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25 March 2021

Public Accounts Committee
Legislative Council
Legislative Council Complex
1 Legislative Council Road
Central
Hong Kong
(Attn: Ms Wendy JAN)

Dear Ms JAN,

Public Accounts Committee

Consideration of Chapter 1 of the Director of Audit's Report No. 75
Collection and removal of marine refuse by the Marine Department

Thank you for your letter dated 9 March 2021. Our replies to the questions raised by the Public Accounts Committee are set out at **Annex**.

Yours sincerely,

(Tony C.S. CHAN)
for Director of Marine

Encl.

c.c. Secretary for the Environment (email: sen@enb.gov.hk)
Secretary for Financial Services and the Treasury (email: sfst@fstb.gov.hk)
Director of Audit (email: john_nc_chu@aud.gov.hk)

Annex

Public Accounts Committee
Chapter 1 of the Director of Audit's Report No. 75
Collection and removal of marine refuse by the Marine Department

Part 1: Introduction

(a) With reference to paragraphs 1.6 and 2.2 of the Audit Report about the measurement and reporting of the quantity of marine refuse collected by the Marine Department ("MD"), the Secretary for the Environment mentioned in his opening remarks at the public hearing that with effect from 1 January 2021, MD had adopted the approach of measuring the quantity of marine refuse in cubic metre ("the new approach"). Please advise/explain:

(i) the methodology (please provide a photo of the specific measuring container mentioned at the public hearing) and procedure for measuring the quantity of marine refuse collected under the new approach, and a copy of the daily record submitted by Contractor A for reporting to MD the quantity of marine refuse collected;

(ii) why MD considers cubic metre an appropriate measurement unit for marine refuse, and how the new approach could ensure the accuracy of the statistics provided by the contractor on the quantities of marine refuse collected;

Reply: Following the recommendation stated in paragraph 2.7(a) of the Audit Report, MD has investigated the reasons for the "discrepancies" between the record of MD and that of landfills and refuse transfer stations. The "discrepancies" arose because the two sets of figures were derived from different measurement methods. MD's long established practice was to estimate the quantities of marine refuse collected, while actual weight of refuse was measured at landfills and refuse transfer stations.

After reviewing, MD has sought consent from the Environment Bureau ("ENB") that starting from 1 January 2021, the quantity of refuse collected from the sea and vessels would be measured by volume in cubic metres. This is in line with the measurement unit of volume in cubic metres adopted in the Consolidated Guidance for Port Reception Facility Providers and Users (see **Appendix A**) of the International Maritime Organization.

MD has instructed the contractor to measure the actual quantity of refuse collected in cubic metres starting from 1 January 2021, instead of following the past practice of "estimating" the weight based on the number of bags of refuse collected. To ensure the accuracy of the statistics, MD has been conducting monthly surprise checks on the refuse handling procedures adopted by the contractor since 1 January 2021 to monitor the performance of the contractor in reporting the

quantity of refuse collected. The contractor has submitted to MD the specification list of designated containers for carrying marine refuse at each marine refuse collection point ("MRCP") and their respective capacity (ranging from 1 m^3 to 5 m^3) (see **Appendix B**). During the surprise checks on the quantity of refuse collected at the four MRCPs, officers of MD will check if the staff of the contractor have used the containers designated in the specification list to carry marine refuse and confirm if the frontline staff have recorded the quantity of marine refuse collected according to the actual situation. A copy of the daily record submitted by the contractor for reporting to MD the quantity of marine refuse collected is shown in **Appendix C**.

(iii) the manpower required and frequency of inspection conducted by MD to verify the relevant statistics provided by the contractor under the new approach, and whether the new approach would incur extra expenditure;

Reply: At present, there are mainly ten Marine Inspector IIs and four patrol launches responsible for the inspection of sea water cleanliness across the territory and for monitoring the performance of the marine scavenging services contractor; and MD will redeploy resources in accordance with the actual needs to address the floating refuse problems in various districts. We will increase the surprise checks to eight to ten times a month at the four MRCPs to monitor the performance of the contractor in reporting the quantity of refuse collected. The new measure will be undertaken by the staff of the existing establishment and will not incur extra expenditure.

(iv) the roles of the Environment Bureau ("ENB"), the Environmental Protection Department ("EPD") and MD in tackling marine refuse, and whether ENB has a monitoring role in MD's work on this front; if yes, how ENB performs its role to oversee the work of MD, such as ensuring the accuracy of statistics on the quantities of marine refuse collected as reported in MD's Controlling Officer's Reports ("CORs");

Reply: MD understands that ENB has provided reply for an identical question. MD has nothing further to supplement.

(b) with reference to Table 1 in paragraph 1.8 and Table 2 in paragraph 1.9 of the Audit Report, please advise/explain:

(i) the reasons for the significant increase of 150% in the recurrent expenditure on the outsourcing of marine refuse cleansing and disposal services from $40.79 million in 2016-2017 to the estimated $101.95 million in 2020-2021 while the quantities of marine refuse collected by MD had remained steady over the past decade;

Note by Clerk, PAC:** ***See Appendix 7 of this Report for the reply from Director of Environmental Protection.

(ii) whether there was a significant policy change in tackling marine refuse from 2016-2017 to 2020-2021 that had led to such substantial rise in expenditure in (i);

Reply: The increase in the recurrent expenditure on MD's work in tackling marine refuse can be divided into two parts. The first part is the expenditure on the outsourcing of marine refuse cleansing and disposal services. The existing five-year contract commenced in October 2017. Since 2017-18, there has been a relatively significant rise in the expenditure. Compared with the last contract, the existing contract requires the contractor to provide at least 60 vessels. Besides, the number of foreshore cleansing team members has increased from two teams of 24 members to three teams of 36 members in total. The number of priority areas in the contract has also increased from 36 to 43. Due to the above reasons, coupled with factors such as rising costs in hiring work boats, inflation and wage increase, the total price of the contract for the whole of Hong Kong waters has increased from $189 million to $447 million. Furthermore, MD awarded an additional contract for Tai Po District in October 2018 with a total contract value of $9.48 million.

Apart from the expenditure on outsourcing of marine refuse cleansing and disposal services, the recurrent expenditure in tackling marine refuse also includes the expenditure on the hire of launches for patrolling. MD hired two launches for patrolling in 2016-17, one more in 2017-18 and another one in 2018-19 (i.e. four patrol launches in total). Apart from hiring additional patrol launches, MD has also extended the working hours of some of the launches. After the new contract came into effect in June 2020, two of the launches hired have also provided services on Sundays and public holidays. One of the launches has also increased one working hour every day. As a result, the increase in the number of vessels as well as in the number of working days and working hours have led to a corresponding rise in MD's expenditure on hire of launches.

(iii) why MD's work in tackling marine refuse has shown no remarkable progress from 2017 to 2019 as reflected by the three performance indicators expressed in terms of the quantity of marine refused collected while MD has stepped up its inspection of sea water cleanliness and monitoring of the work performance of the contractor by increasing the number of launches hired from two to four since 2017-2018;

Reply: The reason for increasing the number of patrol launches is to strengthen monitoring, with the goal to remove floating refuse promptly to keep the sea clean. Since 2005, MD has adopted objective-based specifications in the contract, requiring the contractor to re-establish the waters to a "Good" level as soon as possible. Specifically, the contractor shall maintain the waters of Hong Kong at "Good" level during the service hours (i.e. between 8:00 am and 6:00 pm). If the sea water cleanliness is found to fall below the "Good" level, the contractor shall re-establish a

"Good" level within 30 minutes, 60 minutes and 120 minutes for Zone 1, Zone 2 and Zone 3 respectively.

As the quantity of marine refuse is affected by factors such as weather, current, geographical location, population density and vessel density, the quantity varies daily. In view of this, MD does not require the contractor to collect a specified quantity or weight of refuse every day, nor does it use the quantity or weight of marine refuse collected as an indicator to measure the effectiveness of the contractor. Increasing the number of patrol launches is only to strengthen monitoring, with the goal to restore promptly Hong Kong waters to a clean condition.

(iv) in view of (i) to (iii), whether MD, from the perspective of value for money, considers the current outsourcing arrangement cost-effective. Please provide details with the support of statistical data where appropriate;

Reply: As the Audit Commission stated in its Audit Report No. 43 in 2004, the cost of collecting marine refuse by MD's scavenging vessels was much higher, about 16 times that of the contractors' scavenging vessels. After reviewing, MD agreed that the cost-effectiveness of collecting marine refuse by government vessels was relatively low. Hence, since 2005, MD has fully outsourced the marine refuse cleansing and disposal services.

Since 2005, it has been MD's policy goal to remove floating refuse promptly to keep the sea clean. In respect of monitoring the work and effectiveness of marine scavenging contractors, MD adopts an objective-based approach and requires the contractor to maintain the waters of Hong Kong at "Good" level within a certain time period.

In response to the recommendations made by the Public Accounts Committee ("PAC"), MD will conduct a review before considering the next tendering exercise for the contract for marine refuse cleansing and disposal services. The review will include analysis of cost-effectiveness and adoption of additional service performance indicators so as to examine the effectiveness of the arrangements.

(v) the basis for increasing the number of launches hired from two to four since 2017-2018. Please provide details with the support of statistical data where appropriate; and

Reply: ENB appointed a consultant in 2012 to conduct a study of the sources, fates, distribution and movement of marine refuse in Hong Kong waters. The study aimed to review the existing measures and formulate strategic policies to prevent and reduce marine refuse. The results of the study were announced in April 2015. In the report, five recommendations were made to improve the cleanliness of the shorelines, including enhancing efforts to remove refuse from the marine

environment. Therefore, MD submitted an application in 2016 and funding was approved for hiring one more vessel in 2017 to step up patrol in Hong Kong waters targeting marine refuse accumulation and to step up monitoring of contractor's performance.

Later, to enhance district administration, the Chief Executive initiated a series of improvement measures in the 2017 Policy Address, including cleaning hygiene blackspots in all districts more frequently, and conducting large-scale clean-up operations regularly at coastal areas and typhoon shelters. According to the public hygiene blackspots in various districts of Hong Kong as listed by the Home Affairs Bureau at the meeting of Steering Committee on District Administration in September 2017, 12 blackspots in the foreshore water areas of Tai Po District are under the purview of MD (waters adjacent to Ko Lau Wan, Sha Lan, Sam Mun Tsai, Chan Uk Tsuen, Pak Shek Kok, Ma Shi Chau, Tong Kai Tseng, Yim Tin Tsai, Tseng Tau Tsuen, Sai Keng Tsuen, North Nai Chung Tsuen and Yung Shue O).

As more hygiene blackspots were identified in Tai Po District and the waters cover a large area, it is necessary to deploy additional patrol launches in Tai Po District to reduce travelling time and enhance patrol efficiency. Therefore, in 2018, MD hired an additional launch when tendering for the marine refuse collection contract for Tai Po District to strengthen patrolling work in the district.

(vi) the respective number of ships and locally-licensed and river trade vessels mentioned in Table 1 of paragraph 1.8 in each year from 2016 to 2020;

Reply: The numbers of different types of vessels from 2016 to 2020 are set out in **Appendix D**.

(c) according to paragraph 1.11 of the Audit Report, MD has fully outsourced the marine refuse cleansing and disposal services since July 2005, and reformed the outsourcing arrangement in October 2011 by bundling previous two contracts into one contract to cover the whole of Hong Kong waters. In view of the increasing recurrent expenditure of MD on the outsourcing of such services as shown in Table 2 in paragraph 1.9, please advise:

(i) whether MD would conduct a comprehensive review of the content of the current contract for the whole of Hong Kong waters before its expiry in September 2022, including the contract duration, service specifications such as the size of fleet required and operation of the four marine refuse collection points ("MRCPs"); and

Reply: In response to the recommendations made in the Audit Report and by the PAC, MD will conduct a review before considering the next tendering exercise for the contract for marine refuse cleansing and disposal services for the whole of Hong Kong

waters. Factors such as contract duration, service specifications, number of vessels required and operation of the MRCPs will be examined.

(ii) whether MD would consider using in-house vessels to perform the scavenging work;

Reply: In response to the Audit Report published in 2004, MD has reviewed the cost-effectiveness of scavenging services provided by government vessels. MD agreed that the cost-effectiveness of government operation was relatively low. As a result, since 2005, MD has fully outsourced the marine refuse collection and removal services. As the services have been fully outsourced, MD has chartered three government vessels originally used for marine scavenging to the marine scavenging service contractor at nominal rent for daily operation and maintenance.

(d) according to paragraphs 1.12 to 1.14 of the Audit Report, apart from the five-year contract for marine refuse cleansing and disposal services covering the whole of Hong Kong waters, MD has since October 2018 entered into an additional two-year contract with the same contractor (i.e. Contractor A) for marine refuse cleansing and disposal services in Tai Po District. Given that the service areas, services provided and resources deployed under the two contracts overlap with each other, please provide/advise:

(i) the justifications for MD to go for an additional contract for Tai Po District;

Reply: To enhance district administration, the Chief Executive initiated a series of improvement measures in the 2017 Policy Address, including cleaning hygiene blackspots in all districts more frequently, and conducting large-scale clean-up operations regularly at coastal areas and typhoon shelters. According to the public hygiene blackspots in various districts of Hong Kong as listed by the Home Affairs Bureau at the meeting of Steering Committee on District Administration in September 2017, 12 blackspots in the foreshore water areas of Tai Po District are under the purview of MD (waters adjacent to Ko Lau Wan, Sha Lan, Sam Mun Tsai, Chan Uk Tsuen, Pak Shek Kok, Ma Shi Chau, Tong Kai Tseng, Yim Tin Tsai, Tseng Tau Tsuen, Sai Keng Tsuen, North Nai Chung Tsuen and Yung Shue O).

As more hygiene blackspots were identified in Tai Po District and the waters cover a large area, MD invited tenders in 2018 for the contract of marine refuse collection in Tai Po District, with emphasis on cleansing the hygiene blackspots in the foreshore water areas of Tai Po District. Under the contract, the contractor shall provide one fast response boat, one refuse collection boat and a foreshore cleansing team comprising 12 workers. The cleansing frequency at those blackspots shall increase from once to four times per month in order to improve the cleanliness condition of the district.

As such, with the contract for Tai Po District, additional cleansing services to foreshore water areas are provided. These are on top of the services covered by the contract for the whole of Hong Kong waters.

(ii) whether MD has considered varying the existing contract for the whole of Hong Kong waters to include the special service requirements for Tai Po District, and whether MD has conducted cost analysis to compare the relative costs of making such variations to the existing contract for the whole of Hong Kong waters and issuing an additional contract for Tai Po District; if yes, the results; if no, the reasons;

Reply: In 2018, MD was of the view that there was a need for additional services in Tai Po District. The marine refuse cleansing and disposal services in Tai Po District with a two-year term by way of open tendering would allow more flexibility. At that time, varying the existing contract for the whole of Hong Kong waters to cover the improvement measures in the Tai Po District was not considered.

(iii) whether MD would review the need to renew the contract for Tai Po District before the expiry of the current contract in September 2022; and

Reply: Before the expiry of the contract for Tai Po District, MD will conduct a review on its arrangements together with the marine refuse cleansing and disposal contract for the whole of Hong Kong waters.

(iv) the quantities of marine refuse collected in Tai Po District each year from 2017 to 2020 with the percentages over the total quantities of marine refuse collected in the whole of Hong Kong waters;

Reply: The percentages of the quantities of marine refuse collected in Tai Po District over the total quantities of that in the whole of Hong Kong waters from 2017 to 2020 are set out in **Appendix E**.

Part 2: Administration of marine refuse cleansing and disposal contracts

(e) referring to paragraphs 2.2 and 2.6 of the Audit Report about the reporting of the quantity of marine refuse collected, please advise/explain:

(i) why MD has adopted "the quantity of marine refuse collected" as one of the performance indicators in its CORs, and whether MD considers "the quantity of marine refuse collected" an appropriate performance indicator which can effectively and accurately reflect its work in tackling marine refuse;

(ii) why MD does not verify the accuracy of the statistics provided by the contractor on the quantities of marine refuse collected, despite that these would be included in its CORs as one of the important performance indicators to evaluate the work of MD in tackling marine refuse;

Reply: MD has been listing "the quantity of marine refuse collected" in its CORs for several decades. While it is now impossible to find out the reasons for adopting "the quantity of marine refuse collected" as a performance indicator, it was likely used for reference. In fact, MD had stated in the COR of 1989 that "Performance is difficult to quantify because of the disposition, quantity and concentration of refuse".

In order to record the numbers more accurately in the future, MD has been conducting surprise checks on the contractor's refuse handling procedures each month since 1 January 2021, so as to ensure the accuracy of the quantity of marine refuse collected, and to monitor the contractor's performance in reporting the quantity of refuse collected more effectively.

MD will examine the current performance indicators and consider the inclusion of other indicators to better reflect the relevant work.

(iii) how MD monitors and reviews the effectiveness of the outsourcing arrangement without verifying the accuracy of such statistics; and

Reply: MD has all along conducted daily patrols to inspect the sea water cleanliness in different districts and monitor the contractor's work performance through different means. MD has been monitoring the contractor's service performance by reviewing various returns and reports submitted by the contractor, and by holding Contract Management Committee meetings with the contractor each month. The contractor is required to submit a Vessel Operation Schedule to MD one day before cleansing is conducted, and a Daily Situation Report after completion of services. MD inspects and reviews the reports submitted by the contractor, and instructs the contractor to redeploy vessels and the foreshore cleansing team when necessary to accommodate the service requests received. During Contract Management Committee meetings chaired by the Marine Officer/Pollution Control Unit with the contractor each month, MD and the contractor would also examine the trends in quantity of marine refuse collected in various districts, and identify marine refuse blackspots for following up as well as areas for improvement.

(iv) apart from "the quantity of marine refuse collected", whether MD would consider adopting other performance indicators, such as cleanliness condition of the waters of Hong Kong, in its CORs to better reflect its work in tackling marine refuse;

Reply: Before considering the next tendering exercise for marine refuse cleansing and disposal service contract, MD will examine relevant service indicators for contractors and explore other suitable performance indicators in its CORs.

(f) referring to paragraph 2.3 of the Audit Report about the transportation of marine refuse to disposal sites, please advise how MD would address the issue of the shared use of the same vehicle (i.e. Vehicle 1) by Contractor A under the two respective contracts for the whole of Hong Kong waters and Tai Po District, and the follow-up actions taken/to be taken by MD in respect of the Contractor A's failure to maintain attendance records and daily log books on the deployment of vehicles and their work for inspection by MD in accordance with the requirements of the two contracts;

Reply: Under the current cleansing service contract, the contractor is only required to empty the refuse stored in temporary storage containers at MRCPs every day. Under the terms of the contracts for the whole of Hong Kong waters and Tai Po District, there is no requirement that vehicles provided by the contractor can only be used to transport marine refuse collected under a particular contract, and the contractor is also not required to use a specified number of vehicles to transport marine refuse every day. Hence the provision of the same vehicle for the two contracts does not constitute a violation of contract terms.

Besides, MD has requested the contractor to comply with the requirement of maintaining attendance records and daily logs from August 2020 onwards. Since transaction record receipts issued at landfills are printed on thermal paper that is prone to fading, MD has requested the contractor to photocopy the receipts, which are then scanned and stored on computers to ensure proper records are maintained. MD will request the contractor to provide records for inspection at any time to ensure that the latter has complied with the relevant requirements.

(g) with reference to paragraph 2.6(a) of the Audit Report, please explain/advise:

(i) how the performance of the contractor could be effectively and accurately measured if MD does not assess the contractor's work based on the quantity of marine refuse collected; and

Reply: As stated in paragraph e(iii) above, MD has all along conducted daily patrols to inspect the sea water cleanliness in different districts and monitor the contractor's work performance. MD has been monitoring the contractor's service performance by reviewing various returns and reports submitted by the contractor, and by holding Contract Management Committee meetings with the contractor each month. The contractor is required to submit a Vessel Operation Schedule to MD one day before cleansing is conducted, and a Daily Situation Report after completion of services. MD inspects and reviews the reports submitted by the contractor, and instructs the contractor to redeploy vessels and the foreshore cleansing team when necessary to

accommodate the service requests received. During Contract Management Committee meetings chaired by the Marine Officer/Pollution Control Unit with the contractor each month, MD and the contractor would also examine the trends in quantity of marine refuse collected in various districts, and identify marine refuse blackspots for following up as well as areas for improvement.

(ii) whether there are any other quantitative indicators, such as level of water cleanliness, attendance of marine refuse transportation vehicle, frequency of patrol visits and the average time taken to respond to a complaint/service request referred by MD, which could help MD evaluate the contractor's performance in an effective manner;

Reply: MD has currently adopted objective-based specifications in the contract. The contractor is required to maintain cleanliness condition of Hong Kong waters at "Good" level during service hours (i.e. between 8:00 am and 6:00 pm). Upon identifying areas with cleanliness condition below "Good" level, the contractor shall re-establish the cleanliness condition to "Good" level within 30, 60 and 120 minutes for Zone 1, Zone 2 and Zone 3 respectively. MD welcomes and agrees with the recommendations of the PAC. A review will be conducted before considering the next tender exercise for the marine refuse cleansing and disposal service contract for the whole of Hong Kong waters; and ways to include other quantitative indicators to monitor the performance of the contractor more effectively will also be examined.

(h) with reference to paragraph 2.14(a) of the Audit Report, please advise the progress of recovering from Contractor A the overpayment on disposal charges arising from the Tai Po District contract and the amount involved;

Reply: In September 2020, MD successfully recovered the overpaid disposal charges at refuse transfer stations under the contract for Tai Po District from the contractor with a total sum of $2,234.

(i) with reference to paragraphs 2.15 and 2.16 of the Audit Report, please advise the progress of implementing the Audit Commission's recommendations by MD, and whether MD has requested Contractor A to make any written declaration/confirmation to ensure that Vehicle 1 will not be used for purposes other than transporting marine refuse;

Reply: With reference to paragraph 2.15 (a), when inviting tenders for the contract for Tai Po District in 2018, MD clearly stipulated in the relevant tender documents that all costs related to marine refuse disposal were to be borne by the contractor. In future tender documents of the contract for the whole of Hong Kong waters, MD will also include a term which clearly states that marine refuse disposal costs will be borne by the contractor.

With reference to paragraph 2.15 (b), MD has already requested the contractor to comply with the requirement of maintaining attendance records and daily logs from August 2020 onwards. Since transaction record receipts issued at landfills are printed on thermal paper that is prone to fading, MD has requested the contractor to photocopy the receipts, which are then scanned and stored on computers to ensure proper records are maintained. MD will request the contractor to provide records for inspection at any time to ensure that the latter has complied with the relevant requirements.

