

A. Introduction

The Audit Commission ("Audit") conducted a review on the procurement and maintenance of government vessels by the Marine Department ("MD").

Background

2. MD, under the policy directives of the Transport and Housing Bureau ("THB") and headed by Director of Marine, is responsible for all navigational matters in Hong Kong and the safety standards of all classes and types of vessels.

3. According to the Stores and Procurement Regulations, MD is the designated endorsement authority and agent for procurement of government vessels. It aims to provide cost-effective marine transport services to government departments. The Government Fleet Division ("GFD") of MD is responsible for the design, procurement and maintenance of government vessels, and managing the Government Dockyard which is the operational and maintenance base of government vessels.

4. The Government New Construction Section ("GNCS") under GFD is responsible for the procurement of vessels for government departments, such as liaising with user departments on their requirements on new vessels, designing, procuring, and supervising the construction of new vessels. As of March 2017, GNCS had an establishment of 11 staff, mainly of the Surveyor of Ships ("SoS") grade¹ and the Ship Inspector grade. The Maintenance Section of GFD is responsible for maintaining government vessels. As of March 2017, the Maintenance Section had an establishment of 106 staff.

5. As at 31 March 2017, the government fleet comprised 848 vessels under the operational control of 14 government departments,² including five disciplined services departments. Among the 848 vessels, 115 were mechanized vessels,

¹ SoSs in GNCS of MD play an important role in the procurement of government vessels. They act as the marine engineer and naval architect for MD on the construction of new vessels.

² These departments are the Leisure and Cultural Services Department, the Hong Kong Police Force, MD, the Fire Services Department, the Agriculture, Fisheries and Conservation Department, the Customs and Excise Department, the Civil Aid Service, the Immigration Department, the Water Supplies Department, the Civil Engineering and Development Department, the Correctional Services Department, the Environmental Protection Department, the Department of Health and the Auxiliary Medical Service.

72 were high-speed craft and the remaining 661 were smaller size or non-mechanized vessels. These government vessels are essential for the safe and efficient operation of the 14 departments.

6. As at 31 August 2017, MD was managing 28 projects with funding approval of \$2,653 million for the procurement of 94 new vessels for seven government departments. In 2016-2017, MD spent \$139.4 million on the procurement of maintenance services for the government fleet and \$141.9 million on the procurement of maintenance materials.

7. The Committee held three public hearings on 8 December 2017, 4 and 9 January 2018 to receive evidence on the findings and observations of the Director of Audit's Report ("Audit Report").

The Committee's Report

8. The Committee's Report sets out the evidence gathered from witnesses. The Report is divided into the following parts:

- Introduction (Part A) (paragraphs 1 to 11);
- Procurement of government vessels (Part B) (paragraphs 12 to 40);
- Maintenance of government vessels (Part C) (paragraphs 41 to 57);
- Management of maintenance materials (Part D) (paragraphs 58 to 70);
and
- Conclusions and recommendations (Part E) (paragraphs 71 to 73).

Speech by Director of Audit

9. **Mr David SUN Tak-kei, Director of Audit**, gave a brief account of the Audit Report at the beginning of the Committee's public hearing held on 8 December 2017. The full text of his speech is in *Appendix 17*.

Opening statement by Acting Secretary for Transport and Housing

10. **Dr Raymond SO Wai-man, Acting Secretary for Transport and Housing**, made an opening statement at the beginning of the Committee's public hearing held on 8 December 2017, the summary of which is as follows:

- in May 2013, the Government established the Steering Committee on Systemic Reform of the Marine Department ("the Steering Committee"). This Committee was chaired by Secretary for Transport and Housing, who personally steered and monitored MD in conducting the review and reform. Since then, MD had, under the leadership and guidance of the Steering Committee, implemented reform measures in a progressive manner in different sections in the department. The Steering Committee published its Final Report in April 2016. This Final Report recommended MD to replicate the good practices introduced in certain divisions in other divisions of MD, notably GFD, which took up over 40% of the manpower and resources of MD, with a view to improving its operations and procedures. In the light of this recommendation, MD had been stepping up its efforts in reforming GFD since 2016;
- THB had all along been providing support at the policy level to MD. THB conducted regular meetings with the management of the department to learn about and monitor the progress of various work duties, with a view to ensuring they were aligned with the relevant targets and policy directions. As and when necessary, THB would provide additional resources to support MD's reform work. Under the steer of THB, MD had since 2013 implemented a series of reform measures to improve the progress and efficiency of the various work duties of GFD;
- the relatively slow progress of MD's vessel procurement work between 2010 and 2013 had led to a backlog of vessel procurement projects and ageing of the government fleet. This was mainly due to a shortage of staff with experience and expertise in procurement at MD. In order to relieve the manpower shortage in GNCS under GFD, THB had provided additional funding for MD to outsource the management work of some shipbuilding projects to external consultants. In addition, with the support of THB, MD had successfully obtained resources to create some time-limited SoS and Senior SoS posts; and

- the Standing Commission on Civil Service Salaries and Conditions of Service ("the Standing Commission") had also completed a grade structure review of the Marine Officer and SoS grades of MD. THB and MD would be working closely with the Civil Service Bureau to facilitate the swift implementation of the recommendations made in the review report, with a view to resolving fundamentally the manpower shortage problem of the two professional grades and ensuring MD would be adequately-staffed to continue with its reform measures.

