 2020 for the contract for the whole of Hong Kong waters (i.e. 29 months after the commencement of the sub-contracting arrangement) and August 2020 for the contract for Tai Po District (i.e. 22 months after the commencement of the sub-contracting arrangement and 2 months before the end of the contract) (paras. 2.17 to 2.19); and

Executive Summary

- (e) ***Need to enhance tender competition.*** The number of tenders received for the recent four tender exercises of the contract for the whole of Hong Kong waters had been on a decreasing trend from 2004 to 2017. On the other hand, there was a notable increase in the contract expenditure. Audit also noted that in August 2017, in approving the award of the marine refuse cleansing and disposal contract for the whole of Hong Kong waters, the Central Tender Board recommended that MD should consider adopting various measures (e.g. shortening the contract period) in future tenders to enhance tender competition (paras. 2.23 to 2.25).

Monitoring of marine refuse cleansing and disposal services

Monitoring of the marine refuse cleansing work

3. Under the contracts for the whole of Hong Kong waters (October 2017 to September 2022) and Tai Po District (October 2018 to September 2020), the contractor is required to, among others, ensure that each part of the service areas is clean and free from refuse, and maintain the cleanliness of the service areas at “Good” level between 8:00 a.m. and 6:00 p.m. For the contract for the whole of Hong Kong waters, if the level of cleanliness of any part of the Hong Kong waters falls below the “Good” level during the service hours, a “Good” level shall be re-established within 30 to 120 minutes, depending on the location of that particular area (paras. 3.3 and 3.5). Audit examination revealed the following areas for improvement:

- (a) ***Need to ensure that the required frequency of daily cleanliness patrols for each patrol area is met.*** According to MD’s guidelines, the whole of Hong Kong waters is divided into 12 patrol areas. There is a specific harbour cleanliness patrol route for each of the 12 patrol areas and each harbour cleanliness patrol route should be covered in MD’s daily cleanliness patrols at least once in a month. In 2019, in three patrol areas, namely Area 4 (Sai Kung), Area 8 (Lantau South) and Area 9 (Lantau West), the required frequency for conducting daily cleanliness patrols of at least once in a month could not be met. The numbers of months recording no daily cleanliness patrols ranged from 1 to 6 (paras. 3.7(a) and 3.8);
- (b) ***Need to take into account service requests received in selecting patrol areas.*** While there were a large number of service requests received from the public each year (ranging from 568 to 691 cases), MD’s guidelines only stated that the number of complaints received from the public should match

Executive Summary

with the frequency of patrol visits, but did not mention that the number of service requests received should also be taken into account in selecting patrol areas for conducting daily cleanliness patrols (paras. 3.10 and 3.11);

- (c) ***Need to step up monitoring of contractor’s marine refuse cleansing work.*** Audit conducted four site inspections in June and July 2020, and noted that there was a need to step up the monitoring of contractor’s marine refuse cleansing work. For example, the contract provides that if the level of cleanliness of any part of Hong Kong waters falls below the “Good” level during the service hours, a “Good” level shall be re-established within the specified time limit. However, Audit noted instances that the provision could not be met (para. 3.13); and
- (d) ***Pleasure vessels deployed to conduct marine refuse cleansing work.*** Prior to operating a vessel in Hong Kong waters, the owner of the vessel should apply to the Director of Marine for certification and licensing for the appropriate class and type specified in Schedule 1 to the Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation (Cap. 548D). Each class of vessels is subject to a different set of safety standards and more stringent requirements are imposed on Classes I, II and III vessels as compared with Class IV vessels (i.e. pleasure vessels). During Audit’s site inspections conducted in June and July 2020, Audit noted that the contractor deployed four Class IV vessels (i.e. pleasure vessels) for marine refuse cleansing work. As Class IV vessels should be used exclusively for pleasure purposes, deploying them for cleansing work may have contravened the legislation (paras. 3.16 and 3.17).

Monitoring of the management of MRCPs

4. ***Need to step up monitoring of the management of MRCPs.*** There are currently four MRCPs in Hong Kong. They are located in Cha Kwo Ling, Ap Lei Chau, Kowloon West and Tuen Mun, and managed by the contractor. Floating refuse and domestic refuse collected from boats and ships are transported to MRCPs for loading into temporary storage containers for subsequent conveyance to and disposal at disposal sites (para. 3.21). Audit’s site inspections in July and August 2020 revealed the following areas for improvement:

- (a) there was no daily transportation of marine refuse from the MRCPs in Tuen Mun and Ap Lei Chau to disposal sites;

Executive Summary

- (b) the MRCP in Cha Kwo Ling was not in operation and might have been abandoned, and its lifting appliance for unloading marine refuse from the contractor's vessels was found to be out of order on 1 July 2020 and remained unrepaired up to 14 August 2020; and
- (c) the MRCP in Ap Lei Chau was not manned by any contractor's staff and its lifting appliance had been out of order since October 2017 (paras. 3.24 and 3.26).