With reference to paragraph 2.15 (c), in February 2021, MD received written confirmation from the contractor that Vehicle 1 will not be used for purposes other than transporting marine refuse.

(j) with reference to paragraph (c)(iii) of your letter dated 29 December 2020, please advise the consequences of the contractor for non-compliance with the "Performance Default Notice" issued by MD;

Reply: According to Clause 36.3(ii) of the contract for the whole of Hong Kong waters and Clause 36.3(b) of the contract for Tai Po District in 2020, in the event that the contractor fails to comply with a Performance Default Notice served upon it pursuant to Clause 36.2 or the breach is such that remedy is not possible, the Government shall be entitled to deduct from payments due to the contractor such reasonable sum or sums as the Government considers appropriate to reflect the actual loss to the Government resulting from the breach including administrative charges such sum or sums to be calculated by reference to the rates in the Price Proposal.

While the clauses above allow MD to take further action, since the contractor has implemented remedial measures, MD did not trigger the above clauses.

(k) according to the sub-contracting service agreements for the transportation of collected marine refuse in Appendices D to F to Annex to your letter dated 29 December 2020, the sub-contractor was required to collect marine refuse daily from the marine refuse collection points to disposal sites. Please advise how MD could ensure that the sub-contractor had provided the service required given that only one vehicle (i.e. Vehicle 1) was provided under the contracts;

Reply: Under the current practice, marine refuse collected in eastern waters under the contract for the whole of Hong Kong waters and marine refuse collected under the contract for Tai Po District will be transported by sea to Cha Kwo Ling MRCP for temporary storage, which will then be collected by Vehicle 1 and transported to disposal sites. Refuse collected under the contract for Tai Po District only accounts for a very small amount of refuse collected from the whole of Hong Kong waters. Please refer to **Appendix E** for relevant information. As refuse collected in Tai Po District only accounts for roughly 2.9% of the total amount of refuse collected on

Note by Clerk, PAC:** ***See Appendix 10 of this Report for the reply dated 29 December 2020 from Director of Marine.

average over the past few years, the amount of refuse collected under the contract for Tai Po District will not affect the provision of services by the contractor under the contract for the whole of Hong Kong waters. Nonetheless, MD has stepped up efforts in monitoring the loading records of relevant refuse collecting vehicles from August 2020 onwards, so as to monitor whether the contractor has complied with the relevant contract requirements. MD has begun conducting surprise checks on MRCPs from January 2021 onwards to monitor the compliance of relevant requirements.

(l) with reference to Appendix G to Annex to your letter dated 29 December 2020 about the handling of the unauthorized sub-contracting arrangement under the contract for the whole of Hong Kong waters, please advise whether MD has given due consideration to relevant factors (other than that the services to be provided would not be affected) in granting the covering approval; if yes, please provide the factors considered and/or justifications for granting such approval; if no, why not;

Reply: The sub-contracting arrangement concerned involves the hire of vehicle by the contractor to provide land transport for the marine refuse collected. Other than failing to seek prior approval from MD, the contractor has been using the hired vehicle to fulfill its contract requirements, and no additional expenses or material effects have been suffered by MD as a result of the contractor transporting marine refuse with hired vehicle. Given the above considerations, MD approved the contractor's sub-contracting arrangements under the contract for the whole of Hong Kong waters in July 2020. However, MD agrees that the incident was undesirable, and has reminded the contractor to comply with contract terms and conditions in the future. Should the contractor breach the relevant requirements again, MD will take further action.

(m) under Clause 18.2 of the contract for Tai Po District, the Government's approval of the sub-contracting of services will normally only be granted in case of an emergency or under special circumstances (referred to in MD's letter to Contractor A dated 14 August 2020). However, no factors for consideration and/or justifications (other than that the services to be provided would not be affected) were provided in the minutes seeking covering approval of the sub-contracting arrangement made under the contract for Tai Po District. Please explain/advise:

(i) whether in granting the covering approval, due consideration was given to the relevant factors (in particular whether there was an emergency or special circumstances) and if so, please provide the factors considered and/or justifications for granting such approval; and

Note by Clerk, PAC:** ***See Appendix 10 of this Report for the reply dated 29 December 2020 from Director of Marine, and letter dated 14 August 2020 from Director of Marine to Contractor A not attached.

(ii) whether you agree that giving covering approvals to rectify the unauthorized sub-contracting arrangements is undesirable; if yes, please advise whether there are any measures/mechanism put in place by MD to prevent recurrence of similar incidents in future;

Reply: As stated in paragraph (l) above, the sub-contracting arrangement concerned involves the hire of vehicle by the contractor to provide land transport for the marine refuse collected. Other than failing to seek prior approval from MD, the contractor has been using the hired vehicle to fulfill its contract requirements, and no additional expenses or material effects have been suffered by MD as a result of the contractor transporting marine refuse with hired vehicle. In terms of the contract for Tai Po District, it was close to ending at the material time. Due to such special circumstances, MD approved the contractor's sub-contracting arrangements under the contract for Tai Po District in August 2020. However, MD agrees that the incident was undesirable, and has reminded the contractor to comply with contract terms and conditions in the future. Should the contractor breach the relevant requirements again, MD will take further action.

(n) according to Table 5 in paragraph 2.23 of the Audit Report, there was a notable increase in the price of the contract for the whole of Hong Kong waters from 2004 to 2017. Please provide the breakdown on staff resources and the average cost per head for each contract awarded during the period;

Reply: The current contract requires the contractor to provide at least 60 vessels, while the number of foreshore cleansing team members has also increased from two teams of 24 members to three teams of 36 members in total. The number of priority areas in the contract has also increased from 36 to 43. Coupled with factors such as rising costs in hiring work boats, inflation and wage increase, the total price of the contract has risen accordingly.

Since the overall contract cost includes the staffing, expenditure and number of vessels involved in cleaning up floating refuse, collecting domestic refuse from ocean-going vessels, river trade vessels and locally-licensed vessels in typhoon shelters, there is no separate breakdown for per-capita costs within the contract. However, the contractor provided the breakdown for manpower involved in marine refuse cleansing service contracts for the whole of Hong Kong waters between 2004 and 2017, which is listed in **Appendix F**.

[*Appendix F consists of internal documents regarding the contract with the contractor, which contains commercially sensitive information and should not be disclosed to the public. The document concerned should only serve as reference for members of the PAC.]

Note by Clerk, PAC:* *Appendix F not attached.

(o) with reference to paragraphs 2.26 and 2.27 of the Audit Report, do you agree that the existing outsourcing arrangements for marine refuse cleansing and disposal services might have given advantage to Contractor A, and have led to over-reliance on a single contractor for the provision of services, which is considered undesirable; if yes, please advise the measures taken/to be taken by MD to enhance the tender competition; if no, the reasons;

Reply: MD has been inviting tenders for the marine refuse cleansing contracts in accordance with the tendering procedures as stipulated in the Stores and Procurement Regulations. Among which, for the contract for the whole of Hong Kong waters, since the tender submissions received in the tender exercises were of value exceeding $30 million, the tenders were approved by the Central Tender Board ("CTB"). There was no bias towards the existing contractor.

Nevertheless, MD will review the existing practice before considering the next tendering exercise by taking into account the recommendations of the CTB in 2017, in order to refine the procedure and attract more tenderers to bid for the marine refuse cleansing contract, which in turn enhances tender competition.

Part 3: Monitoring of marine refuse cleansing and disposal services

(p) according to 3.3(c) of the Audit Report, the contractor is required to restore the level of cleanliness of any part of the Hong Kong waters to "Good" level within the timeframe specified for a particular service area. Please provide the relevant record/statistics in 2020 on the respective number of cases meeting and not meeting the specified time limit by the contractor, with breakdown by zone;

Reply: During daily patrols, in case the sea water cleanliness falls below the "Good" level and there is no contractor performing cleaning up work at the scene, MD patrol officers will instruct the contractor to clean up the water area concerned as soon as possible to re-establish the sea water cleanliness to "Good" level. Patrol officers will, after giving instructions to the contractor, re-inspect the area concerned in order to ensure that the contractor has provided cleansing services as instructed. However, since patrol officers are still required to perform other routine and patrolling duties after giving the contractor instructions, they may not be able to confirm whether the cleanliness condition of the area concerned has been re-established to a "Good" level within the specified time limit. Nonetheless, the patrol officers will arrange for inspections of the cleanliness condition of the area concerned at the earliest possible time. Whenever the contractor is unable to complete the cleansing work within the specified time limit under exceptional circumstances, such as taking time to deploy a foreshore cleansing team for cleansing work or requiring additional time to clean up enormous amount of floating refuse, the patrol officers will discuss with the contractor to come up with a recommendation for tackling the issue. Please refer to **Appendix G** for relevant information.

(q) with reference to paragraphs 3.3(d) and 3.3(e) of the Audit Report, please advise how MD can ensure that at least 50% of the contractor's scavenging/collection fleet are in operation during service hours and the contractor provides foreshore cleansing services every day for nine continuous working hours between 8:00 am and 7:00 pm in accordance with the requirements of the contract for the whole of Hong Kong waters;

Reply: In terms of daily operation, the contractor will submit a Daily Vessel Operation Schedule to MD before each working day. A Daily Situation Report is submitted to MD for inspection and recordkeeping after service completion. According to past records, the contractor has provided at least 60 vessels for marine refuse cleansing services in the Daily Vessel Operation Schedule. During its daily patrol, MD will also inspect whether the contractor has provided the vessels as listed in the Daily Vessel Operation Schedule for service within the specified timeframe.

(r) referring to Table 6 in paragraph 3.8 of the Audit Report about the numbers of daily cleanliness patrols and helicopter surveillance conducted by MD in 12 patrol areas in 2019, please explain/advise:

(i) why the required frequency for conducting daily cleanliness patrols of at least once a month could not be met in three of the 12 patrol areas, namely Area 4 (Sai Kung), Area 8 (Lantau South) and Area 9 (Lantau West), and how the patrol frequency for each of the 12 patrol areas is determined;

(ii) why Area 4 (Sai Kung) and Area 9 (Lantau West) were not inspected by either MD's daily cleanliness patrol or helicopter surveillance at least once a month;

Reply: MD conducts harbour patrol in the 12 patrol areas with its four existing patrol launches. Regular helicopter surveillance will also be conducted. It is stipulated in the internal guidelines that each patrol area should meet the required frequency for conducting daily cleanliness patrols of at least once a month. However, the patrol routes will be altered in accordance with the actual operations and needs as necessary, for instance, the weather conditions and emergency marine incidents, etc. Under these circumstances, MD will be required to deploy patrol launches to deal with emergency situations, which may lead to a failure in meeting the required frequency for conducting daily cleanliness patrols of at least once in that particular month in some patrol areas. MD has strengthened its monitoring work from November 2020 onwards, and will review the frequency of patrols conducted for each patrol area during middle of the month. Whenever an area has not been patrolled by any patrol officer, manpower will be deployed subsequently for conducting patrols in the areas concerned at the earliest possible time. In addition, Area 9 has been included in the helicopter surveillance route since October 2020.

(iii) according to paragraph 3.7(d) of the Audit Report and Appendix B to Annex to your letter dated 4 January 2021, there were ten Marine Inspectors II (in full strength position) serving as the patrol officers in the Pollution Control Unit of MD as at 31 December 2020. Please advise whether the current staff establishment of the rank of Marine Inspector II in the Pollution Control Unit is sufficient for performing the patrol duty at the required frequency;

Reply: MD's Pollution Control Unit has a current establishment of ten Marine Inspectors II and four patrol launches for the inspection of sea water cleanliness across the territory and monitoring the performance of the marine scavenging services contractor. The manpower deployed for patrolling can largely meet the required frequency for conducting daily cleanliness patrols of at least once a month as stipulated in the guidelines except when there are marine oil spillage and related incidents.

(iv) measures taken/to be taken by MD to ensure that the required frequency of daily cleanliness patrols for each patrol area is met;

Reply: MD has strengthened its monitoring work from November 2020 onwards, in order to ensure that daily cleanliness patrols are conducted at least once a month in each patrol area. Upon the implementation of the new measure, MD will review the frequency of patrols conducted for each patrol area during middle of the month. Whenever an area has not been patrolled by any patrol officer, manpower will be deployed subsequently for conducting patrols in the areas concerned at the earliest possible time.

(v) whether MD would explore the use of information technology to facilitate its work in tackling marine refuse, including submission of marine refuse collection records by the contractor, referral of service requests/complaints to the contractor and the monitoring of daily cleanliness patrols conducted by patrol officers of MD; and

Reply: The contractor reports to MD on the duty records of its frontline staff and replies on the latest situation of referrals of service requests/complaints via email and facsimile. MD will explore with the contractor further use of information technology in order to facilitate the daily management and monitoring of marine refuse collection and disposal services.

Besides, MD will also explore the use of applicable information technology in order to step up the monitoring of frontline patrol officers in conducting daily sea water cleanliness patrols.

Note by Clerk, PAC:** ***See Appendix 8 of this Report for the reply dated 4 January 2021 from Director of Marine.

MD has already acquired two drones which are currently under testing. We expect that the drones can be deployed to assist in monitoring the sea water cleanliness starting from the second quarter of 2021.

(vi) the numbers of daily cleanliness patrols and helicopter surveillance conducted in the 12 patrol areas in 2020;

Reply: Please refer to **Appendix H** for relevant information.

(s) with reference to paragraph 3.9(b) of the Audit Report, please explain why two of the 12 patrol areas, namely Area 9 (Lantau West) and Area 10 (Sha Chau and New Territories North), were not covered by any of the six routes of helicopter surveillance and advise the follow-up actions taken/to be taken by MD in this regard;

Reply: Apart from daily sea water cleanliness patrols, MD officers are also deployed to conduct helicopter surveillance on the cleanliness condition of Hong Kong waters at height regularly by taking helicopters, and follow up on the cleansing work as needed. In designing the routes of helicopter surveillance, the key considerations of MD include locations with past records of frequent accumulation of refuse, districts receiving more complaints and the flight time required for the surveillance route, etc. Patrol Areas 9 and 10 were hence not included in past helicopter surveillance routes.

MD has recently reviewed the situation. Having considered that the service requests received cover water areas over the entire territory, MD has liaised with relevant department to work out new routes of helicopter surveillance. Patrol Areas 9 and 10 have been included starting from October 2020 onwards.

(t) with reference to paragraph 3.10 of the Audit Report, please explain the procedure for handling service requests/complaints relating to marine refuse by MD;

Reply: Upon receipt of marine refuse reports, MD will notify the contractor to clean up the water area concerned. According to the requirements of the contract for the whole of Hong Kong waters, the contractor is required to re-establish the cleanliness condition to a "Good" level within 30, 60 and 120 minutes for Zone 1, Zone 2 and Zone 3 respectively after the receipt of notification from MD. The contractor will notify MD upon completion of the marine refuse cleansing work as instructed. MD will deploy officers where possible to inspect the cleanliness condition of the water area concerned again. In case the sea water cleanliness is still unsatisfactory after the cleansing work, MD officers will instruct the contractor to redeploy resources and manpower to strengthen the cleansing work until the cleanliness condition is up to the standard. MD will then reply the persons/units concerned.

(u) according to Figure 3 in paragraph 3.11 of the Audit Report, the number of patrol visits in three of the 12 patrol areas, namely Area 4 (Sai Kung), Area 8 (Lantau South) and Area 9 (Lantau West) was relatively small, but the number of service requests received was more than the number of patrol visits for these three areas. Please advise whether MD would consider deploying patrol resources to these three areas from other areas where the number of patrol visits largely exceeded the number of service requests/complaints; if yes, details of the implementation plan; if no, why not;

Reply: MD conducts harbour patrol in the 12 patrol areas with its four existing patrol launches. It is stipulated in the internal guidelines that each patrol area should meet the required frequency for conducting daily cleanliness patrols of at least once a month. However, the patrol routes will be altered in accordance with the actual operations as necessary, for instance, the weather conditions and emergency marine incidents, etc. Under these circumstances, MD will be required to deploy patrol launches to deal with emergency situations, which may lead to a failure in meeting the required frequency for conducting daily cleanliness patrols of at least once in that particular month in some patrol areas. MD has strengthened its monitoring work from November 2020 onwards, in order to ensure daily cleanliness patrols are conducted at least once a month in each patrol area. MD will also make reference to the nature and numbers of service requests/complaints received by a particular patrol area in planning for the deployment.

(v) referring to paragraph 3.13 of the Audit Report about the contractor's marine refuse cleansing work at typhoon shelters and promenades, please advise:

(i) the efforts made by MD in the past three years to monitor the contractor's marine refuse cleansing work at typhoon shelters and promenades;

Reply: MD monitors the contractor's performance mainly by conducting daily patrols on a surprise basis, in water areas including typhoon shelters and promenades, and reviewing the various operational returns and reports submitted by the contractor as well as conducting Contract Management Committee meetings with the contractor each month.

As for the daily monitoring of the contractor's marine refuse cleansing work, upon receiving marine refuse reports including those coming from typhoon shelters and promenades, MD will instruct the contractor to clean up the areas concerned. Upon the contractor's completion of the cleansing work, MD will deploy officers where possible to inspect the cleanliness condition of the water areas concerned again. In case the sea water cleanliness is still unsatisfactory after the cleansing work, MD officers will instruct the contractor to redeploy resources and manpower to strengthen the cleansing work until the cleanliness condition is up to the standard.

In addition, MD will also inspect the priority areas on a surprise basis during patrols,

including but not limited to Cheung Chau Typhoon Shelter, Sam Ka Tsuen Typhoon Shelter, Tuen Mun Typhoon Shelter and Kwun Tong Typhoon Shelter, so as to ensure the sea water cleanliness is up to the standard. MD will inform the contractor to clean up any water areas of unsatisfactory cleanliness condition.

MD will place floating booms at the Kwun Tong Typhoon Shelter to intercept floating refuse in end-March 2021, and has also acquired two drones which are currently under testing. We expect that the drones can be deployed to assist in the monitoring of the sea water cleanliness starting from the second quarter of 2021.

(ii) it was advised at the public hearing that the contractor encountered operational difficulties in collecting and removing marine refuse at typhoon shelters which were always occupied by vessels. Please advise whether MD has taken any measures to facilitate the contractor's marine refuse cleansing work at typhoon shelters; if yes, the details and the effectiveness of such measures; if no, why not; and

Reply: Under certain circumstances, for instance, after typhoons and rainstorms, or when floating refuse is accumulated between mooring vessels where it is difficult or impossible to be reached, the contractor may need a longer time than the timeframe as stated in the contract to re-establish the sea water cleanliness. MD has already reminded the contractor to keep us informed in case of difficulties and being unable to complete the cleansing work within the specified time limit, and continue to follow up until the cleansing work is completed. MD will instruct the contractor to redeploy vessels and foreshore cleansing team as needed to assist in cleaning up water areas normally unreachable by work boats, and will also contact the vessel owners concerned to move their vessels away from the berthing area to facilitate the contractor's cleansing work.

(iii) the short-term and long-term measures that would be taken by MD to tackle the marine refuse in typhoon shelters and promenades;

Reply: The short-term measures are set out in paragraph (v)(ii) above. Regarding the long-term measures, MD will, during the review of marine refuse cleansing and disposal services, examine the cleansing arrangements concerned, in order to further enhance the cleansing requirements of the locations in the future.

(w) with reference to paragraph 3.20 of the Audit Report, please advise the latest development of the issue relating to the deployment of pleasure vessels by the contractor for marine refuse cleansing work, the total number of Performance Default Notices issued by MD to the contractor arising from the issue, and the enforcement actions taken by MD. Please also provide a copy of the Performance Default Notices issued;

Reply: The Audit Report identified the use of non-compliant vessels by the contractor in conducting marine refuse cleansing work. MD showed serious concern for the situation, and instructed the contractor immediately after receiving the report to stop using non-compliant vessels in conducting marine refuse cleansing work. After further investigation, MD issued to the contractor two Performance Default Notices under the contract for the whole of Hong Kong waters in 2017 and one Performance Default Notice under the contract for Tai Po District in 2018. The contractor undertook not to use non-compliant vessels in conducting marine refuse cleansing work in the future. MD has also sought the Department of Justice's legal advice on the contractor's use of non-compliant vessels in conducting marine refuse cleansing work, and was advised that there was insufficient evidence to initiate a prosecution.

The Performance Default Notices issued by MD are set out in **Appendix I**.

[*Appendix I is an internal document under the contract between MD and the contractor which contains commercially sensitive information and should not be disclosed to the public. The document concerned should be restricted only to PAC members for reference.]

(x) with reference to paragraph 3.24 of the Audit Report regarding the management of the four MRCPs, please advise:

(i) the monitoring work of MD on the operations of MRCPs, and whether MD has conducted any regular/surprise inspections to MRCPs; if yes, the frequency of inspections; if no, why not;

(ii) the follow-up measures taken/to be taken by MD to ensure the proper management of MRCPs and to enhance the monitoring of their operations;

Reply: When patrolling various areas, MD officers will inspect from time to time the conditions of MRCPs, including whether the refuse is properly stored in covered temporary storage containers and whether the MRCPs are tidy and clean.

From January 2021 onwards, MD has increased the frequency of conducting surprise checks to eight to ten times at different MRCPs every month, in order to ensure the contractor's compliance of requirements on clearing the contents of temporary storage containers at the MRCPs every day. MD officers will check the following items in conducting surprise checks:

(a) whether the supervisor on duty is present;
(b) overall cleanliness condition of MRCPs;
(c) whether gates are locked;
(d) whether warning signs are placed in prominent locations;
(e) whether rat prevention measures are implemented; and
(f) whether the contents of temporary storage containers are emptied.

Note by Clerk, PAC:* *Appendix I not attached.

(iii) whether MD has imposed any penalty on the contractor for failure to operate MRCPs in Cha Kwo Ling and Ap Lei Chau in accordance with the requirements of the contract; if yes, the details; if no, why not; and

Reply: Regarding the undesirable hygiene conditions of Cha Kwo Ling MRCP, MD has already required the contractor to improve its cleansing work. As regards the absence of staff stationing at Ap Lei Chau MRCP, MD has also required the contractor to arrange an on-site supervisor. MD has not imposed penalties on the contractor as it arranged an on-site supervisor and took immediate follow-up actions, including improving the hygiene conditions of the MRCPs, placing rodenticides and trapping devices at the MRCPs, emptying the contents of temporary storage containers in MRCPs every day and submitting the loading and unloading records of refuse collection vehicles to MD for inspection regularly. MD agreed that the contractor's management of the MRCPs in the past was undesirable. As stated above, from January 2021 onwards, MD has strengthened monitoring of the contractor's performance and increased the number of surprise checks to ensure that the relevant requirements have been complied with.