The full text of Acting Secretary for Transport and Housing's opening statement is in *Appendix 18*.

11. In reply to the Committee's request, **Secretary for Transport and Housing** provided information on the Steering Committee, including its membership and terms of reference, in his reply dated 28 December 2017 (*Appendix 19*).

B. Procurement of government vessels

12. The Committee noted with concern that, according to paragraph 2.4 of the Audit Report, of the 187 mechanized vessels and high-speed craft in service as at 31 March 2017, 76 (41%) vessels had exceeded their expected lifespans by 1 to 12 years. The Committee asked whether the use of these government vessels beyond their expected lifespans would adversely affect their safe operation.

13. **Ms Maisie CHENG Mei-sze, Director of Marine**, explained at the public hearing and in her letter dated 29 December 2017 (*Appendix 20*) that MD attached top priority to safety in maintaining the Government Fleet. A well-maintained vessel could be used safely for years beyond its expected lifespan. Unlike vehicles, every part of a vessel from hull plates to propulsion engine could be replaced if necessary for upkeeping the vessel condition. However, she also pointed out that maintaining a vessel beyond its expected lifespan might not be desirable from value-for-money perspective as it might incur extra maintenance cost and downtime.

14. According to paragraph 2.5 of the Audit Report, in response to Audit's request for examining the five-year rolling plans on procurement of vessels specified in the GFD Circular No. 10/2008, MD said that the application of the circular had been under review since its issuance in 2008. In this regard, the Committee

enquired about the review, in particular the reasons for taking a long time to conduct the review and the expected completion date of the review.

15. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- the Task Force of Reform of MD³ first reviewed the vessel replacement mechanism in October 2016 and suggested that there was a need to update the ship replacement guide taking into account other factors such as vessel types and the operating hours of the vessels (i.e. eight hours or round-the-clock) when determining the vessel expected lifespans instead of solely based on the hull material of the vessels. Besides, since a vessel procurement project would take at least three to five years to complete, it would be much more difficult to consolidate procurement of vessels of similar types from different user departments at the same time. MD thus took the opportunity to start the review on the GFD Circular No. 10/2008;
- since December 2016, GNCS had been working with major user departments on their respective 10-year vessel replacement plans to project the upcoming procurement requirements. The exercise was still ongoing and the experience gained from preparing the 10-year vessel replacement plans was useful and would be consolidated for the review of the Circular;
- in addition, the Supplies Officer grade staff had been providing expert advice to the officers in GNCS in vessel procurement since February 2016 and the experience hitherto gained would also be taken into account in the review of the Circular; and
- the review was expected to be completed in the first quarter of 2018.

16. In reply to the Committee's request, **Director of Marine** provided a copy of the GFD Circular No. 10/2008 in her reply dated 29 December 2017 (*Appendix 20*).

³ A Task Force on Reform had been set up in MD to support the work of the Steering Committee and to assist Director of Marine to take forward the Steering Committee's recommendations.

17. According to paragraph 2.5(b) of the Audit Report, MD said that vessel replacement projects had been hindered by a serious shortage of professional officers in GNCS from 2009 to 2014. Adhering to a rolling procurement plan made at that time might not be reflecting a realistic programme for the user departments. Following the recommendation of the 2016 Audit review on "Procurement and maintenance of fire services equipment" (as reported in Chapter 3 of the Director of Audit's Report No. 67 of October 2016) which covered the Fire Services Department ("FSD")'s vessels, MD had started to work out with major user departments a tentative 10-year vessel replacement plan since December 2016. In this regard, the Committee asked MD to further explain the reasons for adopting a 10-year vessel replacement plan since December 2016 and the implementation progress.

18. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- considering that a vessel procurement/replacement project would take at least three to five years to complete, it was considered that a five-year rolling plan was insufficient to fulfil the purpose of long term planning for user departments. MD had therefore adopted a more pragmatic approach in preparing a 10-year vessel replacement plan for user departments, which was a more comprehensive planning to meet the operational needs of user departments, and provide a more accurate forecast on the manpower resources requirement for MD to take forward these projects. A longer term planning provided the opportunity for bundling similar procurement projects into a single tender to shorten tender preparation time, reduce cost of tender administration and achieve economy of scale in procurement. Hence, MD had worked with FSD to prepare a 10-year vessel replacement plan for the latter in December 2016 as a start; and
- MD was now working with other major user departments, including the Hong Kong Police Force, the Customs and Excise Department, the Agriculture, Fisheries and Conservation Department, and user sections within MD to formulate their 10-year vessel replacement plans.