Other related issues

Enforcement against marine littering

5. MD is one of the departments responsible for taking enforcement actions against marine littering. From 2015 to 2019, MD on average took enforcement actions on 15 marine littering cases each year (paras. 4.2 and 4.4). Audit examination revealed the following areas for improvement:

- (a) *Need to consider arranging more anti-marine littering operations by officers in plain clothes to take enforcement actions.* At the meetings of the then Inter-departmental Working Group on Clean Shorelines (now the Inter-departmental Working Group on Marine Environmental Management) held in May 2016 and January 2017, the Chairman (i.e. the Permanent Secretary for the Environment) invited MD to consider arranging officers to take enforcement actions in plain clothes in future enforcement operations with a view to increasing the deterrent effect. While the annual statistics on MD's enforcement against marine littering remained steady (ranging from 13 to 17 cases in the period from 2015 to 2019), of the 280 anti-marine littering operations conducted by MD in 2019, 270 (96%) were conducted during the daily cleanliness patrols by MD's officers wearing uniforms (paras. 4.5 and 4.6); and
- (b) *Need to take into consideration the source activities of marine refuse in planning enforcement operations.* According to the Marine Refuse Study commissioned by the Environmental Protection Department in March 2013 and released in April 2015, shoreline and recreational activities and ocean/waterway activities are the two major source activities of marine refuse and contributed about 89% of marine refuse in Hong Kong. In view of the high percentage of marine refuse resulting from shorelines and

Executive Summary

recreational activities, in planning its enforcement operations, MD should take into consideration the source activities of marine refuse (paras. 4.7 and 4.8).

New initiatives in tackling marine refuse

6. ***Need to expedite completion of the trial run of floating booms.*** Floating booms are floating barriers designed to contain and control pollutants, such as debris, trash and plastic rubbish, from spreading in the ocean, rivers and streams. In May 2019, MD informed the Legislative Council that a trial run of floating booms was planned to commence in 2019-20, which would tackle the issue of marine refuse by intercepting floating refuse, in waters causing no obstruction to vessel traffic. However, up to August 2020, MD had not yet commenced the trial run (paras. 4.16 and 4.17).

Audit recommendations

7. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has recommended that the Director of Marine should:**

Administration of marine refuse cleansing and disposal contracts

- (a) **investigate the significant discrepancies between the quantities of municipal solid waste disposed of by the contractor as per EPD records and the quantities of marine refuse collected as reported by MD in CORs in the period from 2012 to 2019, and based on the investigation results, take measures to ensure the proper reporting of the quantity of marine refuse collected (para. 2.7);**
- (b) **clearly specify the arrangement for charges incurred in refuse disposal at refuse transfer stations for tender exercises in future and take appropriate follow-up actions with the contractor so that Vehicle 1 will not be used for purposes other than transporting marine refuse (para. 2.15(a) and (c));**

Executive Summary

- (c) **strengthen the control on sub-contracting arrangement and ensure that all sub-contracting arrangements are properly approved in future (para. 2.21);**
- (d) **explore measures to enhance the tender competition of the marine refuse cleansing and disposal services in future, taking into account the comments of the Central Tender Board (para. 2.26);**

Monitoring of marine refuse cleansing and disposal services

- (e) **take measures to ensure that the required frequency of daily cleanliness patrols for each patrol area is met and take into account the number of service requests received in selecting patrol areas for conducting daily cleanliness patrols (para. 3.19(a) and (b));**
- (f) **step up the monitoring of the contractor's marine refuse cleansing work with a view to meeting the performance standards of the contracts (para. 3.19(c));**
- (g) **take measures to ensure that service requests made by the public are responded to in a timely manner and up to service requirements in accordance with the contract provisions (para. 3.19(d));**
- (h) **take appropriate follow-up actions with the contractor on the issue of vessel licensing, and take measures to ensure that only vessels with appropriate licences are deployed for marine refuse cleansing work (para. 3.19(e));**
- (i) **step up the monitoring of the management of the MRCPs with a view to ensuring that the performance of the contractor is up to the standards specified in the contracts (para. 3.28(a));**
- (j) **review the need for the lifting appliances in the MRCPs in Cha Kwo Ling and Ap Lei Chau, and expedite the repair/replacement as appropriate (para. 3.28(b));**

Executive Summary

Other related issues

- (k) **consider arranging more anti-marine littering operations by officers in plain clothes to take enforcement actions and take into consideration the source activities of marine refuse in planning enforcement operations (para. 4.9(a) and (b)); and**
- (l) **expedite completion of the trial run of floating booms to tackle marine refuse as soon as practicable (para. 4.21(a)).**

Response from the Government

8. The Director of Marine agrees with the audit recommendations.