(iv) whether MD would examine the need to retain the Cha Kwo Ling and Ap Lei Chau MRCPs given their low utilization; if yes, details of the review; if no, why not;

Reply: The Cha Kwo Ling MRCP is mainly used for handling marine refuse collected from the eastern waters of Hong Kong. The Cha Kwo Ling MRCP has been in use since 1995. It has to be retained at this stage as 20 to 30% of marine refuse was transported from Cha Kwo Ling MRCP to disposal sites for disposal every year.

Ap Lei Chau MRCP is mainly used for handling marine refuse collected from the southern waters of Hong Kong. About 30 to 40% of marine refuse was transported from Ap Lei Chau MRCP to disposal sites for disposal every year. During typhoon season, this MRCP will also provide support to the cleansing work of the southern waters of Hong Kong and the Aberdeen Typhoon Shelter. The work boats may save time required for travelling to other MRCPs. Hence, this MRCP has to be retained as well.

(y) with reference to paragraphs 3.26, 3.28(b) and 3.29(b) of the Audit Report, it was advised at the public hearing that the replacement of the lifting appliance in Ap Lei Chau MRCP, which had been out of order since October 2017, could not be made until November 2021. Please advise why it has taken MD such a long time to arrange the repair/replacement, how the contractor unloads marine refuse from vessels to Ap Lei Chau MRCP without the lifting appliance in the meantime, and whether MD has completed the review on the need for lifting appliances in MRCPs in Cha Kwo Ling and Ap Lei Chau; if yes, the results; if no, the progress of the review;

Reply: Regarding the replacement of the lifting appliance in Ap Lei Chau MRCP, it took time for MD to coordinate with the Electrical and Mechanical Services Department ("EMSD") to plan for the funding application for the replacement of the lifting appliance. After the funding was granted, the tender invitation was conducted by the EMSD on behalf of MD. MD originally planned to complete the procurement procedures in the first half of 2020. However, the procurement procedures were delayed due to the COVID-19 pandemic. MD and EMSD have now finalised the arrangements with a view to completing the replacement of the lifting appliance in November 2021. Before the replacement, the contractor will arrange refuse collection vessels with lifting appliance for unloading refuse to the temporary storage containers.

Cha Kwo Ling MRCP has to be relocated in future to cope with the development plan of the district. It will not be cost-effective if the lifting appliance is to be demolished shortly after the repair. As the contractor has arranged refuse collection vessels with lifting appliance for unloading refuse to the temporary storage containers, MD will not repair the lifting appliance concerned for the time being.

Part 4: Other related issues

(z) according to Table 9 in paragraph 4.4 of the Audit Report, the number of enforcement cases in relation to marine littering has remained small (ranging from 13 to 17 cases during the period from 2015 to 2019). Please explain the reasons behind and advise whether it suggests inadequate enforcement efforts made by MD;

(aa) with reference to paragraph 4.6 of the Audit Report, please advise the follow-up actions taken/to be taken by MD in respect of the Audit's recommendation of arranging more anti-marine littering operations by officers in plain clothes;

Reply: MD will arrange launches to perform daily patrols in Hong Kong waters against marine littering at sea every day and prosecute those who commit marine littering. Prosecution against marine littering is not easy since uniformed enforcement officers of MD on board patrol boats can easily be seen and people usually will not litter when seeing enforcement officers at the scene.

To enhance the enforcement work, MD has arranged about 30% of the anti-marine littering operations to be conducted by officers in plain clothes since 2021. During the operations, enforcement officers in plain clothes will patrol along coastal area and conduct law enforcement actions against marine littering.

(bb) according to Table 10 in paragraph 4.7 of the Audit Report, the Marine Refuse Study commissioned by EPD and released in April 2015 revealed that shoreline and recreational activities and ocean/waterway activities represented about 89% of marine

refuse in Hong Kong. Please advise whether MD and EPD have taken into account the above findings of the study in planning their enforcement operations, such as arranging officers to take enforcement actions in plain clothes, and enhanced public education and publicity campaigns to curb source activities of marine refuse;

Reply: ENB appointed a consultant in 2012 to conduct a study of the sources, fates, distribution and movement of marine refuse in Hong Kong waters. The study aimed to review the existing measures and formulate strategic policies to prevent and reduce marine refuse. The results of the study were announced in April 2015. In the report, five recommendations were made to improve the cleanliness of the shorelines, including conducting publicity campaigns to engage the community to contribute and participate and enhancing efforts to remove refuse from the marine environment. Under the co-ordination of EPD, from time to time, MD works together with green groups to clean up marine refuse accumulated at foreshore areas which are inaccessible by land and assists them to dispose of the refuse collected after the coastal clean-up. In 2020, under the coordination of EPD, MD participated a total of nine joint clean-up operations with green groups.

In addition, MD will from time to time conduct joint clean-up operations with other government departments. Among which, MD regularly conducts joint clean-up operations with the Food and Environmental Hygiene Department ("FEHD"). If the land refuse collected by FEHD from coastal locations are unable to transport by land, MD's contractor will transport them via the sea route to disposal sites for disposal. Besides, MD and Agriculture, Fisheries and Conservation Department ("AFCD") will conduct joint operation in the waters near the Aberdeen Wholesale Fish Market to tackle illegal marine littering. In 2020, MD and AFCD conducted three enforcement actions against marine littering.

Besides, MD will conduct publicity and education activities from time to time, such as distributing leaflets to vessels and stakeholders of marine operations to raise public awareness of keeping the sea clean and reduce marine littering at source. Before Lunar New Year and fish moratorium, MD will also organize typhoon shelter management meetings with the stakeholders to promote the message of keeping the sea clean and distribute promotional leaflets in a bid to remind members of the industry and vessels to keep the sea clean and place their domestic waste and items properly to prevent them from falling into the sea. With reference to the above marine refuse study, we agree that it is important to enhance promotional activities, especially on curbing of disposing cigarette butts in Hong Kong waters and shorelines. In the leaflet "We are one in keeping our harbour clean" which has been distributed to the public since 2021, MD has incorporated into it the message of not disposing cigarette butts to sea.

MD has arranged about 30% of the anti-marine littering operations to be conducted by officers in plain clothes since 2021. We will include operations targeting the refuse at source when planning anti-marine littering actions.

(cc) with reference to paragraph 4.15 of the Audit Report, please advise the follow-up actions taken/to be taken by MD and EPD to ensure the accuracy and timely update of the information relating to marine refuse cleansing work provided on the "Clean Shorelines" Website;

Reply: MD has taken actions accordingly. The "Clean Shorelines" Website is managed by EPD. MD will follow with EPD's requirement by reviewing and updating information related to MD in the website quarterly. When there are material changes to the work concerned, MD will proactively review the content of the website to examine if the content has to be amended accordingly so as to provide the latest information to the public.

(dd) with reference to paragraph 4.17(b) of the Audit Report, please advise the progress of the trial run of float booms to tackle marine refuse; and

Reply: The two sets of floating booms newly procured were duly received in May 2020. The floating booms will be placed in suitable waters causing no obstruction to vessel traffic to intercept floating refuse. In June 2020, MD conducted trial run of these newly-procured floating booms in the Government Dockyard and afterwards placed them in the Western District Public Cargo Working Area ("WDPCWA") in mid-October 2020 to conduct further testing. However, the test result showed that floating booms are not suitable for the WDPCWA which has higher occurrence of wave and swell. MD later placed the floating booms in the Kwun Tong Typhoon Shelter in late November 2020 to test the effectiveness of intercepting marine refuse in different waters. The test result showed that floating booms can effectively intercept floating refuse in calm and sheltered waters. In light of this, MD will install floating booms in the Kwun Tong Typhoon Shelter in end-March 2021 to intercept floating refuse.

(ee) you have mentioned at the public hearing that MD could terminate the contracts with Contractor A only after the latter had been served with five Performance Default Notices in five consecutive weeks. However, according to the two contracts for marine refuse cleansing and disposal services for the whole of Hong Kong waters and Tai Po District respectively, the Government may exercise the rights contained in Clause 38.2, such as suspension of payment to the Contractor (Clause 38.2(i) in the contract for the whole of Hong Kong waters and Clause 38.2(a) in the contract for Tai Po District) and terminating the contracts (Clause 38.2(v) in the contract for the whole of Hong Kong waters and Clause 38.2(e) in the contract for Tai Po District), under any of the circumstances referred to in Clause 38.1, such as where there is any substantial breach of the conditions of the contract (Clause 38.1(iii) in the contract for the whole of Hong Kong waters and Clause 38.1(ii) in the contract for Tai Po District) or if the contractor sub-contracts its rights or obligations without the prior written consent of the Government Representative (Clause 38.1(xvii) in the contract for the whole of Hong Kong waters and Clause 38.1(xvi) in the contract for Tai Po

District). Under Clause 25.1 of the contract for the whole of Hong Kong waters and Clause 18.2 of the contract for Tai Po District, which are conditions of contract, a contractor may not enter into any sub-contracting arrangement without the prior written consent of the Government. Please provide/advise:

(i) the number of Performance Default Notices served on Contractor A in the past five years, with details of each Performance Default Notice served and remedial actions taken by Contractor A;

Reply: Three Performance Default Notices were served on Contractor A in the past five years. The details are shown at **Appendix I**.

[*Appendix I is an internal document under the contract between MD and the contractor which contains commercially sensitive information and should not be disclosed to the public. The document concerned should be restricted only to PAC members for reference.]

(ii) whether MD had exercised its right under Clause 38.2 of the two contracts to impose penalties, if any, against Contractor A pursuant to Clause 38.1; if yes, please provide details of such penalties and circumstances; and

(iii) whether MD would exercise its right under Clause 38.2 of the two contracts to impose penalties against Contractor A (including terminating the contract by notice in writing having immediate effect) pursuant to Clause 38.1, with a view to deterring further non-compliance with the terms of the contracts.

Reply: Since the contractor has made rectifications following the issue of the above three Performance Default Notices, MD did not impose further penalties against the contractor. Regarding the sub-contracting arrangement, MD granted a covering approval to the contractor in August 2020. MD has then strengthened its monitoring to avoid similar incidents. Hence, MD would not impose further penalties against the contractor. Nevertheless, MD has reminded the contractor to comply with the terms and conditions of the contracts for the whole of Hong Kong waters and Tai Po District. If the contractor breaches the conditions of the contracts again in the future, MD will take actions and consider imposing penalties against the contractor.

Besides, MD will examine the penalties concerned in the review on marine refuse collection and disposal service so as to enhance the deterrent effect.

Note by Clerk, PAC:* *Appendix I not attached.

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INTERNATIONAL MARITIME ORGANIZATION

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MEPC.1/Circ.834/Rev.1
1 March 2018

CONSOLIDATED GUIDANCE FOR PORT RECEPTION FACILITY PROVIDERS AND USERS

1 In view of the need to tackle the long-standing problem of the inadequacy of port reception facilities, the Marine Environment Protection Committee (the Committee), having received valuable input from the Industry Port Reception Facilities Forum, adopted, at its fifty-fifth session (October 2006), the Action Plan on Tackling the Inadequacy of Port Reception Facilities and instructed the Sub-Committee on Flag State Implementation (FSI) to progress the Plan's work items.

2 The Guide to good practice for port reception facility providers and users was developed as one of the work items of the Action Plan as a practical users' guide for ships' crew who seek to deliver MARPOL wastes/residues ashore and for port reception facility providers who seek to provide timely and efficient port reception services to ships.

3 The Committee, at its fifty-ninth session (July 2009), considered and approved the *Guide to good practice for port reception facility providers and users* (MEPC.1/Circ.671).

4 The Committee, at its sixty-fifth session (May 2013), agreed to the recommendation made by the FSI Sub-Committee, at its twenty-first session (March 2013), to revise MEPC.1/Circ.671, including the necessary consequential amendments following the entry into force of the revised MARPOL Annex V on 1 January 2013; the designation of the Baltic Sea as a Special Area under MARPOL Annex IV; and the designation of the North American and United States Caribbean Sea emission control areas under MARPOL Annex VI.

5 The Committee, at its sixty-sixth session (April 2014), approved the *Consolidated guidance for port reception facility providers and users* (MEPC.1/Circ.834), consolidating in a single document the *Guide to good practice for port reception facility providers and users* (MEPC.1/Circ.671/Rev.1) and four other circulars related to port reception facilities (MEPC.1/Circ.469/Rev.2, MEPC.1/Circ.644/Rev.1, MEPC.1/Circ.645/Rev.1 and MEPC.1/Circ.470/Rev.1).

6 The Committee, at its seventieth session (November 2016), having adopted, by resolution MEPC.277(70), amendments to MARPOL Annex V introducing new categorizations of garbage, agreed to revise the Consolidated Guidance, and requested the Secretariat to issue the revision following the entry into force of the amendments on 1 March 2018. The revised Consolidated Guidance is set out in the annex.

7 Member Governments and Parties to the MARPOL Convention are invited to bring the revised Consolidated Guidance to the attention of all parties concerned. In particular, port States are invited to make it available at port reception facilities and flag States are invited to make it available to shipowners and masters. An electronic copy can be downloaded from the GISIS website of the Organization*.

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* http://gisis.imo.org (click on Port Reception Facilities but note that new users will need to register first).

ANNEX

CONSOLIDATED GUIDANCE FOR PORT RECEPTION FACILITY PROVIDERS AND USERS

Table of contents

INTRODUCTION

1 The use and provision of port reception facilities (PRFs) is fundamental to the overall success of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols (MARPOL) in its objective of reducing and ultimately eliminating intentional pollution of the marine environment by ships. Considerable efforts by Party States and the industry have resulted in an improvement in the availability and adequacy of PRFs.

2 However, recent work by the Organization suggests that there are still barriers to the efficient delivery of MARPOL wastes/residues ashore. One such barrier has been identified as the lack of clear, easy-to-use guidance that outlines how the shipping community and reception facility providers can best conduct their operations in order to comply with MARPOL and to facilitate efficient, environmentally responsible disposal of MARPOL wastes/residues.

3 This Consolidated Guidance is intended to be a practical users' guide for ships' crew who seek to deliver MARPOL wastes/residues ashore and for port reception facility providers who seek to provide timely, efficient port reception services to ships. It provides a basis for establishing best practice procedures, with an eye towards improving the integration of PRFs into a more comprehensive waste management scheme in which final disposal of MARPOL wastes/residues occurs in a manner that protects the environment, with due regard for the health and safety of workers and the general population. It is based on the fundamental requirements established in MARPOL and the guidance provided in the Organization's Manual *Port Reception Facilities – How to do it* (2016) (the Manual) and the *Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC.83(44)). Building on the Manual and the Guidelines, this Guidance suggests how modern environmental management systems and procedures can assist with the improvement of MARPOL wastes/residues delivery ashore. Procedures recommended by the Organization include communication and reporting procedures and the use of standardized forms.

4 This Guidance is not intended to provide guidance to Party State authorities and Governments who wish to implement reception facilities under MARPOL. The *Port Reception Facilities – How to do it* (2016) Manual and the *Guidelines for ensuring the adequacy of port waste reception facilities*, as noted above and previously published by IMO, should be referred to for these purposes.

TERMS USED IN THIS GUIDANCE

5 This Guidance has been written with the aim of enabling shipowners/operators and PRF operators to comply with MARPOL. As such, plain language has been used wherever possible. However, it is important that the terms used in this guidance be interpreted consistently and in the appropriate context. The following definitions set out some basic terminology in the context of this Guidance. For complete legal definitions, applicability and exceptions, reference should be made directly to MARPOL and its Annexes.

6 *Adequacy* as used in the MARPOL Annexes means that PRFs meet the needs of ships using the ports without causing undue delay. PRF operators and users may refer to the *Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC.83(44)), section 3 (How to Achieve Adequacy), or section 2.3.1 of the Manual *Port Reception Facilities – How to do it* (2016), for further information. Section 3.2 of the Guidelines further states that "adequate facilities can be defined as those which: mariners use; fully meet the needs of the ships regularly using them; do not provide mariners with a disincentive to use them; and contribute to the improvement of the marine environment". Additionally, section 3.3 of the Guidelines specifies that the reception facilities must "… allow for the ultimate disposal of ships' waste to take place in an environmentally appropriate way".

7 *Discharge* is defined in MARPOL as any release, however caused, from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying. In this guidance, the term "discharge" refers generally to the types of discharge regulated under MARPOL.

8 *Garbage*, as defined in MARPOL Annex V, means all kind of food wastes, domestic wastes and operational wastes, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically, except those substances which are defined or listed in other Annexes to the Convention. Garbage does not include fresh fish and parts thereof generated as a result of fishing activities undertaken during the voyage, or as a result of aquaculture activities which involve the transport of fish including shellfish for placement in the aquaculture facility and the transport of harvested fish, including shellfish, from such facilities to shore for processing.

9 *MARPOL wastes/residues* is used throughout this Guidance to refer collectively to all waste streams that are generated on board ships during normal operations and during cargo operations and are governed by MARPOL, including the following:

.1 MARPOL Annex I: oily bilge water; oily residues (sludge); oily tank washings (slops); dirty ballast water; and scale and sludge from tank cleaning;

.2 MARPOL Annex II: cargo residues containing noxious liquid substances (NLS) as defined in MARPOL Annex II; or ballast water, tank washings or other mixtures containing such substances;

.3 MARPOL Annex IV: sewage;

.4 MARPOL Annex V: garbage as defined in MARPOL Annex V (see paragraph 8), including plastics, food wastes, domestic wastes, cooking oil, incinerator ashes, operational wastes, animal carcasses, fishing gear, E-waste, cargo residues not harmful to the marine environment (non-HME) and cargo residues harmful to the marine environment (HME); and

.5 MARPOL Annex VI: ozone-depleting substances and equipment containing such substances, and exhaust gas cleaning residues.

Note: Although some Annex I and II residues are technically cargo residues (i.e. substances which remain for disposal after the loading or unloading of cargo), the term "cargo residues" has only been defined by IMO in the context of Annex V. MARPOL Annex V defines cargo residues as "the remnants of any cargo which are not covered by other Annexes to the present Convention and which remain on the deck or in holds following loading or unloading, including loading and unloading excess or spillage, whether in wet or dry condition or entrained in washwater but does not include cargo dust remaining on the deck after sweeping or dust on the external surfaces of the ship". In the context of Annex V, "cargo residues" refers to cargo residues that are not governed by Annex I or II (i.e. dry/bulk cargo residues). For complete definitions and exceptions, please refer to relevant MARPOL Annexes.

Unless otherwise qualified, the terms "waste" and "residue" in this Guidance can be inferred to mean "MARPOL waste" and "MARPOL residue," i.e. waste streams that are generated on board ships and are governed by MARPOL.

10 *Quarantine waste* refers to waste that requires segregation and special handling due to its potential to spread diseases or plant and animal pests.

11 *Reception facility* refers to any fixed, floating or mobile facility capable of receiving MARPOL wastes/residues from ships and fit for that purpose.

LAYOUT OF GUIDANCE

12 This Guidance has been developed for use by shipmasters/owners/operators/agents and port authorities/port reception facility operators, to provide a summary of the main considerations which should be taken into account when delivering and receiving MARPOL wastes/residues. It begins with a basic overview of the basis for the use of PRFs. The remainder of the guidance is divided into two sections: one outlining good practices for ships and the other focusing on good practices for reception facilities. Sources of useful supplementary information are referenced at the end of the guidance. Additionally, in the appendices, standardized formats are provided: the Format for reporting alleged inadequacies of port reception facilities; an Advance Notification Form (ANF) for shipmasters/owners/operators to notify port operators of their MARPOL wastes/residues disposal needs; and a recommended Waste Delivery Receipt (WDR) format for PRF operators. Appendix 4 contains an overview of the waste reception facility reporting requirements for both port States and flag States, the full and effective implementation of which is of paramount importance for the identification and implementation of the necessary actions to be taken towards the provision of adequate reception facilities in many ports worldwide.

CORPORATE AND SOCIAL RESPONSIBILITY

13 Since the adoption of MARPOL, global environmental and societal awareness has grown and developed. This development has introduced new concepts on how to manage operations in an environmentally sensitive and responsible way. Many shipping companies and port authorities have implemented environmental management systems which ensure that their operations are conducted in an environmentally sound manner. Frequently, environmental objectives are set in order to facilitate the ongoing improvement, year on year, in terms of a company's environmental impact. Coupled with this is a growing desire to incorporate the principles of sustainability alongside that of corporate and social responsibility.

14 This Guidance therefore brings into consideration the need for shipping companies and reception facility providers to apply the principles of corporate and social responsibility; to fulfil the obligations relating to all aspects of a company's operation as frequently found within company environmental management systems; and to realize the desire of modern companies to continually improve their environmental performance.

OBLIGATIONS OF SHIPS AND OF PORT OPERATORS

15 Keeping the seas and oceans clean should be seen as the overriding obligation for the use and provision of PRFs. MARPOL includes regulations aimed at preventing and minimizing pollution from ships – both accidental pollution and that from routine operations. The basis for providing and using PRFs is incorporated in the Annexes of MARPOL and implementing laws and regulations of State Parties. The following summarizes the basic obligations under MARPOL and includes other considerations that ship and port operators should take into account. For specific legal requirements, users of this Guidance should refer directly to MARPOL and its Annexes or implementing regulations of individual States Party to the Convention.

16 To complement wastes/residues minimization and management practices on board the ship (see paragraphs 27 to 34), the shipping industry needs access to adequate PRFs to enable compliance with the provisions of MARPOL. Therefore, MARPOL places an obligation on State Parties to provide adequate reception facilities in their ports. The following regulations stipulate this requirement for each type of MARPOL wastes/residues identified:

.1 regulation 38 of Annex I;

.2 regulation 18 of Annex II;

.3 regulations 12 and 13 of Annex IV;

.4 regulation 8 of Annex V; and

.5 regulation 17 of Annex VI.

17 In addition to the basic rules in the MARPOL Annexes, ships' operators should be aware that individual port States have implemented national and regional requirements which may mandate that ships discharge certain types of MARPOL wastes/residues to PRFs. Individual port States may also specify the means of disposal to meet quarantine and other regulatory requirements. Operators should therefore ensure they have a complete and up-to-date overview of national and regional requirements relating to PRFs. Such information may be gained directly from the port State authorities, or via agents in the port, or trade associations representing the shipping and/or port industries.