19. As revealed in paragraph 2.6 of the Audit Report, of the 76 vessels serving beyond their expected lifespans, 22 (29%) had not been included in the July 2017 vessel replacement plan, and that MD had not conducted condition assessments for two vessels and there were inadequate follow-up actions on the assessment results for 18 vessels. The Committee was concerned about the safety of these vessels, and

enquired about their safety conditions and the measures taken/to be taken on these cases.

20. **Mr Freely CHENG Kei, Deputy Director of Marine (Special Duties)**, said at the public hearing and **Director of Marine** supplemented in her letter dated 29 December 2017 (*Appendix 20*) that:

- MD had been conducting inspections and maintenance services to these 22 vessels, from time to time, which included preventive services and running repairs as necessary to ensure safety;
- regarding the two vessels that MD had not conducted condition assessments, they were specialized vessels for pollution control and mainly put on stand-by mode for emergency readiness (i.e. oil pollution at sea), their conditions were assessed to be satisfactory owing to their operation mode and low frequency of use in comparison with other vessels of similar age. MD had been conducting preventive services and running repairs to these two vessels to ensure that they were safe and efficient to operate despite the fact that condition assessments were not conducted previously; and
- as regards the assessments results for 18 vessels, although the expected lifespans of the 18 vessels had been exceeded, they were continuously maintained and under the close monitoring by the maintenance staff of MD. For vessels which had been advised for replacement according to the assessment results, GNCS was now working with the users concerned to formulate their 10-year vessel replacement plans and would assist them to kick start the replacement work as early as possible. For other vessels which were subject to further assessments, they were still in satisfactory condition based on their maintenance records. MD considered that there was no imminent need to conduct further condition assessment to trigger vessel replacement at the material time. Nonetheless, condition assessments for these vessels were being arranged.

21. The Committee noted with concern that, according to paragraphs 2.9 and 2.10 of the Audit Report, as at 31 August 2017, of 25 ongoing procurement projects for 90 major government vessels, 12 projects had experienced delays, including five projects which missed their target vessel delivery dates by five months to four years, and seven projects which were still in tender/shipbuilding stage some four

to six years after funding approval. Most of the 12 projects involved the replacement of vessels of disciplined services departments. The Committee asked MD to provide measures taken/to be taken to speed up the implementation of these delayed procurement projects.

22. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- the relatively slow progress in the procurement of government vessels during the period from 2010 to 2013 was mainly attributable to a shortage of staff with procurement experience in MD;
- new vessels were usually tailor-made and thus took more time to procure. In general, it would take three to five years to complete the entire procurement process including design, finalizing requirements of user departments, tendering, supervising vessel construction, testing and delivery. Once there was a backlog of government vessel procurement projects, it would be difficult to clear them within a short period of time;
- MD had implemented a series of measures to expedite the replacement of government vessels as a means to lower the average age of the fleet with details as follows:
 - (a) MD had strengthened the management oversight of GFD by changing the reporting line of GFD to Deputy Director of Marine (Special Duties) in phases since December 2015. Furthermore, Director of Marine and Deputy Director of Marine (Special Duties) had attended the Government Dockyard management meetings since February 2016 on a regular basis;
 - (b) in order to strengthen the manpower for government vessel procurement, apart from recruiting retired civil servants to serve as Contract SoS in GNCS to assist in the related work, MD had obtained additional resources to enhance the staffing of GNCS, including the creation of three additional SoS posts on a time-limited basis from 2014-2015 to 2021-2022 and the creation of an additional Senior SoS on a time-limited basis from 2017-2018 to 2021-2022. With the creation of these additional SoS grade posts, MD was able to form two procurement teams

comprising a total of eight SoS grade staff posts for clearing the vessel procurement projects;

- (c) two Supplies Officer grade staff with rich procurement experience had been deployed to GNCS since early 2016 to assist in vessel procurement work. With the assistance of the Supplies Officer grade staff, GNCS had implemented a series of measures to improve the procurement procedures since early 2016, including standardization of provisions of tender documents and contracts, and the bundling of procurement projects involving vessels of the same type in tendering, so as to speed up the vessel procurement work; and
 - (d) MD had been proactive in outsourcing some of the management work of shipbuilding projects to external consultants on the condition that the work should be subject to the supervision of MD staff, so as to further expedite the progress of shipbuilding work; and
- from January 2016 to November 2017, MD had already conducted 11 tender exercises involving 52 government vessels for six departments. Other vessel procurement projects with funding approved were also underway.