18 General obligations under each of the regulations listed above also state that Parties should communicate information on their PRFs to the Organization. To this end, the Organization has established the Port Reception Facilities Database (PRFD) within its Global Integrated Ship Information System (GISIS)[1]. The PRFD relies on up-to-date information being provided by port States. Port State authorities are encouraged to regularly seek accurate and up-to-date information from reception facility operators and port authorities and to maintain entries on the PRFD. Reception facility operators and port authorities should also be proactive in communicating updated information to port State authorities. This two-way communication will facilitate the dissemination of PRF information to the shipping industry.

19 Shipmasters/owners/operators can use the PRFD on the GISIS website to obtain information on specific PRFs. PRF operators are encouraged to maintain and update on regular basis current and accurate information regarding their facilities and to provide such information to authorities so as to ensure the accuracy of information on the PRFD and that current information is available to shipmasters and shipowners/operators. Ships' agents, acting on behalf of owners/operators, may also access the public GISIS website for PRF information.

Special Areas and Emission Control Areas

20 Of particular importance in the ultimate elimination of marine pollution from ships are the more restrictive requirements in force in Special Areas and Emission Control Areas (ECAs) as defined in MARPOL. The following is a list of Special Areas/ECAs to date as adopted within MARPOL (MEPC.1/Circ.778/Rev.2)[2]:

1 https://gisis.imo.org/

2 An up-to-date list can also be found at: http://www.imo.org (click on Marine Environment, then Special Areas under MARPOL).

Annex I: Oil

Mediterranean Sea
Baltic Sea
Black Sea
Red Sea (see paragraph 21)
"Gulfs" Area
Gulf of Aden (see paragraph 21)
Antarctic Area
North West European Waters
Oman Area of the Arabian Sea (see paragraph 21)
Southern South African Waters

Annex IV: Sewage

Baltic Sea (to be effective from 1 June 2019)

Annex V: Garbage

Mediterranean Sea
Baltic Sea
Black Sea (see paragraph 21)
Red Sea (see paragraph 21)
"Gulfs" Area
North Sea
Antarctic Area (south of latitude 60 degrees South)
Wider Caribbean region including the Gulf of Mexico and the Caribbean Sea

Annex VI: Air Pollution – Emission Control Areas (ECA)

North Sea (SO_X and NO_X)
Baltic Sea area (SO_X and NO_X)
North American area (SO_X, NO_X and PM)
United States Caribbean Sea area (SO_X, NO_X and PM)

Note: Requirements may vary for each Special Area and ECA; therefore mariners should consult the relevant MARPOL Annex or IMO circular[3] for specific details.

21 The Special Area requirements for several of these areas have not yet taken effect because of lack of notifications from MARPOL Parties whose coastlines border the relevant Special Areas on the existence of adequate reception facilities (regulations 38.6 of Annex I and regulation 8.2 of Annex V). While this remains the case, the shipping and port industry should endeavour to meet the requirements as if the Special Area status of those areas had taken effect, in the spirit of MARPOL.

22 Shipowners/operators and port operators should be conscious that more stringent restrictions in Special Areas and ECAs further emphasize the importance of the general obligations to provide adequate reception facilities for MARPOL wastes/residues. In all cases where shipping companies encounter inadequate reception facilities, this should be reported accurately and in a timely manner via the ship's flag State to the Organization and to the appropriate port State authorities or port operators, using the suggested format for reporting (see appendix 1).

[3] MEPC.1/Circ.778/Rev.2

GOOD PRACTICES FOR SHIPMASTERS, SHIPOWNERS AND OPERATORS

Considerations prior to delivery of MARPOL wastes/residues ashore

23 Efficient delivery of MARPOL wastes/residues ashore relies on advance planning. The following sections outline ways in which considerations for delivery of MARPOL wastes/residues ashore can be integrated into a ship's operating procedures in order to minimize delays and unexpected costs and improve environmental management practices. Good waste management strategies should be incorporated into voyage planning.

Logistical and commercial arrangements

24 Consideration should be given to the logistical and commercial arrangements which may be specified in shipping contracts (charter party agreements) between ship operators and cargo owners. Such arrangements should take into account the need to discharge MARPOL wastes/residues ashore to reception facilities and should not compromise, but rather facilitate, the ship operator's ability to comply with obligations under MARPOL. Examples of logistical and commercial considerations might include allowing sufficient time in port to complete transfer of MARPOL wastes/residues and ensuring that disposal costs are accounted for in charter agreements when appropriate. Such considerations are especially important when cargo tank pre-washes are required for certain Annex II residues and when charter agreements specify tank or cargo hold cleaning after discharging cargoes.

Minimization and management of ship-generated wastes/residues

25 Although not a direct requirement of MARPOL, minimizing the wastes/residues generated on board ships represents an environmental best practice, and should be considered in a ship's overall waste management practices.

26 The most effective way of reducing ship-generated wastes/residues is to reduce materials that become waste at the source. Efforts should be made to minimize packaging from ship stores, for example, by establishing an agreement with the supplier to accept the return of the packaging upon delivery, or to reduce the amount of packaging.

27 Developing an agreement with suppliers and manufacturers is not only important for more general waste categories such as plastics, but essential for other maritime specific wastes such as time expired pyrotechnics; used ropes, tails and wires; time expired medicine; and batteries. The supplier and/or manufacturer should be able to provide the specialist facilities for treatment or disposal of these products and materials.

28 Onboard waste management will also assist in minimizing ship-generated wastes/residues. Ship operators and shipbuilders should consider further the design of new ships to enhance waste treatment on board and consider introducing operational measures which can improve efficiency for existing ships. Further information on shipboard garbage handling and storage procedures and minimizing the amount of potential garbage is provided in the *2017 Guidelines for the implementation of MARPOL Annex V* (resolution MEPC.295(71)). In addition, an ISO standard for the management and handling of shipboard garbage (ISO 21070:2011) has been developed. For ships of 100 gross tonnage and above, and ships which are certified to carry 15 persons or more, information with regard to onboard management of garbage will also be included in the Garbage Management Plan (*2012 Guidelines for the Development of Garbage Management Plans* (resolution MEPC.220(63)).

29 In relation to the minimization of oily waste, an increased familiarity with the ship's engine-room treatment systems coupled with the crew's training in oily waste management and recording will assist in reducing the amount of waste produced and improve the overall on-board management of oily waste. The use of an Integrated Bilge Water Treatment System (IBTS) will facilitate segregation of oily waste, allowing for the storage of oil sludge, oil-water mixtures and clean water separately.

30 Ships' crew need to understand the correct use of, and entries to, the Oil Record Book, the Cargo Record Book and the Garbage Record Book. This will help to ensure that any management system implemented can be easily monitored and audited. Industry associations such as INTERTANKO and ICS may provide useful guidance on the correct use of such record books. Reference should also be made to the *Guidance for the recording of operations in the Oil Record Book Part I – machinery space operations (all ships)* (MEPC.1/Circ.736/Rev.2).

31 If space permits, onboard waste management plans should take into account the possibility of being able to recycle certain garbage types. The segregation of garbage according to the requirements of MARPOL Annex V (e.g. plastics; food wastes; domestic wastes; cooking oil; incinerator ashes; operational wastes; cargo residues; animal carcasses; fishing gear) should also allow for the delivery of garbage in certain recyclable categories.

32 To facilitate the landing of recyclable residues/waste, ship operators should consider establishing contracts with facilities in ports that are visited on a regular basis. This will fulfil both the need to use a reputable supplier as per most environmental management systems and facilitate the discharge of segregated waste ashore on each port visit. Where appropriate reception facilities for segregated and/or recyclable wastes are not provided in a port, shipowners/operators are encouraged to request that such facilities are developed in conjunction with the recycling capability of the locality or region.

Communication and advance notification

33 Individual ports may need to comply with varying local requirements for specialized handling (such as quarantine) of certain types of MARPOL wastes/residues, such as animal, plant and food wastes generated on board the ship. Therefore, ship operators should check with local agents, port authorities, harbour masters or reception facility providers for port-specific requirements prior to arrival in order to plan for and accommodate any special handling requirements for that particular port, including any additional segregation that may need to take place on board well in advance of arrival. This information should be incorporated into the company's environmental management plan and should be taken into consideration in voyage planning.

34 As noted in paragraph 18, IMO's PRF Database, accessible online through the GISIS website, can be a good source of information about the reception facilities available at ports worldwide. Users are required to first register by creating a username and password.

35 In some ports, for logistical reasons, the providers of port reception facilities may require advance notification from the ship of its intention to use the facilities. Further information on this requirement is provided in section 4 of the *Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC.83(44)). Providing advance notification to the reception facility of the type and quantity of MARPOL wastes/residues on board and the type and quantity intended to be delivered will greatly assist the reception facility operator in receiving the materials while minimizing any delay to the ship's normal port operation. General recommended practice is to provide at least 24 hours' notice, although specific requirements may vary by reception facility. If a ship visits a port on a regular basis, a standing arrangement with the PRF may prove to be most efficient. Shipmasters are recommended to

use the standardized Advance Notification Form developed by the Organization (see appendix 2). Port authorities, agents and facility operators are urged to accept the standardized format; however, some operators may require an alternate form.

Considerations during MARPOL wastes/residues delivery

36 During delivery of MARPOL wastes/residues, appropriate procedures as drawn up in the ship's Safety Management System (SMS, see ISM Code) should be followed.

37 Following delivery, the master should request a Waste Delivery Receipt to document the type and quantity of MARPOL wastes/residues actually received by the facility. IMO has standardized the format of this document to facilitate its use and application and in order to provide uniformity of records throughout the world (appendix 3). Corresponding records, receipts or certificates of the delivery shall be kept in the Garbage Record Book (for a minimum of two years) and the Oil Record Book (part I for all ship types and part II for oil tankers) and the Cargo Record Book for chemical tankers.

38 Ship operators play a critical role in assisting port States with their obligation to provide adequate PRFs for ships. Since the possibility for improving reception facilities is dependent, at least partly, on the receipt of adequate information about alleged inadequacies, shipping companies should be encouraged to include the provisions for reporting alleged inadequacies of port reception facilities in their procedures for shipboard operations required under section 7 of the ISM Code. As part of the ship's SMS, the master should be required to complete a report on encountering an inadequate PRFs. The format for such a report is provided in appendix 1, which is also available through the Port Reception Facility section of the GISIS website. Completed reports should be forwarded to the flag Administration and, if possible, to the Authorities of the port State.

39 Flag States are requested to distribute the format in appendix 1 to ships and urge masters to use it to report alleged inadequacies of port reception facilities to the Administration of the flag State and, if possible, to the Authorities of the port State. Flag States are also required to notify IMO, for transmission to the Parties concerned, of any case where facilities are alleged to be inadequate, and to inform the port State of the alleged inadequacies.

40 Notification should be made as soon as possible following the completion of the alleged inadequacies reporting format and should include a copy of the master's report, together with any supporting documentation.

41 Port States should ensure the provision of proper arrangements to consider and respond appropriately and effectively to reports of inadequacies, informing IMO and the reporting flag State of the outcome of their investigation.

42 The alleged inadequacy report together with the follow-up action received from the port State will be published in the GISIS PRF Database.

GOOD PRACTICES FOR PORT RECEPTION FACILITY OPERATORS

Communication

43 In order to provide efficient PRF services that meet the needs of ships calling at a port without causing undue delay, port authorities should prepare a Port Waste Management Plan and should ensure that relevant information about the reception services available and associated costs are communicated to ship operators well in advance of the ship's arrival.

44 It is useful for ship operating companies to be able to plan the delivery of MARPOL wastes/residues well in advance of the ship's next port call, especially if the port has more stringent requirements that might necessitate additional segregation of waste on board prior to arrival, such as quarantine segregation. As noted above, to facilitate ships' planning, port authorities or PRF providers are urged to communicate to their country focal points accurate and up-to-date information about the reception facilities available at the port. This information can then be communicated to the shipping industry via the GISIS PRF Database.

45 At a minimum, the information uploaded and made available in the PRFD should include type of facilities, capacity of the facilities and the contact point. Additional information that would facilitate ships' planning might include contact details for the port authority or harbour master, a link to the port website, a link to the Port Waste Management Plan, and information relating to fees/cost to use facilities. A good example is the information provided in material published by the Port of Rotterdam (available at: www.portofrotterdam.com). Such additional information may be downloaded electronically as required, and could provide further instruction to ships regarding procedures for using the facilities (including, for example, specific local requirements for quarantine waste).

46 Port authorities and reception facility providers should request shipmasters to provide advance notice of MARPOL wastes/residues delivery in order to ensure that the necessary receptacles and vehicles are prepared for receipt of the material. To facilitate the notification process, port authorities and reception facilities should accept the standardized Advance Notification Form (appendix 2). Use of the standardized form will allow the shipmaster and operator to prepare in advance a system for generating such forms and avoid having to complete a different form for each port or facility visited.

Port reception practices

47 Although legal requirements for PRFs will vary depending on the port State's implementing legislation, good practices for PRFs should include procedures that facilitate better integration with shipboard and landside wastes/residues management practices. Such integration and cooperation with inland waste disposal operations should allow ultimate disposal of ship-generated wastes/residues to take place in an environmentally appropriate manner.

48 The reception facility should be adequately prepared to receive MARPOL Annex V wastes/residues as segregated on board and should supply suitable receptacles to facilitate the landing of segregated waste for recycling. Procedures for reception of segregated wastes/residues should parallel the standards for the Management and Handling of Shipboard Garbage as specified in ISO 21070:2011. PRF operators and port authorities within State Parties should work with national and local government officials, regional administrators, commercial interests, and local waste disposal infrastructure managers to develop landside waste disposal strategies, including waste segregation, that encourage reduction, reuse and recycling of ship-generated wastes/residues landed ashore at PRFs. Reception facility providers should seek out resale/recycling options for reusable/recyclable waste when not prohibited by local laws.

49 In the case of oil, noxious liquid substances and other dangerous goods or harmful or hazardous substances, port and reception facility operators should adhere to the guidance provided in relevant publications such as the International Safety Guide for Oil Tankers and Terminals (ISGOTT), or the International Maritime Dangerous Goods (IMDG) Code.

50 The reception facility should also be adequately prepared to receive MARPOL wastes/residues in accordance with any local quarantine requirements, for example by providing suitably sealed receptacles and ensuring that MARPOL wastes/residues can be transported and disposed of in accordance with regulations. Port State authorities should also be aware of the need for appropriate treatment and disposal sites and should seek to ensure that these are available through public or private arrangements.

51 The necessary connection arrangements for the discharge of machinery oily bilge water and oil residues (sludge) are provided for in regulation 13 of MARPOL Annex I. These standard dimensions for flanges and discharge connections apply to all ships and should therefore allow the reception facility to standardize its own connection pipes accordingly.

52 Following delivery, the reception facility should provide the master with a Waste Delivery Receipt (WDR). IMO has standardized the format of the WDR to facilitate its use and application, as set out in appendix 3.

53 Although the port structure in a State Party may or may not accommodate cost/pricing schemes and/or other incentives for MARPOL wastes/residues delivery ashore, reception facility services should be provided at a reasonable cost. The *Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC.83(44)) (section 3.2) define "adequate" facilities as those which "do not provide mariners with a disincentive to use them", and further stress that unreasonably high costs may deter use of PRFs (section 5.2).

SOURCES OF ADDITIONAL INFORMATION

Global Integrated Shipping Information System (GISIS) website: http://gisis.imo.org/Public/

MARPOL Consolidated Edition – includes all Articles, Protocols, Annexes, and Unified Interpretations - available to purchase at:
http://www.imo.org/en/Publications/Pages/Home.aspx

Guidelines for the implementation of MARPOL Annex V (2017) – available to purchase at:
http://www.imo.org/en/Publications/Pages/Home.aspx

Port Reception Facilities - How to do it (2016) – available to purchase at:
http://www.imo.org/en/Publications/Pages/Home.aspx

Guidelines for ensuring the adequacy of port waste reception facilities (resolution MEPC.83(44)) – available at
http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-(MEPC)/Documents/MEPC.83(44).pdf

Guidelines for reception facilities under MARPOL Annex VI (2011) (resolution MEPC.199(62)) – available at
http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-(MEPC)/Documents/MEPC.199(62).pdf

APPENDIX 1

FORMAT FOR REPORTING ALLEGED INADEQUACIES OF PORT RECEPTION FACILITIES[1]

The master of a ship having encountered difficulties in discharging waste to reception facilities should forward the information below, together with any supporting documentation, to the Administration of the flag State and, if possible, to the competent Authorities in the port State. The flag State shall notify IMO and the port State of the occurrence. The port State should consider the report and respond appropriately informing IMO and the reporting flag State of the outcome of its investigation.

1 SHIP'S PARTICULARS

1.1 Name of ship: _____

1.2 Owner or operator: _____

1.3 Distinctive number or letters: _____

1.4 IMO Number[2]: _____

1.5 Gross tonnage: _____

1.6 Port of registry: _____

1.7 Flag State[3]: _____

1.8 Type of ship:

☐ Oil tanker ☐ Chemical tanker ☐ Bulk carrier

☐ Other cargo ship ☐ Passenger ship ☐ Other (specify) _____

2 PORT PARTICULARS

2.1 Country: _____

2.2 Name of port or area: _____

2.3 Location/terminal name: _____

(e.g. berth/terminal/jetty)

2.4 Name of company operating the reception facility (if applicable): _____

2.5 Type of port operation:

☐ Unloading port ☐ Loading port ☐ Shipyard

☐ Other (specify) _____

2.6 Date of arrival: __/__/____ (dd/mm/yyyy)

2.7 Date of occurrence: __/__/____ (dd/mm/yyyy)

2.8 Date of departure: __/__/____ (dd/mm/yyyy)

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1 This format was approved by MEPC 53.

2 In accordance with the *IMO ship identification number scheme,* adopted by the Organization by Assembly resolution A.1117(30).

3 The name of the State whose flag the ship is entitled to fly.

3 INADEQUACY OF FACILITIES

3.1 Type and amount of wastes/residues for which the port reception facility was inadequate and nature of problems encountered

Type of wastes/residues	**Amount for discharge (m^3)**	**Amount <u>not</u> accepted (m^3)**	**Problems encountered** Indicate the problems encountered by using one or more of the following code letters, as appropriate. A No facility available B Undue delay C Use of facility technically not possible D Inconvenient location E Ships had to shift berth involving delay/cost F Unreasonable charges for use of facilities G Other (please specify in paragraph 3.2)
MARPOL Annex I - related			
Oily bilge water			
Oily residues (sludge)			
Oily tank washings (slops)			
Dirty ballast water			
Scale and sludge from tank cleaning			
Other (please specify ……..….)			
MARPOL Annex II – related Category of NLS[4] residue/water mixture for discharge to facility from tank washings:			
Category X substance			
Category Y substance			
Category Z substance			
MARPOL Annex IV – related Sewage			
MARPOL Annex V – related			
A. Plastics			
B. Food wastes			
C. Domestic wastes			
D. Cooking oil			
E. Incinerator ashes			
F. Operational wastes			
G. Animal carcasses			
H. Fishing gear			
I. E-waste			
J. Cargo residues (non-HME) [5]			
K. Cargo residues (HME)[5]			
MARPOL Annex VI – related			
Ozone-depleting substances and equipment containing such substances			
Exhaust gas-cleaning residues			

[4] Indicate, in paragraph 3.2, the proper shipping name of the NLS involved and whether the substance is designated as "solidifying" or "high viscosity" as per MARPOL Annex II, regulation 1, paragraphs 15.1 and 17.1 respectively.

[5] Indicate the proper shipping name of the dry cargo.

3.2 Additional information with regard to the problems identified in the above table.

_____
_____
_____
_____
_____

3.3 Did you discuss these problems or report them to the port reception facility?

☐ Yes ☐ No

If Yes, with whom (please specify)

_____
_____

If Yes, what was the response of the port reception facility to your concerns?

_____
_____

3.4 Did you give prior notification (in accordance with relevant port requirements) about the ship's requirements for reception facilities?

☐ Yes ☐ No ☐ Not applicable

If Yes, did you receive confirmation on the availability of reception facilities on arrival?

☐ Yes ☐ No

4 ADDITIONAL REMARKS/COMMENTS

_____
_____
_____
_____

_____

Master's signature Date: __/__/____ (dd/mm/yyyy)

APPENDIX 2

STANDARD FORMAT OF THE ADVANCE NOTIFICATION FORM FOR WASTE DELIVERY TO PORT RECEPTION FACILITIES

Notification of the Delivery of Wastes/Residues to: …….. *(enter name of port or terminal)*
The master of a ship should forward the information below to the designated authority at least 24 hours in advance of arrival or upon departure of the previous port if the voyage is less than 24 hours.
This form should be retained on board the ship along with the appropriate Oil Record Book, Cargo Record Book or Garbage Record Book.

DELIVERY FROM SHIPS (ANF)

1. SHIP PARTICULARS

1.1 Name of ship:	1.5 Owner or operator:
1.2 IMO number:	1.6 Distinctive number or letters:
1.3 Gross tonnage:	1.7 Flag State:
1.4 Type of ship: □ Oil tanker □ Chemical tanker □ Bulk carrier □ Container □ Other cargo ship □ Passenger ship □ Ro-ro □ Other (specify)	

2. PORT AND VOYAGE PARTICULARS

2.1 Location/Terminal name and POC:	2.6 Last Port where wastes/residues were delivered:
2.2 Arrival Date and Time:	2.7 Date of Last Delivery:
2.3 Departure Date and Time:	2.8 Next Port of Delivery (if known):
2.4 Last Port and Country:	2.9 Person submitting this form is (if other than the master):
2.5 Next Port and Country (if known):	

3. TYPE AND AMOUNT OF WASTES/RESIDUES FOR DISCHARGE TO FACILITY

MARPOL Annex I – Oil	**Quantity (m^3)**
Oily bilge water	
Oily residues (sludge)	
Oily tank washings	
Dirty ballast water	
Scale and sludge from tank cleaning	
Other (please specify)	
MARPOL Annex II – NLS	**Quantity (m^3) /Name**[1]
Category X substance	
Category Y substance	
Category Z substance	
OS – other substances	
MARPOL Annex IV – Sewage	**Quantity (m^3)**

MARPOL Annex V – Garbage	**Quantity (m^3)**
A. Plastics	
B. Food wastes	
C. Domestic wastes	
D. Cooking oil	
E. Incinerator ashes	
F. Operational wastes	
G. Animal carcasses	
H. Fishing gear	
I. E-waste	
J. Cargo residues (non-HME)[2]	
K. Cargo residues (HME)[2]	
MARPOL Annex VI – Air pollution	**Quantity (m^3)**
Ozone-depleting substances and equipment containing such substances	
Exhaust gas-cleaning residues	

[1] Indicate the proper shipping name of the NLS involved.