23. The Committee noted from paragraph 2.13 of the Audit Report that GNCS took almost three years (from December 2009 to October 2012) to review the marking scheme for tender assessment resulting in delays of 4 months to 2.8 years for nine procurement projects of 29 vessels. According to paragraphs 2.14 and 2.15 of the Audit Report, there was no record showing any reporting/discussion at the meetings of the Government Dockyard or MD's senior management of the likely impact of the protracted review and any possible measures to mitigate the impact. There was also no record showing that MD had responded to the Department of Justice's suggestion in December 2010 that MD should review the need for using a marking scheme. Under these circumstances, the Committee was concerned about the supervision within MD and enquired about the reasons for taking almost three years to review the marking scheme.

24. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- the Central Tender Board advised MD in December 2009 to refine the provision on discretion of the marking scheme in consultation with the Department of Justice. At that time, MD would like to take the opportunity to conduct a fundamental review on the marking scheme with a view to establishing a refined standard marking scheme suitable for all vessel types to save tender preparation time. As the review was very complicated and there was no Supplies Officer grade staff in GNCS to provide technical advice at that time, it took a long time for the GNCS staff to review the marking scheme;
- due to the uniqueness of individual vessel types, it was finally concluded in April 2012 by all relevant parties that establishing a refined standard marking scheme suitable for all vessel types was not feasible. Instead, a marking scheme for a specific vessel type was submitted to the Central Tender Board for approval;
- MD had searched all available records, but there was no record showing any discussion of the impact of the review of the marking scheme on the procurement projects, and/or measures to mitigate the impact at the meetings of the Government Dockyard or MD's senior management. This was due to unsatisfactory record keeping in MD at the material time. The situation had been improved since May 2014. Notes of meeting were prepared for regular meetings with the senior management to record the deliberations of the meetings;
- while there was also no record in MD showing that it had responded to the Department of Justice's suggestion of December 2010 to review the need for using a marking scheme, MD had in fact followed the Department of Justice's advice. During 2012 to 2014, there were three projects making use of marking scheme and the use of marking scheme for three tendering projects was considered not necessary; and
- with the lesson learnt from the review and in hindsight, to avoid recurrence of similar incident, MD should have adopted a dual track approach, i.e. continuing the procurement work using the previous marking scheme with the provision on discretion reviewed, while conducting the comprehensive review of the marking scheme in parallel and keeping the senior management updated and obtaining

steer if required, and actively and closely liaising with relevant parties to resolve any issues encountered as early as possible.

25. According to paragraph 2.14 and Appendix C of the Audit Report, MD had stopped using marking scheme for new construction projects since the Financial Services and the Treasury Bureau ("FSTB") issued Circular Memorandum No. 8/2014 (in *Appendix 21*) in August 2014 to remind bureaux/departments to avoid excessive use of marking scheme. In this connection, the Committee asked how MD interpreted FSTB Circular Memorandum No. 8/2014 and the evaluation criteria used by MD in tender assessment since then.

26. **Director of Marine** said at the public hearing and stated in her letters dated 1 and 29 December 2017 (*Appendices 22 and 20* respectively) that:

- a briefing session on the subject matter was held by the Government Logistics Department on 12 January 2015 for officers in bureaux/departments responsible for handling procurement matters and most of the GNCS staff responsible for vessel procurement attended the briefing;
- it had been MD's understanding that the use of marking schemes in tender evaluation was not the only means to secure better quality for the goods and services procured. FSTB Circular Memorandum stipulated that setting clear and attainable quality-based tender specifications, cutting excessive "essential requirements" especially those at risk of protecting the interest of incumbents, and proactive marketing of tenders which repeatedly attracted only one or two bidders were often more direct and effective for promoting real competition. Some 70 to 80% of contracts with marking schemes approved by the Central Tender Board and the Government Logistics Department Tender Board between January 2012 and May 2014 were ultimately awarded to bidders with the lowest price offered, and that it was debatable whether the use of marking schemes had offered extra safeguard to the quality of the tender returns in these cases;
- based on the above figures and after careful consideration, MD considered that setting essential requirements, including technical specifications, clearly as assessment criteria in the tender documents could serve the same objective for using marking scheme to secure

good quality for the vessels to be procured from a value-for-money perspective; and

- MD had not used marking schemes in tender evaluation for procurement of government vessels since the second quarter of 2014. Since then, in each vessel procurement exercise, MD would assess if the evaluation criteria in tender assessment as mentioned in *Appendix 20* were sufficient and appropriate to handle the project, and marking scheme would only be used if considered necessary.

27. The Committee further asked FSTB about the Administration's policy on the use of marking scheme for tender assessment and its views on MD's decision to stop using marking scheme for new construction projects upon receipt of FSTB Circular Memorandum No. 8/2014.

28. **Secretary for Financial Services and the Treasury** explained in his letter dated 21 December 2017 (*Appendix 21*) that:

- as procurement was conducted to meet departments' operational needs, procuring departments were responsible for formulating their procurement plan and tendering strategy, including whether a marking scheme should be adopted;
- in general, a marking scheme was used when price was not the sole consideration and the quality of the goods/services procured was an important consideration. If a procuring department decided to adopt a marking scheme in a tender exercise, it should have user-friendliness in mind and avoid lengthy or overly complicated design of the marking scheme as set out in FSTB Circular Memorandum No. 8/2014. Procuring departments were reminded to critically review the need and continued need for the adoption of marking schemes and avoid any excessive use;
- according to MD, since 2016, it had stopped using a marking scheme for tender evaluation of new vessel construction projects. Instead, MD had specified the more important requirements originally assessed in the relevant standard marking scheme (e.g. tenderers' relevant past experience and vessels' technical specifications) as "essential requirements" to ensure the quality of the procured vessels.

Non-compliance with these essential requirements would render the tenders non-conforming; and

- FSTB trusted that it was MD's conscious decision to cease adopting a marking scheme for this type of procurement after considering the department's operational need and the pros and cons involved. MD had continued to use marking schemes in tenders for the provision of marine cleansing services in 2016 and 2017.

29. In view of the serious shortage of SoS grade staff in MD as well as the recruitment and succession problems of SoSs as revealed in paragraphs 2.17 and 2.21 of the Audit Report, the Committee enquired about the actions taken to mitigate the impact of the shortage of SoS grade staff on the delivery of procurement projects, and the measures taken/to be taken by MD to address the difficulties of recruiting new SoSs while at the same time ensure that they possessed the mechanical knowledge essential to the procurement of vessels. The Committee also asked about the measures taken/to be taken to retain experienced SoSs and re-appoint retired SoSs.

30. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- MD had implemented various stop-gap measures in order to cast a wider net in recruiting SoSs in recent years, such as granting of incremental credits for working experience, relaxation of the language proficiency requirement and waiving/relaxation of entry requirement on working experience through sub-entry point. MD had also recruited retired SoSs in GNCS under the Non-Civil Service Contract Staff Scheme and Post-retirement Service Contract Scheme to assist in the related work and had launched direct recruitment for Senior SoSs;
- for medium-term and long-term measures, the Standing Commission completed a review of the grade structure of the SoS grade and the Marine Officer grade of MD and submitted a report to the Chief Executive on 31 October 2017. The proposal was discussed and received members' support at the meeting of the Panel on Public Service of the Legislative Council on 22 December 2017; and
- with the introduction of the Further Employment beyond Retirement Age policy in June 2017, MD would go through a due process to

consider the need to employ staff beyond their retirement age under this policy after completing the 2018 promotion board of the SoS grade.

31. Noting that the limited supply of maritime professionals was an industry-wide phenomenon and one of the key factors contributing to the recruitment difficulties of SoSs, the Committee asked THB about the measures taken/to be taken by the Administration to address the shortage of manpower in the maritime industry at the policy level.

32. **Mr Frank CHAN Fan, Secretary for Transport and Housing**, explained at the public hearing and in his letters dated 18 and 19 January 2018 (*Appendices 23 and 24* respectively) that:

- THB was aware that there had been a general scaling down of ship maintenance industry in Hong Kong mainly because nowadays it had been more common for ship building work to be carried out on the Mainland;
- a Manpower Development Committee had been formed under the Hong Kong Maritime and Port Board⁴ to monitor the supply and demand of maritime and port manpower and formulate manpower strategies, initiatives and programmes to support Hong Kong's maritime and port development;
- to nurture talents for the long-term development of the maritime and port industry, the Government established the Maritime and Aviation Training Fund ("MATF") with a commitment of \$100 million in April 2014. MATF was aimed at attracting and encouraging young people and in-service practitioners to receive aviation and maritime education and training, thereby enhancing the overall competitiveness and the professional standards of the industries. On maritime front, as at end-2017, MATF had already benefitted over 2 780 students and maritime practitioners, involving an amount of \$31 million. At

⁴ The Hong Kong Maritime and Port Board was set up by the Government in April 2016. Chaired by Secretary for Transport and Housing, it provides a high-level platform for the Government to work closely with the industry to map out policies and initiatives for the further development of the Hong Kong's maritime industry and port.

present, there were a total of 12 maritime-related training subsidy and incentive schemes funded under MATF;