[2] Indicate the proper shipping name of the dry cargo.

Name of ship:	IMO Number:

Please state below the approximate amount of wastes/residues remaining on board and the percentage of maximum storage capacity. If delivering all wastes/residues on board at this port please strike through this table and tick the box below. If delivering some or no waste/residue, please complete all columns.

I confirm that I am delivering all the wastes/residues held on board this vessel (as shown on page 1) at this port

Type	Maximum dedicated storage capacity (m^3)	Amount of wastes/residues retained on board (m^3)	Port at which remaining wastes/residues will be delivered (if known)	Estimate amount of wastes/residues to be generated between notification and next port of call (m^3)
MARPOL Annex I – Oil				
Oily bilge water				
Oily residues (sludge)				
Oily tank washings				
Dirty ballast water				
Scale and sludge from tank cleaning				
Other (please specify)				
MARPOL Annex II – NLS[3]				
Category X substance				
Category Y substance				
Category Z substance				
OS – other substances				
MARPOL Annex IV – Sewage				
Sewage				
MARPOL Annex V – Garbage				
A. Plastics				
B. Food wastes				
C. Domestic wastes				
D. Cooking oil				
E. Incinerator ashes				
F. Operational wastes				
G. Animal carcasses				
H. Fishing gear				
I. E-waste				
J. Cargo residues (non-HME)[4]				
K. Cargo residues (HME)[4]				
MARPOL Annex VI – Air pollution				
Ozone-depleting substances and equipment containing such substances				
Exhaust gas-cleaning residues				

Date: ..... Name and Position: .....

Time: ..... Signature: .....

[3] Indicate the proper shipping name of the NLS involved.

[4] Indicate the proper shipping name of the dry cargo.

APPENDIX 3

STANDARD FORMAT FOR THE WASTE DELIVERY RECEIPT

The designated representative of the reception facility provider should provide the following form to the master of a ship that has just delivered wastes/residues.
This form shall be retained on board the ship along with the appropriate Oil Record Book, Cargo Record Book or Garbage Record Book.

1. RECEPTION FACILITY AND PORT PARTICULARS

1.1 Location/Terminal name:	
1.2 Reception facility provider(s)	
1.3 Treatment facility provider(s) – if different from above:	
1.4 Waste/residue Discharge Date and Time from:	to

2. SHIP PARTICULARS

2.1 Name of ship:			2.5 Owner or operator:	
2.2 IMO number:			2.6 Distinctive number or letters:	
2.3 Gross tonnage:			2.7 Flag State:	
2.4 Type of ship:	□ Oil tanker	□ Chemical tanker	□ Bulk carrier	□ Container
	□ Other cargo ship	□ Passenger ship	□ Ro-ro	□ Other (specify)

3. TYPE AND AMOUNT OF WASTES/RESIDUES RECEIVED

MARPOL Annex I – Oil	**Quantity (m^3)**
Oily bilge water	
Oily residues (sludge)	
Oily tank washings	
Dirty ballast water	
Scale and sludge from tank cleaning	
Other (please specify)	
MARPOL Annex II – NLS	**Quantity (m^3)/Name**[1]
Category X substance	
Category Y substance	
Category Z substance	
OS – other substance	
MARPOL Annex IV – Sewage	**Quantity (m^3)**

MARPOL Annex V – Garbage	**Quantity (m^3)**
A. Plastics	
B. Food wastes	
C. Domestic wastes	
D. Cooking oil	
E. Incinerator ashes	
F. Operational wastes	
G. Animal carcasses	
H. Fishing gear	
I. E-waste	
J. Cargo residues (non-HME)[2]	
K. Cargo residues (HME)[2]	
MARPOL Annex VI – related	**Quantity (m^3)**
Ozone-depleting substances and equipment containing such substances	
Exhaust gas-cleaning residues	

On behalf of the port facility I confirm that the above wastes/residues were delivered.

Signature: …… Full Name and Company Stamp: ……

[1] Indicate the proper shipping name of the NLS involved.

[2] Indicate the proper shipping name of the dry cargo.

APPENDIX 4

WASTE RECEPTION FACILITY REPORTING REQUIREMENTS

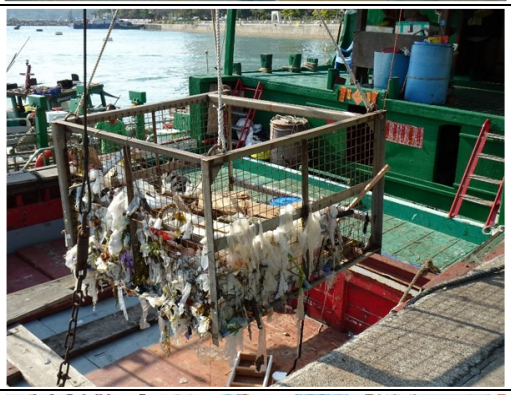
Table 1: Waste reception facility reporting requirements for port States

Reporting requirements		Reference
Reporting on the availability of reception facilities	The port State is required to communicate to the Organization a list of reception facilities in its ports including their location, capacity, available facilities and other characteristics.	Article 11(1)(d) of MARPOL
	The port State is required to upload information on new reception facilities on the Port Reception Facilities Database (GISIS) and to maintain and update the required information continuously.	Port Reception Facilities Database (PRFD) as a module of the Global Integrated Shipping Information System (GISIS); Global Integrated Shipping Information System (GISIS) (resolution A.1029(26))
Reporting on alleged inadequacies of reception facilities	The port State should ensure the provision of proper arrangements to consider and respond appropriately and effectively to reports of inadequacies, informing IMO and the reporting flag State of the outcome of their investigation.	Resolution MEPC.83(44), annex, paragraph 10.3; MEPC.1/Circ.834/Rev.1, paragraph 41
Reporting on the assessment of the port reception facilities	The port State is encouraged to make use of the assessment form appended to the *Guidelines for ensuring the adequacy of port waste reception facilities*, to conduct regular assessments of waste/residue reception facilities in its ports and advise IMO of the outcome of such assessments, including any inadequacies of port reception facilities, as well as any technical cooperation assistance that may be needed to address those inadequacies.	*Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC.83(44))
Consulting with IMO on regional arrangements for port reception facilities	Small island developing States participating in a regional arrangement shall consult with IMO for circulation to the MARPOL Parties: (1) how the Regional Reception Facilities Plan takes into account the Guidelines (resolution MEPC.221(63); (2) particulars of the identified Regional Ships Waste Reception Centres; and (3) particulars of those ports with only limited facilities.	Regulations 38.4 and 38.6 of Annex I; Reg. 18.3 of Annex II; Reg. 12.2 of Annex IV; Reg. 8.3 of Annex V; Reg. 17.2 of Annex VI; *2012 Guidelines for the Development of a Regional Reception Facilities Plan* (resolution MEPC.221(63))

Table 2: Waste reception facility reporting requirements for flag States

Reporting requirements		Reference
Reporting on alleged inadequacies of reception facilities	The flag State is requested to distribute the Format for reporting alleged inadequacies of port reception facilities, as set out in appendix 1 of MEPC.1/Circ.834/Rev.1, to ships and urge Masters to use this format to report alleged inadequacies of port reception facilities to the Administration of the flag State and, if possible, to the authorities of the port State.	MEPC.1/Circ.834/Rev.1, paragraph 39
	The flag State is required to notify IMO, for transmission to the Parties concerned, of any case where facilities are alleged to be inadequate.	Reg. 38.8 of Annex I; Reg. 18.5 of Annex II; Reg. 12.2 of Annex IV; Reg. 8.3 of Annex V; Reg. 17.3 of Annex VI; resolution MEPC.83(44), annex, paragraph 8.3; MEPC.1/Circ.834/Rev.1, paragraph 39
	The flag State shall notify the port State of the occurrence of the alleged inadequacy of port reception facilities.	MEPC.1/Circ.834/Rev.1, paragraph 39; resolution MEPC.83(44), annex, paragraph 8.3
	Notification shall be made as soon as possible following completion of the alleged inadequacies reporting form (MEPC.1/Circ.834/Rev.1, appendix 1) and should include a copy of the master's report, together with any supporting documentation.	Resolution MEPC.83(44), annex, paragraph 8.3.1; MEPC.1/Circ.834/Rev.1, paragraph 40

指定容器及其容量的規格
Specification of the specified containers and their capacities

容器種類 / 容量 (立方米) Container Type / Capacity (m3)		參考圖片 Photo for reference
1	箱 Bin / 4.98 立方米 (m^3)	
2	籠 Cage / 2.2 立方米 (m^3)	
3	箱 Bin / 4.8 立方米 (m^3)	
4	箱 Bin / 2.6 立方米 (m^3)	

5	箱 Bin / 1.5 立方米 (m^3)	
6	箱 Bin / 1.2 立方米 (m^3)	
7	箱 Bin / 1.0 立方米 (m^3)	
8	袋 Sack / 1.45 立方米 (m^3)	

Daily record submitted by contractor for reporting to MD the quantity of marine refuse collected

Harbour West

2021		Wind			Yaumatei	Sham Shui Po	Western District	Central District	Tsim Sha Tsui	MOPANs Subtotal (Cubic meter)	Sea Cleaner Operation				
February	Week Days	Dir (Degs)	KmH								Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)
2021-02-01		090	8		3.60	2.90	0.20	1.00	0.20	7.90				0	0
2021-02-02		045	10		3.60	2.90	0.30	1.20	0.20	8.20				0	0
2021-02-03		090	4		3.10	3.40	0.20	1.10	0.30	8.10				0	0
2021-02-04		045	5		4.00	3.00	0.20	2.20	0.40	9.80				0	0
2021-02-05		105	3		3.40	3.10	0.20	1.00	0.20	7.90				0	0
2021-02-06		075	5		4.70	3.30	0.30	1.50	0.40	10.20				0	0
2021-02-07	Sun	025	2		5.60	2.70	0.30	1.70	0.30	10.60				0	0
2021-02-08		090	2		5.00	3.00	0.30	1.00	0.20	9.50				0	0
2021-02-09		090	2		5.30	3.30	0.20	1.50	0.30	10.60				0	0
2021-02-10		180	2		3.70	4.60	0.30	2.30	0.30	11.20				0	0
2021-02-11		090	8		4.70	3.30	0.30	2.00	0.30	10.60				0	0
2021-02-12	PH	090	2		2.00	1.30	0.20	0.60	0.20	4.30				0	0
2021-02-13	PH	070	8		2.00	4.00	0.20	0.80	0.20	7.20				0	0
2021-02-14	Sun	090	15		4.00	2.00	0.20	0.70	0.15	7.05				0	0
2021-02-15	PH	045	12		4.70	1.30	0.20	0.70	0.20	7.10				0	0
2021-02-16		090	5		4.30	4.00	0.20	1.50	0.20	10.20				0	0
2021-02-17		075	1		4.30	3.30	0.40	1.80	0.90	10.70				0	0
2021-02-18		090	7		3.30	5.30	0.26	1.43	0.26	10.55				0	0
2021-02-19		050	6		4.00	4.00	0.20	1.20	0.40	9.80				0	0
2021-02-20		025	2		3.80	3.50	0.20	1.30	0.20	9.00				0	0
2021-02-21	Sun	090	2		4.30	3.00	0.19	1.37	0.26	9.12				0	0
2021-02-22		070	3		3.70	4.60	0.26	1.17	0.26	9.99				0	0
2021-02-23		090	7		3.70	3.30	0.25	0.90	0.20	8.35				0	0
2021-02-24		050	6		4.00	3.30	0.25	0.90	0.20	8.65				0	0
2021-02-25		180	8		3.70	3.30	0.20	1.20	0.25	8.65				0	0
2021-02-26		070	2		3.30	5.00	0.30	1.30	0.20	10.10				0	0
2021-02-27		045	10		4.30	3.30	0.20	1.30	0.20	9.30				0	0
2021-02-28	Sun	090	12		4.00	3.30	0.30	1.40	0.30	9.30				0	0
										0.00				0	0
										0.00				0	0
										0.00				0	0
		080	5.7		0.00	110.10	0.00	93.30	0.00	6.81	0.00	36.07	0.00	7.68	0.00	253.96	0.00	0.00	0.00		0.00
			Title Sum:			110.82		93.30		6.81		36.07		7.68							0.00

MOPAN Scavenge (Cubic meter):	253.96
ea Cleaner Scavenge (Cubic meter):	0.00
Task Force (Cubic meter):	0.00
Join Cleansing (Cubic meter):	0.72
District Scavenge Subtotal:	254.68

Yaumatei	110.10
Sham Shui Po	93.30
Western District	6.81
Central District	36.07
Tsim Sha Tsui	7.68

Harbour West				Floating Refuse Scavenge																									
				Task Force															Join Cleansing										
2021		Wind		Team A					Team B					Team C					Team 1					Team 2					Scavenge Total
February	Week Days	Dir (Degs)	KmH	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)
2021-02-01		090	8					0					0					0					0					0	7.9
2021-02-02		045	10					0					0					0					0					0	8.2
2021-02-03		090	4					0					0					0					0					0	8.1
2021-02-04		045	5					0					0					0					0					0	9.8
2021-02-05		105	3					0					0					0					0					0	7.9
2021-02-06		075	5					0					0					0					0					0	10.2
2021-02-07	Sun	025	2					0					0					0					0					0	10.6
2021-02-08		090	2					0					0					0	Yaumatei	0	0	0.36	0.36					0	9.86
2021-02-09		090	2					0					0					0					0					0	10.6
2021-02-10		180	2					0					0					0					0					0	11.2
2021-02-11		090	8					0					0					0					0					0	10.6
2021-02-12	PH	090	2					0					0					0					0					0	4.3
2021-02-13	PH	070	8					0					0					0					0					0	7.2
2021-02-14	Sun	090	15					0					0					0					0					0	7.05
2021-02-15	PH	045	12					0					0					0					0					0	7.1
2021-02-16		090	5					0					0					0					0					0	10.2
2021-02-17		075	1					0					0					0					0					0	10.7
2021-02-18		090	7					0					0					0					0					0	10.55
2021-02-19		050	6					0					0					0					0					0	9.8
2021-02-20		025	2					0					0					0					0					0	9
2021-02-21	Sun	090	2					0					0					0					0					0	9.12
2021-02-22		070	3					0					0					0					0					0	9.99
2021-02-23		090	7					0					0					0	Yaumatei	0	0	0.36	0.36					0	8.71
2021-02-24		050	6					0					0					0					0					0	8.65
2021-02-25		180	8					0					0					0					0					0	8.65
2021-02-26		070	2					0					0					0					0					0	10.1
2021-02-27		045	10					0					0					0					0					0	9.3
2021-02-28	Sun	090	12					0					0					0					0					0	9.3
								0					0					0					0					0	0
								0					0					0					0					0	0
								0					0					0					0					0	0
		080	5.7		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.72	0.72		0.00	0.00	0.00	0.00	254.68
Title Sum:															0.00	0.00	0.00	0.00							0.00	0.00	0.72	0.72	
MOPAN Scavenge (Cubic meter):			253.96											Yaumatei	0	0	0	0						Yaumatei	0	0	0.72	0.72	
ea Cleaner Scavenge (Cubic meter):			0.00											Sham Shui Po	0	0	0	0						Sham Shui Po	0	0	0	0	
Task Force (Cubic meter):			0.00											Western District	0	0	0	0						Western District	0	0	0	0	
Join Cleansing (Cubic meter):			0.72											Central District	0	0	0	0						Central District	0	0	0	0	
District Scavenge Subtotal:			254.68											Tsim Sha Tsui	0	0	0	0						Tsim Sha Tsui	0	0	0	0	

Harbour East

2021		Wind			Hung Hom		To Kwa Wan		Kwun Tong		Sam Ka Tsuen		Chai Wan & Lei Yue Mun		Wan Chai		Causeway Bay		North Point & Quarry Bay		Shau Kei Wan		Junk Bay		MOPANs Subtotal (Cubic meter)	Floating Refuse Scavenge: Sea Cleaner Operation				
February	Week Days	Dir (Degs)	KmH																							Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)
2021-02-01		180	7			0.30		0.30		0.90		0.90		1.70		0.20		0.20		0.90		2.90		0.10	8.40				0	0
2021-02-02		050	8			0.10		0.20		0.90		0.90		1.90		0.20		0.20		0.80		3.00		0.10	8.30				0	0
2021-02-03		090	6			0.20		0.20		0.90		0.90		2.00		0.20		0.20		0.90		2.90		0.10	8.50				0	0
2021-02-04		045	2			0.20		0.60		1.00		1.00		1.90		0.40		0.20		0.90		2.80		0.10	9.10				0	0
2021-02-05		070	5			0.20		0.50		0.90		1.00		1.90		0.30		0.30		0.90		3.00		0.10	9.10				0	0
2021-02-06		070	7			0.30		0.50		0.90		0.90		1.80		0.50		0.40		0.80		2.80		0.20	9.10				0	0
2021-02-07	Sun	045	3			0.30		0.50		0.90		0.80		1.80		0.30		0.20		0.90		2.60		0.20	8.50				0	0
2021-02-08		180	9			0.20		0.50		1.00		1.00		1.80		0.30		0.20		0.80		2.80		0.10	8.70				0	0
2021-02-09		045	3			0.20		0.60		1.00		1.00		1.80		0.40		0.40		0.80		2.00		0.20	8.40				0	0
2021-02-10		090	2			0.30		0.60		0.90		0.90		1.90		0.50		0.50		0.90		2.90		0.10	9.50				0	0
2021-02-11		045	6			0.30		0.40		0.90		0.90		1.70		0.40		0.20		0.80		2.60		0.10	8.30				0	0
2021-02-12	PH	090	9			0.20		0.20		1.00		1.00		1.80		0.20		0.20		0.80		2.00		0.20	7.60				0	0
2021-02-13	PH	090	7			0.20		0.20		1.00		1.00		1.80		0.30		0.20		0.80		2.00		0.20	7.70				0	0
2021-02-14	Sun	045	2			0.15		0.20		0.90		1.00		1.90		0.10		0.30		0.80		2.00		0.20	7.55				0	0
2021-02-15	PH	045	2			0.20		0.40		0.90		1.00		1.90		0.20		0.20		0.80		2.00		0.20	7.80				0	0
2021-02-16		075	2			0.20		0.40		0.90		1.00		1.90		0.30		0.20		0.80		2.00		0.20	7.90				0	0
2021-02-17		090	2			0.70		0.60		1.00		0.90		1.80		0.90		0.30		0.90		2.80		0.10	10.00				0	0
2021-02-18		100	7			0.19		0.40		0.90		0.80		1.80		0.40		0.26		0.80		3.00		0.20	8.75				0	0
2021-02-19		045	8			0.20		0.40		0.90		0.90		2.30		0.40		0.20		1.50		2.80		0.10	9.70				0	0
2021-02-20		045	8			0.20		0.40		0.80		0.90		1.50		0.40		0.30		0.80		2.70		0.20	8.20				0	0
2021-02-21	Sun	050	3			0.26		0.40		0.80		0.90		1.80		0.26		0.26		0.90		2.80		0.10	8.48				0	0
2021-02-22		045	4			0.26		0.39		0.90		1.00		1.70		0.26		0.20		0.90		2.80		0.10	8.51				0	0
2021-02-23		090	5			0.20		0.40		0.80		0.80		1.80		0.25		0.20		0.90		2.90		0.10	8.35				0	0
2021-02-24		100	3			0.20		0.40		0.90		0.90		1.60		0.25		0.20		0.80		2.60		0.10	7.95				0	0
2021-02-25		070	2			0.20		0.50		0.90		1.00		1.70		0.40		0.25		0.80		2.60		0.10	8.45				0	0
2021-02-26		045	6			0.20		0.40		0.80		0.90		1.60		0.30		0.30		0.70		2.60		0.10	7.90				0	0
2021-02-27		070	2			0.20		0.50		0.70		0.90		1.50		0.40		0.20		0.70		2.40		0.10	7.60				0	0
2021-02-28	Sun	090	8			0.20		0.60		0.90		0.90		1.60		0.40		0.20		0.70		2.60		0.20	8.30				0	0
																									0.00				0	0
																									0.00				0	0
																									0.00				0	0
		075	4.9		0.00	6.56	0.00	11.69	0.00	25.20	0.00	26.00	0.00	50.20	0.00	9.42	0.00	6.97	0.00	23.80	0.00	72.90	0.00	3.90	0.00	236.64	0.00	0.00	0.00		0.00
		Title Sum:				6.56		12.29		25.56		27.08		50.20		9.42		6.97		23.80		72.90		4.41							0.00

MOPAN Scavenge (Cubic meter):	236.64
ea Cleaner Scavenge (Cubic meter):	0.00
Task Force (Cubic meter):	1.95
Join Cleansing (Cubic meter):	0.60
District Scavenge Subtotal:	239.19

Hung Hom	6.56
To Kwa Wan	11.69
Kwun Tong	25.20
Sam Ka Tsuen	26.00
Chai Wan & Lei Yue Mun	50.20
Wan Chai	9.42
Causeway Bay	6.97
North Point & Quarry Bay	23.80
Shau Kei Wan	72.90
Junk Bay	3.90