- as an example, the Ship Repair Training Incentive Scheme, one of the incentive schemes funded under MATF, was aimed at attracting people of suitable calibre to receive training and become skilled workers to alleviate the workforce shortage in the ship repair industry. Under the Scheme, a maximum subsidy of \$54,000 was provided to eligible graduates of the Vocational Training Council who had enrolled for apprenticeship in the ship repair industry over a maximum period of 36 months;
- sponsorships were also provided under MATF for respective maritime-related organizations to organize promotion activities targeting secondary and tertiary students to introduce them to the maritime industry and seafaring careers; and
- to step up promotional efforts to encourage young people in Hong Kong to join the maritime profession, the Administration had been participating in the annual Education and Careers Expo and organizing various maritime promotion and awareness events during the Hong Kong Maritime Week. The Administration had also been collaborating with the maritime industry to provide internship positions for tertiary students under the Maritime and Aviation Internship Scheme. Since its inception in 2014, a total of 557 students had undertaken the internship places offered by 118 maritime-related companies under the Maritime and Aviation Internship Scheme.

33. According to paragraph 2.23 of the Audit Report, as a measure to clear the backlog of vessel procurement projects, MD obtained funding of \$35.44 million from THB in October 2013 to engage consultants from 2014-2015 to 2016-2017 to manage 10 procurement projects of 26 vessels. However, according to paragraph 2.24 of the Audit Report, up to August 2017, MD only engaged consultants to assist in the management of six vessel procurement projects of 16 vessels. The Committee enquired about the reasons for the slow progress in outsourcing the project management work and the division of work between GNCS and the consultants in the management of these procurement projects.

34. **Director of Marine** said at the public hearing and stated in her letter dated 29 December 2017 (*Appendix 20*) that:

- for consultants engaged prior to the award of shipbuilding contracts, they were under the supervision of GNCS, and responsible for arranging meetings with stakeholders (including GNCS, user departments, equipment suppliers, etc.) for preparation of the conceptual design of vessels, conducting feasibility study and preparation of vessel design and technical specifications. GNCS, in addition to monitoring the consultant's work, was responsible for preparation of tender documents, tendering and evaluation as well as award of shipbuilding contracts;
- for consultants engaged after the award of shipbuilding contracts, they were also under the supervision of GNCS, and responsible for project management, including monitoring of progress, plan review of drawings, supervising vessel construction, dock trial and equipment commissioning, and sea trial and vessel delivery. GNCS, in addition to monitoring the consultant's work, was responsible for confirmation of milestones completion, arranging payment and vessels acceptance, etc.;
- MD had engaged one, two, two and nine⁵ consultancy services in 2014, 2015, 2016 and 2017 respectively;
- as the outsourcing of project management of shipbuilding to help relieve MD's manpower shortage at that time was a new frontier of work for MD, the outsourcing work was slow at the start as it had taken some time to ascertain the market response of such consultancy services, deliberate the division of labour between consultants and the GNCS staff, and prepare the relevant consultancy briefs and selection documents for outsourcing. There was significant improvement after gaining experience on outsourcing. MD had accumulated better knowledge on market response as well as developing the necessary documents for the consultant selection process; and
- with the manpower shortage situation improved and the backlog in procurement projects gradually cleared, it was envisaged that the need for engaging consultancy services could be reduced in future.

⁵ Including three invitations on consultancy services under evaluation.

35. In view of the delays in implementing a number of the vessel procurement projects, the Committee further asked THB about the actions taken by THB to urge MD to expedite actions in the procurement of government vessels since 2013 and measures taken/to be taken to improve the monitoring by THB of MD's procurement projects.

36. **Acting Secretary for Transport and Housing** said at the public hearing and **Secretary for Transport and Housing** explained in his letters dated 28 December 2017 and 24 January 2018 (*Appendices 19 and 25 respectively*) that:

- Secretary for Transport and Housing and Permanent Secretary for Transport and Housing (Transport) had regular meetings, generally on a monthly basis, with the senior management of MD including Director of Marine. MD reported to THB the overall work performance and progress on various issues, and brought to THB issues requiring the Bureau's attention and sought its policy steer as and when necessary;
- certain indicators had been developed and adopted to help monitor MD's work. These indicators were set out in the annual MD's Controlling Officer's Report. THB and the management of MD would assess and monitor the performance accordingly, and examine the issues and reasons in case a target was not met, as well as consider whether further steer and guidance from THB was necessary;
- according to file records, THB was made aware of a delay in the procurement of government vessels in August 2013. Acknowledging the need to catch up the tendering schedule for vessel procurement, THB provided policy support to MD in seeking additional resources to tackle the outstanding caseload;
- to provide immediate relief, THB approved funding of \$35.44 million in October 2013 for MD to engage consultants for procurement projects. As a longer term measure, THB gave policy support for MD to create three time-limited SoS posts up to 2018⁶ to complete the outstanding and new anticipated projects;
- THB worked with MD to understand the causes of delay in tendering, and provided the necessary steer at the policy level. Meanwhile, the

⁶ MD supplemented that the three time-limited SoS posts had been subsequently extended to 2021-2022. Please refer to paragraph 22 of this Chapter for further information.

Steering Committee conducted a thorough review on various aspects of MD's operation, including its long-term manpower planning, records and documentation keeping, internal monitoring and reporting mechanism; and

- THB had assessed the timetable and resources needed in the procurement of vessels based on the most realistic and accurate information provided by MD at that time. THB had agreed to the observations and recommendations in the Audit's Report, and would continue to provide the necessary steer to MD to ensure the recommendations therein were properly followed up.

37. According to paragraphs 2.28 and 2.29 of the Audit Report, discrepancies were found in the tender documents of two vessel procurement projects after invitation of tenders. As a result, the procurement contracts of one of the two projects had to be re-tendered, and the project was delayed by one year. The Committee enquired about the underlying causes of the discrepancies and the measures to be taken to prevent recurrence of similar problems.

38. **Deputy Director of Marine (Special Duties)** said at the public hearing that the discrepancies between the tender notices and tender documents were caused by the omissions of the staff members handling the cases, and MD had stepped up the checking of the tender documents by requiring the two procurement teams to cross-check and verify the important information therein.

39. The Committee noted from paragraphs 2.33 to 2.35 of the Audit Report that frequent machine failures were found in two new vessels during the warranty period from February 2015 to February 2016 and/or in the following year, resulting in downtime of 196 days and 125.5 days respectively. In this regard, the Committee enquired about the reasons for not conducting any review of the excessive downtime of the two vessels up to August 2017, measures to be taken to prevent recurrence of similar problems and the penalty measures instigated on the contractor concerned.

40. **Mr CHAN Ming-yau, General Manager/Government Dockyard of MD,** said at the public hearing and **Director of Marine** supplemented in her letter dated 29 December 2017 (*Appendix 20*) that:

- up to November 2017, MD had given priority to urging the contractor to rectify the defects found and pressing the contractor to ensure the repair items would operate smoothly under their expenses, as well as instigating penalty measures on the contractor. MD had started the review on the issue;
- after the contractor had fixed the defects in March 2017, only a defect of the alarm on one vessel occurred once on 25 July 2017. Adjustment was made to the alarm panel by the manufacturer to resume the system back to normal where no downtime was involved as it did not affect the operation of the vessel;
- to avoid the recurrence of similar incidents, MD had taken the following measures:
 - (a) reduction in waiting time for spare parts - MD had enhanced the availability of essential spare parts by including the items in new shipbuilding contracts with a view to reducing the waiting time for spare parts. In addition, regular reviews on the stock level of essential spare parts for vessels were conducted to ensure that maintenance needs could be met effectively taking into account the trend of utilization of relevant items;
 - (b) improvement of internal work coordination - MD had strengthened GNCS's monitoring on ship construction work and a checklist had been devised to ensure that all necessary items were in satisfactory condition at surveys during shipbuilding stage and vessel acceptance. A special team comprising project surveyor and technical staff had been set up to look after the vessels under warranty; and
 - (c) relief of manpower shortage - MD had been engaging consultants to supervise the construction of vessels at the shipyard to ensure the quality of the design, craftsmanship and construction of the vessels with a view to relieving the manpower shortage of GNCS;
- MD had agreed with the contractor that the contractor was required to step up monitoring of the condition of certain key items and bear the repair cost of such items even after the extended warranty period; and

- MD had also instigated penalty measures on the contractor concerned, including the extension of the warranty period of three months after the expiry of the 12-month warranty period and issuing a warning letter to the contractor to reiterate the relevant provisions of the tender document for the Government to exercise its rights in future award of tenders.

C. Maintenance of government vessels

41. According to paragraph 3.3 of the Audit Report, MD's work on the maintenance of government vessels was important to support the work of various user departments, especially the disciplined services departments in carrying out law enforcement and emergency duties. However, the availability rates of government vessels as reported by MD in its Controlling Officer's Report to monitor vessel availability to all users decreased from 88.8% in 2007 to 86.1% in 2016. The availability rates were lower than the performance target of 87% in 2009, 2015 and 2016, ranging from 86.1% to 86.4%. The Committee enquired about the measures to be taken to improve the declining rate of vessel availability.