Harbour East

					Task Force																Join Cleansing										Scavenge Total
2021		Wind			Team A					Team B					Team C					Team 1					Team 2					
February	Week Days	Dir (Degs)	KmH		Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)
2021-02-01		180	7						0					0					0				0					0	8.4
2021-02-02		050	8						0					0					0	Wan Chai	0	0	0	0					0	8.3
2021-02-03		090	6						0	Sam Ka Tsuer	0.08	0.16	0.12	0.36					0	Causeway Bay	0	0	0	0					0	8.86
2021-02-04		045	2						0					0					0	Sam Ka Tsuer	0	0	0	0					0	9.1
2021-02-05		070	5						0					0					0	Kwun Tong	0	0	0	0					0	9.1
2021-02-06		070	7		Junk Bay	0	0.1	0.05	0.15					0					0	To Kwa Wan	0	0.2	0.4	0.6					0	9.85
2021-02-07	Sun	045	3						0					0					0					0					0	8.5
2021-02-08		180	9						0					0					0					0					0	8.7
2021-02-09		045	3						0	Sam Ka Tsuer	0.08	0.18	0.1	0.36					0					0					0	8.76
2021-02-10		090	2						0	Junk Bay	0.08	0.16	0.12	0.36					0	Wan & Lei Yue	0	0	0	0					0	9.86
2021-02-11		045	6						0					0					0					0					0	8.3
2021-02-12	PH	090	9						0					0					0					0					0	7.6
2021-02-13	PH	090	7						0					0					0					0					0	7.7
2021-02-14	Sun	045	2						0					0					0					0					0	7.55
2021-02-15	PH	045	2						0					0					0					0					0	7.8
2021-02-16		075	2						0					0					0					0					0	7.9
2021-02-17		090	2						0					0					0					0					0	10
2021-02-18		100	7						0					0					0					0					0	8.75
2021-02-19		045	8						0	Sam Ka Tsuer	0.08	0.16	0.12	0.36					0					0					0	10.06
2021-02-20		045	8						0					0					0					0					0	8.2
2021-02-21	Sun	050	3						0					0					0					0					0	8.48
2021-02-22		045	4						0					0					0	Wan & Lei Yue	0	0	0	0					0	8.51
2021-02-23		090	5						0	Kwun Tong	0.08	0.16	0.12	0.36					0					0					0	8.71
2021-02-24		100	3						0					0					0					0					0	7.95
2021-02-25		070	2						0					0					0					0					0	8.45
2021-02-26		045	6						0					0					0					0					0	7.9
2021-02-27		070	2						0					0					0					0					0	7.6
2021-02-28	Sun	090	8						0					0					0					0					0	8.3
									0					0					0					0					0	0
									0					0					0					0					0	0
									0					0					0					0					0	0
		075	4.9			0.00	0.10	0.05	0.15		0.40	0.82	0.58	1.80		0.00	0.00	0.00	0.00		0.00	0.20	0.40	0.60		0.00	0.00	0.00	0.00	239.19
		Title Sum:														0.40	0.92	0.63	1.95							0.00	0.20	0.40	0.60	

MOPAN Scavenge (Cubic meter):	236.64
ea Cleaner Scavenge (Cubic meter):	0.00
Task Force (Cubic meter):	1.95
Join Cleansing (Cubic meter):	0.60
District Scavenge Subtotal:	239.19

	Team C				Team 1				Team 2			
	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)
Hung Hom	0	0	0	0	0	0	0	0	0	0	0	0
To Kwa Wan	0	0	0	0	0	0.2	0.4	0.6	0	0	0	0
Kwun Tong	0.08	0.16	0.12	0.36	0	0	0	0	0	0	0	0
Sam Ka Tsuen	0.24	0.5	0.34	1.08	0	0	0	0	0	0	0	0
Chai Wan & Lei Yue Mun	0	0	0	0	0	0	0	0	0	0	0	0
Wan Chai	0	0	0	0	0	0	0	0	0	0	0	0
Causeway Bay	0	0	0	0	0	0	0	0	0	0	0	0
North Point & Quarry Bay	0	0	0	0	0	0	0	0	0	0	0	0
Shau Kei Wan	0	0	0	0	0	0	0	0	0	0	0	0
Junk Bay	0.08	0.26	0.17	0.51	0	0	0	0	0	0	0	0

Hong Kong South

2021		Wind			Aberdeen	Tin Wan	Stanley Bay	Deep Water & Repulse Bay	MOPANs Subtotal (Cubic meter)	Sea Cleaner Operation				
February	Week Days	Dir (Degs)	KmH							Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)
2021-02-01		090	9		6.36	6.56	0.04	0.04	13.00		0.49		1	0.49
2021-02-02		115	10		7.11	4.81	0.04	0.04	12.00		0.98		1	0.98
2021-02-03		090	2		6.70	5.20	0.04	0.04	11.98		0.49		1	0.49
2021-02-04		045	8		7.00	4.92	0.04	0.04	12.00		1.47		1	1.47
2021-02-05		090	3		7.18	4.70	0.04	0.08	12.00		0.49		1	0.49
2021-02-06		045	9		9.12	5.80	0.04	0.04	15.00		0.98		1	0.98
2021-02-07	Sun	100	4		8.60	5.22	0.08	0.10	14.00		0.49		1	0.49
2021-02-08		045	11		7.32	6.60	0.04	0.04	14.00		0.49		1	0.49
2021-02-09		180	9		6.70	6.22	0.04	0.04	13.00		0.98		1	0.98
2021-02-10		050	8		10.42	9.50	0.04	0.04	20.00		0.49		1	0.49
2021-02-11		180	3		7.00	6.88	0.08	0.04	14.00		0.98		1	0.98
2021-02-12	PH	090	3		3.52	4.40	0.04	0.04	8.00		0.98		1	0.98
2021-02-13	PH	090	9		3.10	2.84	0.03	0.03	6.00		0.98		1	0.98
2021-02-14	Sun	090	17		9.90	8.00	0.05	0.05	18.00		0.49		1	0.49
2021-02-15	PH	045	5		8.60	7.30	0.05	0.05	16.00		0.49		1	0.49
2021-02-16		090	9		7.70	10.10	0.08	0.12	18.00		0.98		1	0.98
2021-02-17		135	2		8.90	8.02	0.04	0.04	17.00		0.49		1	0.49
2021-02-18		050	2		8.80	8.12	0.04	0.04	17.00		0.98		1	0.98
2021-02-19		045	3		8.22	8.70	0.04	0.04	17.00		0.98		1	0.98
2021-02-20		070	7		8.62	7.30	0.04	0.04	16.00		0.98		1	0.98
2021-02-21	Sun	090	2		8.92	8.00	0.04	0.04	17.00		0.49		1	0.49
2021-02-22		090	9		8.72	7.15	0.04	0.09	16.00		0.98		1	0.98
2021-02-23		050	3		8.28	7.60	0.04	0.08	16.00		0.98		1	0.98
2021-02-24		070	11		9.30	9.60	0.05	0.05	19.00		0.49		1	0.49
2021-02-25		045	9		9.20	8.65	0.05	0.10	18.00		1.47		1	1.47
2021-02-26		050	2		8.90	7.95	0.05	0.10	17.00		0.49		1	0.49
2021-02-27		270	3		8.20	7.70	0.05	0.05	16.00		0.98		1	0.98
2021-02-28	Sun	090	2		6.40	5.47	0.03	0.10	12.00		0.49		1	0.49
									0.00				0	0
									0.00				0	0
									0.00				0	0
		089	6.21		0.00 218.79	0.00 193.31	0.00 1.28	0.00 1.60	0.00 414.98	0.00	22.05	0.00		22.05
		Title Sum:			223.32	193.67	1.64	1.96						22.05

MOPAN Scavenge (Cubic meter):	414.98
ea Cleaner Scavenge (Cubic meter):	22.05
Task Force (Cubic meter):	3.25
Join Cleansing (Cubic meter):	2.36
District Scavenge Subtotal:	442.64

Aberdeen	218.79
Tin Wan	193.31
Stanley Bay	1.28
Deep Water & Repulse Bay	1.60

Hong Kong South				Floating Refuse Scavenge																						
				Task Force													Join Cleansing										
2021		Wind		Team A					Team B					Team C					Team 1					Team 2				Scavenge Total
February	Week Days	Dir (Degs)	KmH	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)
2021-02-01		090	9					0					0					0	Aberdeen	0	0	0	0					0	13.49
2021-02-02		115	10					0					0					0					0					0	12.98
2021-02-03		090	2					0					0					0					0					0	12.47
2021-02-04		045	8					0					0					0					0					0	13.47
2021-02-05		090	3					0					0					0					0					0	12.49
2021-02-06		045	9					0	Aberdeen	0.08	0.16	0.12	0.36					0					0					0	16.34
2021-02-07	Sun	100	4					0					0					0					0					0	14.49
2021-02-08		045	11					0					0					0					0					0	14.49
2021-02-09		180	9					0					0					0	Stanley Bay	0	0	0	0					0	13.98
2021-02-10		050	8					0					0					0					0					0	20.49
2021-02-11		180	3					0	Aberdeen	0.2	0.2	0.33	0.73					0	Aberdeen	0.2	0.4	0.76	1.36					0	17.07
2021-02-12	PH	090	3					0					0					0					0					0	8.98
2021-02-13	PH	090	9					0					0					0					0					0	6.98
2021-02-14	Sun	090	17					0					0					0					0					0	18.49
2021-02-15	PH	045	5					0					0					0					0					0	16.49
2021-02-16		090	9					0					0					0	Aberdeen	0	0	0	0					0	18.98
2021-02-17		135	2					0					0					0	Aberdeen	0	0	0	0					0	17.49
2021-02-18		050	2					0					0					0	Tin Wan	0	0	0	0					0	17.98
2021-02-19		045	3					0					0					0	Stanley Bay	0	0	0	0					0	17.98
2021-02-20		070	7					0	Aberdeen	0.08	0.16	0.12	0.36					0	Stanley Bay	0	0	0	0					0	17.34
2021-02-21	Sun	090	2					0					0					0					0					0	17.49
2021-02-22		090	9					0	Tin Wan	0.08	0.16	0.12	0.36					0					0					0	17.34
2021-02-23		050	3					0					0					0					0					0	16.98
2021-02-24		070	11					0	Stanley Bay	0.08	0.16	0.12	0.36					0	Aberdeen	0.2	0.2	0.6	1					0	20.85
2021-02-25		045	9					0	Water & Repul	0.08	0.16	0.12	0.36					0	Aberdeen	0	0	0	0					0	19.83
2021-02-26		050	2					0					0					0	Aberdeen	0	0	0	0					0	17.49
2021-02-27		270	3					0	Aberdeen	0.16	0.32	0.24	0.72					0	Tin Wan	0	0	0	0					0	17.7
2021-02-28	Sun	090	2					0					0					0					0					0	12.49
								0					0					0					0					0	0
								0					0					0					0					0	0
								0					0					0					0					0	0
		089	6.21		0.00	0.00	0.00	0.00		0.76	1.32	1.17	3.25		0.00	0.00	0.00	0.00		0.40	0.60	1.36	2.36		0.00	0.00	0.00	0.00	442.64
		Title Sum:													0.76	1.32	1.17	3.25							0.40	0.60	1.36	2.36	
MOPAN Scavenge (Cubic meter):			414.98											Aberdeen	0.52	0.84	0.81	2.17						Aberdeen	0.4	0.6	1.36	2.36	
ea Cleaner Scavenge (Cubic meter):			22.05											Tin Wan	0.08	0.16	0.12	0.36						Tin Wan	0	0	0	0	
Task Force (Cubic meter):			3.25											Stanley Bay	0.08	0.16	0.12	0.36						Stanley Bay	0	0	0	0	
Join Cleansing (Cubic meter):			2.36											Deep Water & Repulse Bay	0.08	0.16	0.12	0.36						Deep Water & Repulse Bay	0	0	0	0	
District Scavenge Subtotal:			442.64																									

Kowloon West																								Floating R
2021		Wind			Urmston Road	Castle Peak Bay	Tuen Mun	Tai Lam	Ma Wan	Tsing Yi North	Tsuen Wan	Rambler Channel	MOPANs Subtotal (Cubic meter)	Sea Cleaner Operation										
February	Week Days	Dir (Degs)	KmH											Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)					
2021-02-01		090	10		0.70	0.70	2.90	0.72	0.07	0.15	0.40	0.08	5.72			0.98	1	0.98						
2021-02-02		045	9		0.70	0.60	2.90	0.72	0.60	0.20	0.60	0.10	6.42				0	0						
2021-02-03		070	10		0.90	0.70	3.28	0.80	0.50	0.10	0.30	0.10	6.68			1.47	1	1.47						
2021-02-04		115	12		1.00	0.92	4.00	0.90	0.10	0.10	0.30	0.10	7.42				0	0						
2021-02-05		135	3		0.77	0.70	3.40	0.80	0.10	0.20	0.40	0.10	6.47			0.98	1	0.98						
2021-02-06		045	2		0.80	0.72	2.80	0.60	0.50	0.10	0.20	0.10	5.82				0	0						
2021-02-07	Sun	045	3		0.90	0.86	4.40	0.86	0.10	0.10	0.50	0.10	7.82			0.98	1	0.98						
2021-02-08		100	18		1.00	0.90	4.10	1.00	0.10	0.20	0.50	0.10	7.90			0.98	1	0.98						
2021-02-09		045	3		0.81	0.80	3.40	0.80	0.10	0.10	0.40	0.20	6.61				0	0						
2021-02-10		180	15		0.60	0.61	2.36	0.70	0.10	0.10	0.40	0.20	5.07			0.98	1	0.98						
2021-02-11		090	8		0.40	0.40	1.66	0.45	0.20	0.10	0.30	0.10	3.61				0	0						
2021-02-12	PH	070	4		0.30	0.30	0.73	0.33	0.10	0.10	0.30	0.10	2.26			1.47	1	1.47						
2021-02-13	PH	045	3		0.24	0.36	0.76	0.30	0.10	0.10	0.30	0.10	2.26				0	0						
2021-02-14	Sun	070	9		0.60	0.60	1.30	0.61	0.20	0.10	0.30	0.10	3.81			0.49	1	0.49						
2021-02-15	PH	045	2		0.41	0.60	1.60	0.50	0.10	0.10	0.40	0.10	3.81			0.98	1	0.98						
2021-02-16		135	9		0.40	0.41	2.00	0.30	0.10	0.20	0.40	0.10	3.91				0	0						
2021-02-17		150	3		0.90	1.00	3.60	0.87	0.50	0.10	0.90	0.10	7.97			1.47	1	1.47						
2021-02-18		180	3		0.65	0.60	2.62	0.60	0.17	0.08	0.26	0.09	5.07				0	0						
2021-02-19		025	9		0.80	0.92	3.60	0.90	0.10	0.20	0.50	0.10	7.12			0.98	1	0.98						
2021-02-20		100	3		0.90	0.83	3.64	1.00	0.10	0.10	0.40	0.20	7.17				0	0						
2021-02-21	Sun	090	6		0.80	0.76	3.00	0.70	0.20	0.10	0.60	0.10	6.26			0.49	1	0.49						
2021-02-22		090	9		0.82	0.90	4.10	1.00	0.20	0.10	0.30	0.10	7.52			1.47	1	1.47						
2021-02-23		090	2		1.80	1.50	6.40	1.62	0.10	0.10	0.30	0.10	11.92				0	0						
2021-02-24		070	9		1.70	1.80	6.49	1.60	0.10	0.10	0.30	0.10	12.19			1.47	1	1.47						
2021-02-25		090	3		1.40	1.50	6.50	1.52	0.20	0.10	0.30	0.10	11.62				0	0						
2021-02-26		070	9		1.40	1.62	6.40	1.50	1.00	0.10	0.30	0.10	12.42			0.98	1	0.98						
2021-02-27		050	3		1.60	1.72	6.20	1.30	0.50	0.10	0.30	0.10	11.82				0	0						
2021-02-28	Sun	050	7		1.40	1.50	6.40	1.62	0.10	0.10	0.30	0.10	11.52			1.47	1	1.47						
													0.00				0	0						
													0.00				0	0						
													0.00				0	0						
		085	6.6		0.00	24.70	0.00	24.83	0.00	100.54	0.00	24.62	0.00	6.34	0.00	3.33	0.00	10.76	0.00	3.07	0.00	198.19	0.00	0.00	17.64		17.64
		Title Sum:				24.70		29.33		108.63		25.87		6.59		3.33		17.01		3.07							

MOPAN Scavenge (Cubic meter):	198.19
ea Cleaner Scavenge (Cubic meter):	17.64
Task Force (Cubic meter):	19.25
Join Cleansing (Cubic meter):	1.09
District Scavenge Subtotal:	236.17

Urmston Road	24.70
Castle Peak Bay	24.83
Tuen Mun	100.54
Tai Lam	24.62
Ma Wan	6.34
Tsing Yi North	3.33
Tsuen Wan	10.76
Rambler Channel	3.07

Kowloon West				Refuse Scavenge																									
				Task Force															Join Cleansing										
2021		Wind		Team A					Team B					Team C					Team 1					Team 2					Scavenge Total
February	Week Days	Dir (Degs)	KmH	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)
2021-02-01		090	10					0					0					0					0	Tuen Mun	0.08	0.49	0.16	0.73	7.43
2021-02-02		045	9					0					0					0					0					0	6.42
2021-02-03		070	10					0					0	Tuen Mun	0.7	1.5	0.8	3					0					0	11.15
2021-02-04		115	12					0					0					0					0					0	7.42
2021-02-05		135	3					0					0					0					0					0	7.45
2021-02-06		045	2					0					0					0					0					0	5.82
2021-02-07	Sun	045	3					0					0					0					0					0	8.8
2021-02-08		100	18					0					0					0					0					0	8.88
2021-02-09		045	3					0					0	Castle Peak Ba	0.7	1.8	2	4.5					0					0	11.11
2021-02-10		180	15					0					0	Tuen Mun	0.08	0.12	0.05	0.25					0					0	6.3
2021-02-11		090	8					0					0	Tuen Mun	0.1	0.4	0.25	0.75					0					0	4.36
2021-02-12	PH	070	4					0					0					0					0					0	3.73
2021-02-13	PH	045	3					0					0					0					0					0	2.26
2021-02-14	Sun	070	9					0					0					0					0					0	4.3
2021-02-15	PH	045	2					0					0					0					0					0	4.79
2021-02-16		135	9					0					0					0					0					0	3.91
2021-02-17		150	3					0					0					0					0					0	9.44
2021-02-18		180	3					0					0	Tuen Mun	0.7	1.8	0.5	3					0					0	8.07
2021-02-19		025	9					0					0					0					0					0	8.1
2021-02-20		100	3					0					0					0					0					0	7.17
2021-02-21	Sun	090	6					0					0					0					0					0	6.75
2021-02-22		090	9					0					0					0					0	Tuen Mun	0.08	0.18	0.1	0.36	9.35
2021-02-23		090	2					0					0	Tai Lam	0.3	0.6	0.35	1.25					0					0	13.17
2021-02-24		070	9					0					0	Tsuen Wan	0.7	1.2	0.6	2.5					0					0	16.16
2021-02-25		090	3					0					0	Tsuen Wan	0.7	2.4	0.65	3.75					0					0	15.37
2021-02-26		070	9					0					0	Ma Wan	0.08	0.12	0.05	0.25					0					0	13.65
2021-02-27		050	3					0					0					0					0					0	11.82
2021-02-28	Sun	050	7					0					0					0					0					0	12.99
								0					0					0					0					0	0
								0					0					0					0					0	0
								0					0					0					0					0	0
		085	6.6		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00		4.06	9.94	5.25	19.25		0.00	0.00	0.00	0.00		0.16	0.67	0.26	1.09	236.17
		Title Sum:													4.06	9.94	5.25	19.25							0.16	0.67	0.26	1.09	
		MOPAN Scavenge (Cubic meter):	198.19											Urmston Road	0	0	0	0						Urmston Road	0	0	0	0	
		Sea Cleaner Scavenge (Cubic meter):	17.64											Castle Peak Bay	0.7	1.8	2	4.5						Castle Peak Bay	0	0	0	0	
		Task Force (Cubic meter):	19.25											Tuen Mun	1.58	3.82	1.6	7						Tuen Mun	0.16	0.67	0.26	1.09	
		Join Cleansing (Cubic meter):	1.09											Tai Lam	0.3	0.6	0.35	1.25						Tai Lam	0	0	0	0	
		District Scavenge Subtotal:	236.17											Ma Wan	0.08	0.12	0.05	0.25						Ma Wan	0	0	0	0	
														Tsing Yi North	0	0	0	0						Tsing Yi North	0	0	0	0	
														Tsuen Wan	1.4	3.6	1.25	6.25						Tsuen Wan	0	0	0	0	
														Rambler Channel	0	0	0	0						Rambler Channel	0	0	0	0	

Sai Kung & Tai Po

2021		Wind			Sai Kung Harbour	Sai Kung Hoi	Pak Sha Wan	Tolo North	Tolo West	Tolo South	MOPANs Subtotal (Cubic meter)	Sea Cleaner Operation				
February	Week Days	Dir (Degs)	KmH									Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)
2021-02-01		270	18		0.48	0.58	0.19	0.24	0.29	0.24	2.02				0	0
2021-02-02		135	15		0.53	0.63	0.14	0.29	0.39	0.29	2.27				0	0
2021-02-03		070	16		0.40	0.50	0.10	0.24	0.34	0.24	1.82				0	0
2021-02-04		180	21		0.50	0.50	0.20	0.29	0.34	0.29	2.12				0	0
2021-02-05		045	6		0.60	0.50	0.20	0.20	0.30	0.20	2.00				0	0
2021-02-06		025	3		0.50	0.60	0.20	0.20	0.30	0.30	2.10				0	0
2021-02-07	Sun	075	3		0.40	0.50	0.10	0.20	0.30	0.20	1.70				0	0
2021-02-08		090	12		0.50	0.60	0.10	0.30	0.30	0.20	2.00				0	0
2021-02-09		045	10		0.50	0.60	0.20	0.30	0.40	0.20	2.20				0	0
2021-02-10		090	9		0.60	0.60	0.10	0.30	0.30	0.20	2.10				0	0
2021-02-11		180	3		0.60	0.70	0.20	0.30	0.40	0.20	2.40				0	0
2021-02-12	PH	090	7		0.20	0.20	0.10	0.15	0.15	0.10	0.90				0	0
2021-02-13	PH	045	4		0.40	0.40	0.20	0.15	0.20	0.15	1.50				0	0
2021-02-14	Sun	095	6		0.60	0.70	0.20	0.20	0.20	0.20	2.10				0	0
2021-02-15	PH	070	4		0.60	0.60	0.20	0.30	0.30	0.20	2.20				0	0
2021-02-16		045	2		0.50	0.60	0.10	0.30	0.30	0.20	2.00				0	0
2021-02-17		050	4		0.70	0.60	0.20	0.30	0.40	0.20	2.40				0	0
2021-02-18		025	9		0.60	0.60	0.20	0.24	0.39	0.34	2.37				0	0
2021-02-19		045	6		0.70	0.60	0.20	0.20	0.40	0.40	2.50				0	0
2021-02-20		050	3		0.60	0.60	0.20	0.30	0.30	0.30	2.30				0	0
2021-02-21	Sun	090	3		0.60	0.50	0.20	0.20	0.30	0.30	2.10				0	0
2021-02-22		040	5		0.70	0.60	0.20	0.20	0.40	0.30	2.40				0	0
2021-02-23		070	2		0.80	0.70	0.30	0.20	0.30	0.30	2.60				0	0
2021-02-24		090	5		0.80	0.70	0.30	0.20	0.30	0.40	2.70				0	0
2021-02-25		045	7		0.70	0.70	0.20	0.20	0.40	0.30	2.50				0	0
2021-02-26		050	2		0.70	0.70	0.30	0.20	0.20	0.30	2.40				0	0
2021-02-27		090	5		0.70	0.80	0.20	0.20	0.30	0.30	2.50				0	0
2021-02-28	Sun	135	7		0.70	0.70	0.20	0.20	0.20	0.20	2.20				0	0
											0.00				0	0
											0.00				0	0
											0.00				0	0
		083	7.0		**0.00**	**16.21**	**0.00**	**16.61**	**0.00**	**5.23**	**0.00**	**6.60**	**0.00**	**8.70**	**0.00**	**7.05**	**0.00**	**60.40**	**0.00**	**0.00**	**0.00**		**0.00**
		Title Sum:				16.21		18.09		5.23		12.20		9.30		8.38							

MOPAN Scavenge (Cubic meter):	60.40
ea Cleaner Scavenge (Cubic meter):	0.00
Task Force (Cubic meter):	9.01
Join Cleansing (Cubic meter):	0.00
District Scavenge Subtotal:	69.41

Sai Kung Harbour	16.21
Sai Kung Hoi	16.61
Pak Sha Wan	5.23
Tolo North	6.60
Tolo West	8.70
Tolo South	7.05

Sai Kung & Tai Po				Floating Refuse Scavenge																									
				Task Force															Join Cleansing										
2021		Wind		Team A					Team B					Team C					Team 1					Team 2					Scavenge Total
February	Week Days	Dir (Degs)	KmH	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)
2021-02-01		270	18	Sai Kung Hoi	0.25	0.48	0	0.73					0					0					0					0	2.75
2021-02-02		135	15	Sai Kung Hoi	0	0.1	0.05	0.15					0					0					0					0	2.42
2021-02-03		070	16	Tolo North	0	0.1	0.05	0.15					0					0					0					0	1.97
2021-02-04		180	21	Tolo North	0	0.1	0.05	0.15					0					0					0					0	2.27
2021-02-05		045	6	Sai Kung Hoi	0	0.1	0.05	0.15					0					0					0					0	2.15
2021-02-06		025	3					0					0					0					0					0	2.1
2021-02-07	Sun	075	3					0					0					0					0					0	1.7
2021-02-08		090	12	Tolo North	0	0.15	0	0.15					0					0					0					0	2.15
2021-02-09		045	10	Tolo South	0	0.1	0.05	0.15					0					0					0					0	2.35
2021-02-10		090	9	Sai Kung Hoi	0	0.05	0.1	0.15					0					0					0					0	2.25
2021-02-11		180	3	Tolo West	0.05	0.1	0	0.15					0					0					0					0	2.55
2021-02-12	PH	090	7					0					0					0					0					0	0.9
2021-02-13	PH	045	4					0					0					0					0					0	1.5
2021-02-14	Sun	095	6					0					0					0					0					0	2.1
2021-02-15	PH	070	4					0					0					0					0					0	2.2
2021-02-16		045	2	Tolo South	0	0.1	0.05	0.15					0					0					0					0	2.15
2021-02-17		050	4	Tolo South	0	0.1	0.05	0.15					0					0					0					0	2.55
2021-02-18		025	9	Sai Kung Hoi	0	0.15	0	0.15					0					0					0					0	2.52
2021-02-19		045	6	Tolo North	0	0.1	0.05	0.15					0					0					0					0	2.65
2021-02-20		050	3	Tolo South	0	0.1	0.05	0.15					0					0					0					0	2.45
2021-02-21	Sun	090	3					0					0					0					0					0	2.1
2021-02-22		040	5	Sai Kung Hoi	0	0.15	0	0.15					0					0					0					0	2.55
2021-02-23		070	2	Tolo West	0	0.1	0.05	0.15					0					0					0					0	2.75
2021-02-24		090	5	Tolo West	0	0.1	0.05	0.15					0					0					0					0	2.85
2021-02-25		045	7	Tolo West	0	0.1	0.05	0.15					0					0					0					0	2.65
2021-02-26		050	2	Tolo North	1	1.5	2.5	5					0					0					0					0	7.4
2021-02-27		090	5	Tolo South	0	0.45	0.28	0.73					0					0					0					0	3.23
2021-02-28	Sun	135	7					0					0					0					0					0	2.2
								0					0					0					0					0	0
								0					0					0					0					0	0
								0					0					0					0					0	0
		083	7.0		1.30	4.23	3.48	9.01		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	69.41

Title Sum:			1.30	4.23	3.48	9.01		0.00	0.00	0.00	0.00
MOPAN Scavenge (Cubic meter):	60.40	Sai Kung Harbour	0	0	0	0	Sai Kung Harbour	0	0	0	0
ea Cleaner Scavenge (Cubic meter):	0.00	Sai Kung Hoi	0.25	1.03	0.2	1.48	Sai Kung Hoi	0	0	0	0
Task Force (Cubic meter):	9.01	Pak Sha Wan	0	0	0	0	Pak Sha Wan	0	0	0	0
Join Cleansing (Cubic meter):	0.00	Tolo North	1	1.95	2.65	5.6	Tolo North	0	0	0	0
District Scavenge Subtotal:	69.41	Tolo West	0.05	0.4	0.15	0.6	Tolo West	0	0	0	0
		Tolo South	0	0.85	0.48	1.33	Tolo South	0	0	0	0

Outlying Islands

2021		Wind			Cheung Chau	Lamma Island	Lantau East	Tai O	Chak Lap Kok	MOPANs Subtotal (Cubic meter)	Sea Cleaner Operation				
February	Week Days	Dir (Degs)	KmH								Sea Cleaner 4 (Cubic meter)	Sea Cleaner 5 (Cubic meter)	Sea Cleaner 6 (Cubic meter)	(Vessels)	(Cubic meter)
2021-02-01		090	12		2.50		0.40	0.23	0.30	3.43		0.49		1	0.49
2021-02-02		180	14		3.00		0.36	0.27	0.30	3.93			0.98	1	0.98
2021-02-03		090	10		2.50	0.30	0.33	0.27	0.44	3.84		0.49		1	0.49
2021-02-04		050	18		3.50		0.40	0.23	0.35	4.48			0.49	1	0.49
2021-02-05		090	3		4.00		0.30	0.27	0.30	4.87		0.98		1	0.98
2021-02-06		045	3		2.50	0.20	0.40	0.30	0.55	3.95			1.47	1	1.47
2021-02-07	Sun	100	3		4.00		0.44	0.33	0.65	5.42		0.49		1	0.49
2021-02-08		045	2		2.50		0.40	0.30	0.42	3.62		0.49		1	0.49
2021-02-09		090	4		4.00		0.36	0.27	0.36	4.99			1.49	1	1.49
2021-02-10		045	14		2.50	0.20	0.40	0.20	0.50	3.80		0.98		1	0.98
2021-02-11		090	11		2.50		0.40	0.40	0.40	3.70			0.98	1	0.98
2021-02-12	PH	070	12		2.50		0.20	0.10	0.10	2.90		0.49		1	0.49
2021-02-13	PH	045	2		3.00	0.30	0.20	0.20	0.10	3.80			0.98	1	0.98
2021-02-14	Sun	090	4		3.00		0.40	0.20	0.20	3.80		0.49		1	0.49
2021-02-15	PH	050	21		2.00		0.40	0.30	0.20	2.90		0.98		1	0.98
2021-02-16		070	3		2.50		0.40	0.20	0.20	3.30			1.47	1	1.47
2021-02-17		090	3		3.50	0.20	0.50	0.40	0.40	5.00		0.49		1	0.49
2021-02-18		045	19		3.00		0.40	0.30	0.30	4.00			0.98	1	0.98
2021-02-19		050	2		3.50		0.40	0.30	0.40	4.60		0.49		1	0.49
2021-02-20		100	27		2.00	0.20	0.40	0.30	0.50	3.40			0.49	1	0.49
2021-02-21	Sun	045	2		2.00		0.30	0.20	0.40	2.90		0.98		1	0.98
2021-02-22		090	3		3.00		0.40	0.30	0.50	4.20		0.49		1	0.49
2021-02-23		050	3		4.00		0.40	0.30	0.30	5.00			1.47	1	1.47
2021-02-24		045	20		2.00	0.20	0.30	0.30	16.00	18.80		0.98		1	0.98
2021-02-25		070	2		2.00		0.40	0.30	0.70	3.40			0.98	1	0.98
2021-02-26		070	3		3.00		0.50	0.30	0.70	4.50		5		1	5
2021-02-27		045	7		2.00	0.20	0.50	0.20	0.80	3.70			1.47	1	1.47
2021-02-28	Sun	090	21		3.00		0.40	0.20	0.70	4.30		0.49		1	0.49
										0.00				0	0
										0.00				0	0
										0.00				0	0
		073	8.9		**0.00**	**79.50**	**0.00**	**1.80**	**0.00**	**10.69**	**0.00**	**7.47**	**0.00**	**27.07**	**0.00**	**126.53**	**0.00**	**14.80**	**13.25**		**28.05**
		Title Sum:				82.22		14.84		19.66		8.72		31.64							28.05

MOPAN Scavenge (Cubic meter):	126.53
ea Cleaner Scavenge (Cubic meter):	28.05
Task Force (Cubic meter):	17.08
Join Cleansing (Cubic meter):	13.47
District Scavenge Subtotal:	185.13

Cheung Chau	79.50
Lamma Island	1.80
Lantau East	10.69
Tai O	7.47
Chak Lap Kok	27.07

Outlying Islands				Floating Refuse Scavenge																												
				Task Force																	Join Cleansing												
2021		Wind		Team A					Team B					Team C					Team 1					Team 2					Scavenge Total		
February	Week Days	Dir (Degs)	KmH	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	Subtotal (Cubic meter)	(Cubic meter)			
2021-02-01		090	12					0	Lamma Island	0.08	0.16	0.12	0.36	Cheung Chau	0.08	0.12	0.8	1					0					0	5.28			
2021-02-02		180	14					0	Lamma Island	0.08	0.16	0.12	0.36	Cheung Chau	0.2	0.5	0.3	1					0	Chak Lap Kok	0.08	0.49	0.16	0.73	7			
2021-02-03		090	10					0					0					0					0	Lamma Island	0.08	0.85	0.16	1.09	5.42			
2021-02-04		050	18					0	Lamma Island	0.16	0.34	0.22	0.72	Lantau East	0.13	0.24	0.13	0.5					0	Lantau East	0.08	0.18	0.1	0.36	6.55			
2021-02-05		090	3					0	Lamma Island	0.08	0.18	0.1	0.36	Lantau East	0.08	0.12	0.05	0.25					0	Cheung Chau	0.08	0.18	0.1	0.36	6.82			
2021-02-06		045	3					0	Lamma Island	0.08	0.18	0.1	0.36	Lantau East	0.1	0.4	0.25	0.75					0	Lamma Island	0.3	0.85	0.3	1.45	7.98			
2021-02-07	Sun	100	3					0					0					0					0					0	5.91			
2021-02-08		045	2					0	Lamma Island	0.08	0.16	0.12	0.36	Lantau East	0.08	0.12	0.05	0.25					0	Lamma Island	0.3	0.49	0.3	1.09	5.81			
2021-02-09		090	4					0					0					0					0	Cheung Chau	0	0	0.36	0.36	6.84			
2021-02-10		045	14					0					0					0					0					0	4.78			
2021-02-11		090	11					0					0					0					0					0	4.68			
2021-02-12	PH	070	12					0					0					0					0					0	3.39			
2021-02-13	PH	045	2					0					0					0					0					0	4.78			
2021-02-14	Sun	090	4					0					0					0					0					0	4.29			
2021-02-15	PH	050	21					0					0					0					0					0	3.88			
2021-02-16		070	3					0	Lamma Island	0.08	0.16	0.12	0.36	Lantau East	0	0	0.5	0.5					0	Lamma Island	0.08	0.49	0.16	0.73	6.36			
2021-02-17		090	3					0	Lamma Island	0.08	0.16	0.12	0.36	Chak Lap Kok	0.9	1.35	0.5	2.75					0	Lantau East	0.1	0.19	0.1	0.39	8.99			
2021-02-18		045	19					0	Lamma Island	0.08	0.16	0.12	0.36	Lantau East	0.08	0.32	0.1	0.5					0	Lantau East	0.08	0.35	0.3	0.73	6.57			
2021-02-19		050	2					0					0	Lantau East	0.08	0.2	0.22	0.5					0	Lamma Island	0.08	0.49	0.16	0.73	6.32			
2021-02-20		100	27					0	Lamma Island	0.08	0.16	0.12	0.36	Lantau East	0.08	0.12	0.05	0.25					0	Lamma Island	0.3	0.49	0.3	1.09	5.59			
2021-02-21	Sun	045	2					0					0					0					0					0	3.88			
2021-02-22		090	3					0					0	Tai O	0.42	0.6	0.23	1.25					0					0	5.94			
2021-02-23		050	3					0					0					0					0	Chak Lap Kok	0.3	0.49	0.3	1.09	7.56			
2021-02-24		045	20					0					0					0					0	Lantau East	0.15	0.38	0.2	0.73	20.51			
2021-02-25		070	2					0					0					0					0	Lantau East	0	0.28	0.08	0.36	4.74			
2021-02-26		070	3					0	Lamma Island	0.16	0.32	0.24	0.72					0					0	Lamma Island	0.3	0.49	0.3	1.09	11.31			
2021-02-27		045	7					0					0	Lantau East	0.5	2	0.4	2.9					0	Lamma Island	0.3	0.49	0.3	1.09	9.16			
2021-02-28	Sun	090	21					0					0					0					0					0	4.79			
								0					0					0					0					0	0			
								0					0					0					0					0	0			
								0					0					0					0					0	0			
		073	8.9		**0.00**	**0.00**	**0.00**	**0.00**		**1.04**	**2.14**	**1.50**	**4.68**		**2.73**	**6.09**	**3.58**	**12.40**		**0.00**	**0.00**	**0.00**	**0.00**		**2.61**	**7.18**	**3.68**	**13.47**	**185.13**			
		Title Sum:													3.77	8.23	5.08	17.08							2.61	7.18	3.68	13.47				
MOPAN Scavenge (Cubic meter):			126.53											Cheung Chau	0.28	0.62	1.1	2						Cheung Chau	0.08	0.18	0.46	0.72				
ea Cleaner Scavenge (Cubic meter):			28.05											Lamma Island	1.04	2.14	1.5	4.68						Lamma Island	1.74	4.64	1.98	8.36				
Task Force (Cubic meter):			17.08											Lantau East	1.13	3.52	1.75	6.4						Lantau East	0.41	1.38	0.78	2.57				
Join Cleansing (Cubic meter):			13.47											Tai O	0.42	0.6	0.23	1.25						Tai O	0	0	0	0				
District Scavenge Subtotal:			185.13											Chak Lap Kok	0.9	1.35	0.5	2.75						Chak Lap Kok	0.38	0.98	0.46	1.82				

Boat Collection

Harbour West

2021		Wind		New Yau Ma Tei T/S				To Kwa Wan T/S				Kwun Tong T/S				Sam Ka Tsuen T/S			
February	Week Days	Dir (Degs)	KmH	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)
2021-02-01				138	138	136.0	2.10	110	0	0	0.00	85	26	26	0.60	32	14	14	0.35
2021-02-02				139	139	137.0	2.10	110	0	0	0.00	85	28	28	0.70	32	15	15	0.38
2021-02-03				143	143	141.0	2.20	110	0	0	0.00	85	26	26	0.60	32	15	16	0.40
2021-02-04				136	136	133.0	2.00	110	0	0	0.00	85	30	28	0.70	32	15	15	0.30
2021-02-05				139	139	136.0	2.10	110	0	0	0.00	85	28	28	0.70	32	15	15	0.35
2021-02-06				140	140	138.0	2.20	110	0	0	0.00	85	25	26	0.50	32	16	15	0.35
2021-02-07	Sun			136	136	134.0	2.00	110	0	0	0.00	85	28	28	0.70	32	15	18	0.40
2021-02-08				132	132	130.0	2.00	110	0	0	0.00	85	28	28	0.70	33	16	20	0.50
2021-02-09				133	133	130.0	2.00	110	0	0	0.00	85	29	29	0.70	32	16	17	0.40
2021-02-10				142	142	140.0	2.30	110	0	0	0.00	85	28	28	0.70	31	18	18	0.45
2021-02-11				149	149	147.0	2.45	110	0	0	0.00	85	27	27	0.70	30	20	20	0.50
2021-02-12	PH			100	100	95.0	1.50	110	0	0	0.00	85	29	29	0.70	32	10	10	0.20
2021-02-13	PH			80	80	75.0	1.25	110	0	0	0.00	85	30	30	0.70	32	11	12	0.30
2021-02-14	Sun			142	142	140.0	2.30	110	0	0	0.00	85	29	29	0.70	32	16	16	0.40
2021-02-15	PH			134	134	130.0	2.10	110	0	0	0.00	85	29	29	0.70	32	17	17	0.40
2021-02-16				141	141	139.0	2.30	110	0	0	0.00	85	28	28	0.70	32	16	16	0.40
2021-02-17				137	137	135.0	2.25	110	0	0	0.00	85	28	28	0.70	32	18	17	0.40
2021-02-18				142	142	140.0	2.30	110	0	0	0.00	85	28	28	0.70	32	16	16	0.40
2021-02-19				143	143	140.0	2.30	110	0	0	0.00	85	26	25	0.60	32	17	17	0.40
2021-02-20				132	132	130.0	2.20	110	0	0	0.00	85	25	25	0.60	30	16	16	0.40
2021-02-21	Sun			132	132	130.0	2.20	110	0	0	0.00	85	25	24	0.60	31	15	15	0.30
2021-02-22				129	129	126.0	2.10	110	0	0	0.00	85	28	28	0.70	32	14	14	0.30
2021-02-23				128	128	126.0	2.10	110	0	0	0.00	85	25	24	0.60	31	14	14	0.30
2021-02-24				141	141	138.0	2.30	110	0	0	0.00	85	26	26	0.60	30	16	16	0.40
2021-02-25				136	136	134.0	2.20	110	0	0	0.00	85	26	26	0.60	30	15	15	0.30
2021-02-26				110	110	108.0	1.80	110	0	0	0.00	85	24	24	0.60	28	17	17	0.40
2021-02-27				129	129	127.0	2.10	110	0	0	0.00	85	22	21	0.50	30	18	18	0.40
2021-02-28	Sun			136	136.0	134.0	2.20	110	0	0	0.00	85	26	26	0.60	30	17	17	0.40
		078	7.7	3,719	3,719	3,649.0	58.95	3,080	0	0.0	0.00	2,380	757	752.0	18.20	878	438	446.0	10.48
				3,719	3,719	3,649.0	58.95												

Total Boat Visited: 64,135
Total Distributed: 29,619
Total Boat Collection (Bags): 31,182
Total Boat Collection (Cubic meter): 523.61

Boat Collection

Harbour East

2021		Wind		Shau Kei Wan T/S				Causeway Bay T/S				Chai Wan				Junk Bay			
February	Week Days	Dir (Degs)	KmH	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)
2021-02-01				136	75	73	1.83	108	98	56	1.20	15	7	7	0.15	25	11	11	0.28
2021-02-02				138	74	75	1.88	108	98	68	1.20	15	8	8	0.20	25	12	11	0.28
2021-02-03				138	74	74	1.80	108	98	72	1.20	15	7	7	0.15	25	11	11	0.28
2021-02-04				138	78	80	2.00	108	98	68	0.60	16	8	8	0.20	26	12	12	0.30
2021-02-05				138	80	80	2.00	108	98	72	0.90	15	8	8	0.20	25	12	12	0.30
2021-02-06				137	80	82	2.00	108	98	76	0.90	15	8	8	0.20	25	11	11	0.28
2021-02-07	Sun			134	82	85	2.10	108	98	112	1.20	16	10	11	0.30	25	11	11	0.28
2021-02-08				138	82	85	2.10	108	98	82	0.90	16	10	10	0.20	25	11	11	0.28
2021-02-09				138	85	86	2.10	108	98	88	1.20	16	8	8	0.20	25	10	10	0.25
2021-02-10				136	86	88	2.20	108	98	76	1.20	16	10	12	0.30	25	11	11	0.28
2021-02-11				134	90	92	2.30	108	98	68	0.90	16	12	12	0.30	25	11	11	0.28
2021-02-12	PH			138	55	55	1.30	108	96	48	0.60	16	5	5	0.10	25	11	10	0.25
2021-02-13	PH			136	74	75	1.80	108	98	38	0.30	16	10	12	0.30	25	11	11	0.28
2021-02-14	Sun			137	75	76	1.90	108	96	88	0.60	16	10	10	0.20	25	11	11	0.28
2021-02-15	PH			138	72	72	1.80	108	96	138	1.50	16	8	8	0.20	25	10	10	0.25
2021-02-16				138	73	73	1.80	108	98	72	0.60	16	7	7	0.20	25	10	10	0.25
2021-02-17				135	74	74	1.80	108	98	72	1.20	15	6	6	0.15	25	11	11	0.28
2021-02-18				138	75	75	1.80	108	98	56	0.60	15	7	7	0.18	25	11	11	0.28
2021-02-19				136	76	76	1.90	108	98	62	0.60	15	8	8	0.20	25	12	12	0.30
2021-02-20				134	75	76	1.90	108	98	76	0.60	16	9	9	0.20	25	11	11	0.28
2021-02-21	Sun			136	76	78	1.90	108	98	68	0.60	15	9	9	0.20	25	11	11	0.28
2021-02-22				134	73	73	1.80	108	98	72	0.90	15	8	8	0.20	25	11	11	0.28
2021-02-23				135	74	74	1.80	108	98	78	0.60	15	8	8	0.20	25	12	11	0.28
2021-02-24				132	73	73	1.80	108	98	86	1.20	15	9	9	0.20	25	11	11	0.28
2021-02-25				128	72	72	1.80	108	98	62	0.60	15	8	8	0.20	26	12	11	0.28
2021-02-26				128	73	73	1.80	108	98	56	0.60	15	8	9	0.20	26	11	11	0.28
2021-02-27				125	75	75	1.80	108	98	58	0.60	15	8	8	0.20	26	12	11	0.28
2021-02-28	Sun			128	74	74	1.80	108	98	72	1.20	15	7	7	0.15	26	11	11	0.28
		078	7.7	3,781	2,125	2,144.0	52.81	3,024	2,738	2,040.0	24.30	432	231	237.0	5.68	705	312	307.0	7.78
																14,280	6,601	5,926.0	119.25

Total Boat Visited:

Total Distributed:

Total Boat Collection (Bags):

Total Boat Collection (Cubic meter):

Boat Collection				HK South				Kowloon West											
2021		Wind		Aberdeen T/S (South & West)				Tuen Mun T/S				Rambler T/S				Tsuen Wan			
February	Week Days	Dir (Degs)	KmH	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)
2021-02-01				1100	250	360	5.00	270	270	265	5.30	25	10	5	0.1	50	80	75	1.50
2021-02-02				1100	250	360	4.00	275	275	270	5.40	25	10	10	0.2	50	80	85	1.70
2021-02-03				1100	250	330	4.00	275	275	270	5.40	25	10	5	0.10	50	80	100	2.00
2021-02-04				1100	250	350	4.00	275	275	270	5.40	25	10	5	0.10	50	80	75	1.50
2021-02-05				1100	250	360	4.00	275	275	270	5.40	25	10	5	0.10	50	80	80	1.60
2021-02-06				1000	250	370	4.00	275	275	270	5.40	25	10	5	0.10	50	80	60	1.20
2021-02-07	Sun			1000	250	400	5.00	275	275	270	5.40	25	10	5	0.10	50	80	75	1.50
2021-02-08				1100	250	400	5.00	275	275	270	5.40	25	10	10	0.20	50	80	75	1.50
2021-02-09				1100	260	360	4.00	270	270	275	5.40	25	10	10	0.20	50	80	75	1.50
2021-02-10				1100	260	400	5.00	275	275	270	5.40	25	10	5	0.10	50	80	70	1.40
2021-02-11				1100	270	400	5.00	275	275	270	5.40	25	10	5	0.10	50	80	80	1.60
2021-02-12	PH			1100	270	280	3.00	275	275	270	5.50	25	10	5	0.10	50	80	60	1.20
2021-02-13	PH			1100	270	280	3.00	275	275	275	5.50	25	10	5	0.10	50	80	65	1.30
2021-02-14	Sun			1100	260	500	5.00	275	275	275	5.50	25	10	5	0.10	50	80	70	1.40
2021-02-15	PH			1100	270	400	4.00	275	275	270	5.40	25	10	10	0.20	50	80	75	1.50
2021-02-16				1100	270	350	4.00	275	275	270	5.40	25	10	10	0.20	50	80	80	1.60
2021-02-17				1100	270	400	4.00	260	260	250	5.00	25	10	5	0.10	50	70	70	1.50
2021-02-18				1000	260	400	4.00	250	250	240	4.80	25	5	5	0.10	50	65	65	1.30
2021-02-19				1000	260	400	4.00	230	230	225	4.50	25	5	5	0.10	50	80	80	1.60
2021-02-20				1000	260	400	4.00	230	230	225	4.50	25	5	5	0.10	50	65	65	1.30
2021-02-21	Sun			1000	260	360	3.00	230	230	225	4.50	25	10	10	0.20	50	80	80	1.60
2021-02-22				1000	260	400	4.00	230	230	225	4.50	25	10	5	0.10	50	80	65	1.30
2021-02-23				1000	260	300	3.00	190	160	100	2.18	25	10	10	0.20	50	80	75	1.50
2021-02-24				1000	260	300	3.00	160	135	100	2.18	25	10	5	0.10	50	80	70	1.40
2021-02-25				1000	260	300	3.00	159	130	100	2.18	25	10	5	0.10	50	80	75	1.50
2021-02-26				1000	260	320	4.00	150	140	100	2.18	25	10	5	0.10	50	80	60	1.20
2021-02-27				1000	260	350	4.00	150	140	100	2.18	25	10	5	0.10	50	80	80	1.60
2021-02-28	Sun			1000	260	360	4.00	140	130	95	1.81	25	10	5	0.10	50	80	75	1.50
		078	7.7	29,500	7,260	10,190.0	112.00	6,769	6,655	6,315.0	127.11	700	265	175.0	3.50	1,400	2,200	2,060.0	41.30
				29,500	7,260	10,190.0	112.00									8,869	9,120	8,550.0	171.91

Total Boat Visited:
Total Distributed:
Total Boat Collection (Bags):
Total Boat Collection (Cubic meter):

Boat Collection				Sai Kung Tai Po												Outlying Islands											
2021		Wind		Shuen Wan T/S				Yim Tin Tsai T/S				Sai Kung				Cheung Chau T/S				Hei Ling Chau T/S				Tai O			
February	Week Days	Dir (Degs)	KmH	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)
2021-02-01				29	16	16	0.40	28	16	16	0.40	100	30	32	0.80	94	27	24	0.40	8	0	0	0	8	6	7	0.18
2021-02-02				30	18	18	0.40	28	14	14	0.30	110	35	30	0.70	90	30	28	0.50	8	0	0	0	8	7	6	0.15
2021-02-03				30	20	20	0.50	27	15	15	0.40	110	30	28	0.70	89	39	36	0.70	8	0	0	0	7	6	6	0.15
2021-02-04				30	20	21	0.50	28	15	15	0.30	110	31	29	0.70	87	41	37	0.70	8	0	0	0	7	5	6	0.15
2021-02-05				29	20	20	0.50	28	14	14	0.30	110	28	27	0.60	89	35	38	0.70	8	0	0	0	8	7	7	0.18
2021-02-06				30	22	22	0.50	28	15	16	0.40	110	28	28	0.70	92	40	35	0.80	8	0	0	0	7	6	6	0.15
2021-02-07	Sun			30	25	25	0.60	28	16	18	0.40	110	34	33	0.80	87	40	43	1.00	8	0	0	0	7	6	6	0.15
2021-02-08				30	23	24	0.60	28	16	16	0.40	110	28	26	0.60	96	45	42	1.00	8	0	0	0	8	8	10	0.20
2021-02-09				30	25	25	0.60	28	16	18	0.45	110	33	35	0.80	94	43	42	1.00	8	0	0	0	8	8	9	0.20
2021-02-10				30	25	26	0.60	28	18	18	0.45	110	32	30	0.70	103	45	40	1.00	8	0	0	0	8	7	7	0.18
2021-02-11				32	25	26	0.60	28	20	22	0.50	110	30	30	0.50	100	20	28	0.60	8	0	0	0	8	7	7	0.18
2021-02-12	PH			32	12	14	0.40	28	10	12	0.30	110	15	15	0.20	98	33	31	0.60	8	0	0	0	8	3	3	0.10
2021-02-13	PH			32	26	28	0.70	28	13	15	0.30	110	20	20	0.30	103	34	30	0.60	8	0	0	0	8	5	5	0.10
2021-02-14	Sun			32	25	26	0.60	29	17	17	0.40	110	35	36	0.60	100	30	27	0.50	8	0	0	0	8	8	8	0.20
2021-02-15	PH			32	21	20	0.50	29	17	18	0.40	110	36	38	0.70	102	31	28	0.50	8	0	0	0	8	7	7	0.18
2021-02-16				30	20	20	0.50	28	15	15	0.30	110	35	32	0.60	98	28	27	0.50	8	0	0	0	8	6	6	0.15
2021-02-17				31	18	18	0.40	28	16	16	0.40	110	32	30	0.50	97	29	26	0.50	8	0	0	0	8	5	6	0.15
2021-02-18				30	19	19	0.40	28	16	16	0.40	110	28	29	0.50	113	32	28	0.50	8	0	0	0	8	6	6	0.15
2021-02-19				30	20	20	0.50	29	17	17	0.40	110	30	28	0.50	116	34	29	0.50	8	0	0	0	8	6	6	0.15
2021-02-20				30	19	19	0.50	28	16	16	0.40	110	34	35	0.60	87	25	23	0.40	8	0	0	0	7	5	5	0.13
2021-02-21	Sun			30	20	20	0.50	28	17	17	0.40	110	35	35	0.60	83	20	20	0.40	8	0	0	0	8	7	7	0.18
2021-02-22				30	17	17	0.40	26	15	16	0.40	110	34	34	0.60	88	28	26	0.50	8	0	0	0	8	6	6	0.15
2021-02-23				29	18	18	0.40	26	17	18	0.40	110	34	35	0.60	87	26	20	0.40	8	0	0	0	8	7	7	0.18
2021-02-24				29	17	17	0.40	26	18	18	0.40	110	35	32	0.50	89	28	26	0.50	8	0	0	0	8	7	7	0.18
2021-02-25				29	18	19	0.40	26	16	17	0.40	110	30	28	0.50	86	27	24	0.40	8	0	0	0	8	6	6	0.15
2021-02-26				28	18	18	0.40	27	18	20	0.50	110	30	29	0.50	90	21	18	0.30	8	0	0	0	7	6	6	0.15
2021-02-27				30	18	18	0.40	28	17	17	0.40	110	28	27	0.40	91	20	17	0.30	8	0	0	0	8	7	7	0.18
2021-02-28	Sun			30	19	19	0.50	26	16	16	0.40	110	30	30	0.50	87	22	16	0.30	8	0	0	0	8	6	6	0.15
		078	7.7	844	564	573.0	13.70	775	446	463.0	10.90	3,070	860	841.0	16.30	2,636	873	809.0	16.10	224	0	0.0	0.00	218	176	181.0	4.50
												4,689	1,870	1,877.0	40.90									3,078	1,049	990.0	20.60

Total Boat Visited:
Total Distributed:
Total Boat Collection (Bags):
Total Boat Collection (Cubic meter):

Ship Collection				Gross Tonnage in Groups								Total Ship Collection	
2021		Wind		GRT (300 - 2,000)		GRT (2,001 - 5,000)		GRT (5,001 - 10,000)		Over 10,000 GRT			
February	Week Days	Dir (Degs)	KmH	(Cubic meter)	Ships Visited	(Cubic meter)	Ships Visited	(Cubic meter)	Ships Visited	(Cubic meter)	Ships Visited	(Cubic meter)	Ships Visited
2021-02-01		270	5	4.43	26					8.17	19	12.6	45
2021-02-02		50	6	4.87	28					7.7	18	12.57	46
2021-02-03		90	7	4.47	26					8.23	19	12.7	45
2021-02-04		100	4	4.83	28			0.5	1	7.23	17	12.56	46
2021-02-05		50	4	4.43	26			0.76	2	7.4	17	12.59	45
2021-02-06		45	2	4.87	28			0.26	1	7.4	17	12.53	46
2021-02-07	Sun	25	9	6.13	35					4.7	12	10.83	47
2021-02-08		90	10	4.47	26					8.17	19	12.64	45
2021-02-09		90	4	7.83	28					7.73	18	15.56	46
2021-02-10		50	2	4.43	26					8.2	19	12.63	45
2021-02-11		90	3	4.87	28			0.5	1	7.2	17	12.57	46
2021-02-12		70	15	4.47	26			0.26	1	7.93	18	12.66	45
2021-02-13		70	9	4.83	28			0.5	1	7.17	17	12.5	46
2021-02-14	Sun	135	4	6.1	35			0.26	1	4.43	11	10.79	47
2021-02-15		135	2	4.47	26					8.2	19	12.67	45
2021-02-16		70	17	4.87	28			0.5	1	7.2	17	12.57	46
2021-02-17		70	3	4.43	26			0.26	1	7.93	18	12.62	45
2021-02-18		45	3	4.83	28					7.67	18	12.5	46
2021-02-19		90	3	4.47	26			0.5	1	7.67	18	12.64	45
2021-02-20		90	6	4.87	28			0.76	2	6.93	16	12.56	46
2021-02-21	Sun	45	15	6.13	35			0.26	1	4.43	11	10.82	47
2021-02-22		135	2	4.43	26					8.2	19	12.63	45
2021-02-23		70	4	4.83	28					7.7	18	12.53	46
2021-02-24		50	16	4.43	26					8.2	19	12.63	45
2021-02-25		180	4	4.87	28					7.73	18	12.6	46
2021-02-26		135	18	4.43	26					8.17	19	12.6	45
2021-02-27		95	12	4.8	28					7.7	18	12.5	46
2021-02-28	Sun	135	24	6.13	35					4.67	12	10.8	47
												0	0
												0	0
												0	0
				139.02	788	0	0	5.32	14	204.06	478	348.40	1,280

Total Boats Visited: 1,280

Total Boats Collection (Cubic meter): 348.40

PASTR2020-02					Floating Refuse Scavenge														Domestic Refuse Collected from Boat			
2021	Wind				Sai Kung Harbour	Sai Kung Hoi	Pak Sha Wan	Tolo North	Tolo West	Tolo South	MOPANs Subtotal	Team D					Scavenge Total					
February	Week Days	Dir (Degs)	KmH								(Cubic meter)	Location	Wood (Cubic meter)	Foam (Cubic meter)	Others (Cubic meter)	**Subtotal (Cubic meter)**	(Cubic meter)	Boats Visited	Distributed (Bags)	Collected (Bags)	Collected (Cubic meter)
2021-02-01		270	18								0	Tolo South	0.40	0.49	0.20	**1.09**	1.09				
2021-02-02		135	15								0	Tolo South	0.36	0.20	0.16	**0.72**	0.72				
2021-02-03	off	070	16								0					**0.00**	0.00				
2021-02-04		180	21								0	Tolo South	0.30	0.40	0.75	**1.45**	1.45				
2021-02-05		045	6								0	Sai Kung Hoi	0.20	0.20	0.32	**0.72**	0.72				
2021-02-06		025	3								0	Tolo North	0.20	0.39	0.50	**1.09**	1.09				
2021-02-07	Sun	075	3								0	Sai Kung Hoi	0.20	0.20	0.32	**0.72**	0.72				
2021-02-08		090	12								0	Tolo West	0.20	0.20	0.32	**0.72**	0.72				
2021-02-09		045	10								0	Tolo West	0.50	1.20	1.20	**2.90**	2.90				
2021-02-10	off	090	9								0					**0.00**	0.00				
2021-02-11		180	3								0	Sai Kung Hoi	0.24	0.15	0.33	**0.72**	0.72				
2021-02-12	PH	090	7								0	Tolo South	0.30	0.75	0.40	**1.45**	1.45				
2021-02-13	PH	045	4								0	Tolo South	0.40	0.20	0.49	**1.09**	1.09				
2021-02-14	Sun	095	6								0	Tolo South	0.15	0.24	0.33	**0.72**	0.72				
2021-02-15	PH	070	4								0	Tolo North	0.30	0.24	0.55	**1.09**	1.09				
2021-02-16		045	2								0	Sai Kung Hoi	0.20	0.30	0.22	**0.72**	0.72				
2021-02-17	off	050	4								0					**0.00**	0.00				
2021-02-18		025	9								0	Tolo West	0.20	0.30	0.22	**0.72**	0.72				
2021-02-19		045	6								0	Tolo West	0.50	0.30	0.29	**1.09**	1.09				
2021-02-20		050	3								0	Tolo South	0.29	0.50	0.30	**1.09**	1.09				
2021-02-21	Sun	090	3								0	Tolo South	0.20	0.22	0.30	**0.72**	0.72				
2021-02-22		040	5								0	Tolo South	0.30	0.85	0.30	**1.45**	1.45				
2021-02-23		070	2								0	Sai Kung Hoi	0.30	0.22	0.20	**0.72**	0.72				
2021-02-24	off	090	5								0					**0.00**	0.00				
2021-02-25		045	7								0	Tolo North	0.20	0.22	0.30	**0.72**	0.72				
2021-02-26		050	2								0	Sai Kung Hoi	0.30	0.22	0.20	**0.72**	0.72				
2021-02-27		090	5								0	Tolo West	0.30	0.22	0.20	**0.72**	0.72				
2021-02-28	Sun	135	7								0	Tolo West	0.49	0.30	0.30	**1.09**	1.09				
											0					**0.00**	0.00				
											0					**0.00**	0.00				
											0					**0.00**	0.00				
		083	7.0		0	0	0	0	0	0	0		7.03	8.51	8.70	**24.24**	24	0	0	0	0
				Title Sum:		0.00		4.32		0.00		2.90		7.24		9.78						

MOPAN Scavenge (Cubic meter):	0
Task Force (Cubic meter):	24.24
District Scavenge Subtotal:	24.24
Small Boat Collection (Cubic meter):	0
Refuse Collected (Cubic meter):	24.24

2016年至2020年抵港船次
Number of Vessel Arrivals from 2016 to 2020

年份 Year	抵港船次 Number of Vessel Arrivals		
	遠洋輪船 Ocean-going Vessels (i)	內河船隻 River Trade Vessels (ii)	總計 Total (i)+(ii)
2016	27 642	157 369	185 011
2017	26 793	158 627	185 420
2018	25 410	149 200	174 610
2019	25 388	135 864	161 252
2020	22 001	65 830	87 831

2016年至2020年香港領牌船隻數目
Number of Hong Kong Licensed Vessels from 2016 to 2020

年份 Year	香港領牌船隻數目（截至年底） Number of Hong Kong Licensed Vessels (as at year end)
2016	18 540
2017	18 712
2018	18 953
2019	18 968
2020	19 631

附錄 E
Appendix E

2017年至2020年大埔區收集到的海上垃圾數量

Quantities of Marine Refuse Collected in Tai Po District from 2017 to 2020

項目 Item		收集到的海上垃圾數量 (公噸) Quantity of Marine Refuse Collected (Tonnes)				總量 Total
		2017	2018	2019	2020	
A	在全港水域合約下於大埔區收集到的海上垃圾 Marine refuse collected in Tai Po District under the contract for the whole of Hong Kong waters	314.5	382.4	313.2	255.5	1265.6
B	在大埔區合約下收集到的海上垃圾 (註) Marine refuse collected under the contract for Tai Po District (Note)	不適用 Not applicable	88	247.7	201.3	537.0
C = A + B	兩份合約在大埔區收集到的海上垃圾 Marine refuse collected in Tai Po District under both contracts	314.5	470.4	560.9	456.8	1802.6
D	在全港水域合共收集到的海上垃圾 Marine refuse collected in the whole of Hong Kong waters	16045	16084	15578	14858	62565
E = C / D x 100%	兩份合約在大埔區收集到的海上垃圾數量佔在全港水域收集到的海上垃圾總量的百分比 Percentage of quantities of marine refuse collected in Tai Po District under both contracts over the total quantities of marine refuse collected in the whole of Hong Kong waters	1.96%	2.92%	3.60%	3.07%	2.88%

註： 大埔區合約於2018年10月1日起生效。
Note: The contract for Tai Po District took effect from 1 October 2018.

2020 年巡邏人員發現潔淨狀況低於“良好”級別並指示承辦商進行清理的記錄
Record of patrol officers found cleanliness condition below “Good” level and instructed contractor to clean-up in 2020

巡邏人員於指定時限(註 1)內再次檢查潔淨狀況回復至“良好”級別的次數 Number of times that patrol officers re-inspected cleanliness condition re-established to “Good” level within specified time limited (Note 1)				巡邏人員於指定時限(註 1)後再次檢查潔淨狀況回復至“良好”級別的次數 Number of times that patrol officers re-inspected cleanliness condition re-established to “Good” level after specified time limited (Note 1)				因特殊情況(註 2)承辦商需額外時間回復潔淨狀況至“良好”級別的次數 Number of times that contractor needed additional time to re-establish cleanliness condition to “Good” level due to special circumstances (Note 2)			
第一區 Zone 1	第二區 Zone 2	第三區 Zone 3	非常規 Ad hoc	第一區 Zone 1	第二區 Zone 2	第三區 Zone 3	非常規 Ad hoc	第一區 Zone 1	第二區 Zone 2	第三區 Zone 3	非常規 Ad hoc
16	0	0	0	14	1	0	0	2	0	0	0

註 1： 承辦商須在 30 分鐘、60 分鐘及 120 分鐘內分別將第一區、第二區及第三區的清潔狀況回復至“良好”的級別。
註 2： 特殊情況包括需時調派近岸清潔小隊清理或需要額外時間清理大量漂浮垃圾。

Note 1: The contractor shall re-establish the cleanliness condition to “Good” level within 30 minutes, 60 minutes and 120 minutes in Zone 1, Zone 2 and Zone 3 respectively.
Note 2: Special circumstances include the need for time to deploy foreshore cleaning teams for cleansing work or the need for additional time to clean up large amount of floating refuse.

Appendix H

Numbers of daily cleanliness patrols and helicopter surveillance conducted in the 12 patrol areas (January to December 2020)

Month	Number of daily cleanliness patrols/helicopter surveillance conducted (Note)																							
	Area 1		Area 2		Area 3		Area 4		Area 5		Area 6		Area 7		Area 8		Area 9		Area 10		Area 11		Area 12		Total	
	Harbour		Tolo Harbour		Mirs Bay		Sai Kung		Hong Kong Island East, Tung Lung and Po Toi		Hong Kong Island South and Lamma East		Cheung Chau and Lamma West		Lantau South		Lantau West		Sha Chau and New Territories North		Tuen Mun and Lantau North		Lantau East and Peng Chau			
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
January	29	2	30	-	24	-	5	-	21	-	15	1	7	1	1	1	4	-	3	-	20	1	4	2	163	8
February	26	-	27	-	24	-	3	-	23	-	11	-	9	-	4	-	4	-	6	-	14	-	4	-	155	-
March	31	-	31	-	28	-	4	-	24	-	16	-	8	-	5	-	5	-	6	-	15	-	4	-	177	-
April	26	1	27	-	23	-	5	-	24	1	13	1	2	-	-	-	2	-	1	-	15	-	2	-	140	3
May	30	2	30	-	27	-	6	-	27	-	12	1	7	2	2	2	5	-	8	-	5	-	4	2	163	9
June	30	2	29	-	29	-	2	-	22	-	20	1	5	1	2	1	4	-	9	-	20	1	3	2	175	8
July	31	1	29	-	20	-	5	-	27	-	19	-	9	1	2	1	6	-	12	-	21	-	10	1	191	4
August	31	-	30	-	27	-	5	-	30	-	15	-	6	-	6	-	2	-	10	-	21	-	10	-	193	-
September	30	2	26	-	30	-	6	-	28	-	15	1	10	1	1	1	3	-	4	-	18	1	2	2	173	8
October	29	2	24	-	26	-	3	-	25	1	14	2	5	1	1	1	3	1	11	1	21	1	2	1	164	11
November	30	2	28	1	28	1	4	1	30	1	20	-	10	-	2	-	4	-	16	-	16	-	3	1	191	7
December	31	1	30	-	27	-	5	-	31	-	23	-	31	-	3	-	2	-	27	-	31	1	4	1	245	3
Total	354	15	341	1	313	1	53	1	312	3	193	7	109	7	29	7	44	1	113	1	217	5	52	12	2130	61

Information Source: Daily deployment of patrol duty

Note: Columns (a) and (b) show the number of daily cleanliness patrols and the number of helicopter surveillance conducted respectively.