42. **Director of Marine** stated in her letter dated 29 December 2017 (*Appendix 20*) that the measures taken by MD included:

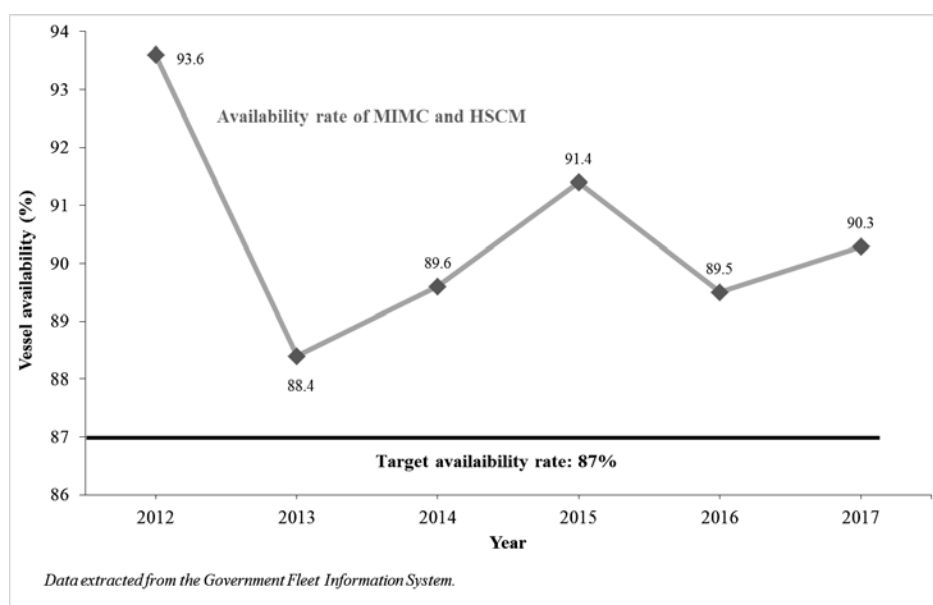
- setting up a special vessel inspection team in the Maintenance Section to arrange on-site inspection and maintenance at the marine bases of user departments;
- conducting weekly meetings among the Maintenance Section, the Supplies Services Unit and the team responsible for ship repair coordination and sea trial, etc. to plan for the maintenance work by arranging spare parts and coordinate the use of the shipyard maintenance facilities as early as possible so as to shorten the waiting time for spare parts and shipyard maintenance facilities; and
- exploring the feasibility of optimizing the Government Fleet Information System ("GFIS") to enable MD to analyse the past trend on spare part consumption and order the required spare parts in advance so as to reduce the waiting time for spare parts.

43. According to paragraph 3.5 of the Audit Report, while MD stated in its Controlling Officer's Report that the target vessel availability rate was set for all users, the reported availability rates only covered two of the four major classes of vessels (i.e. the major mechanized vessels and high-speed craft (large type)). In addition, as stated in paragraph 3.6 of the Audit Report, the downtime for repair carried out outside the Government Dockyard was not taken into account in the calculation of the availability rates. In this regard, the Committee asked about the reasons for only covering two of the four major classes of vessels in reporting availability rates, the reasons for not taking into account the downtime for repair carried out outside the Government Dockyard in the calculation and the measures to improve the reporting and calculation of vessel availability rates.

44. **Director of Marine** said at the public hearing and stated in her letter dated 17 January 2018 (*Appendix 26*) that:

- MD had to monitor closely the availability of major mechanized vessels and high-speed craft (large type) as they were mission critical vessels which were vital to the operations of user departments. Breakdown of these two classes of vessels would hinder user departments' operations as the maintenance and repair work for these vessels was usually more time-consuming, and there were only a limited number of reserve vessels available for respective user departments. Thus, MD considered that the availability rates of these vessels would more aptly reflect MD's performance in maintaining the government vessels;
- for the remaining two classes of vessels, i.e. minor mechanized vessels and high-speed craft (medium type), more reserve vessels in respective user departments were available for use in case of sudden vessel breakdown. The time required for repair services for these two classes of vessels was relatively short and the chance of affecting user departments' operations due to vessel breakdown was relatively low;
- although the figures for minor mechanised vessels and high-speed craft (medium type) were not reported in the Controlling Officer's Report, MD had been monitoring the availability rates of these vessels continuously. The availability rates of these two types of vessels from 2012 to 2017 are shown in the graph below:

Procurement and maintenance of government vessels



Note: MIMC - Minor mechanised vessels
HSCM - High-speed craft (medium type)

- from the graph above, it was noted that the vessel availability rates for minor mechanised vessels and high-speed craft (medium type) were continuously above the performance target of 87% for the past six years. Exclusion of the availability rates of these two classes of vessels in MD's Controlling Officer's Report might have actually deflated, rather than inflated, MD's performance in government vessel maintenance. That notwithstanding, MD agreed with the recommendation in the Audit Report and would consult relevant parties, including the user departments concerned, to consider a more effective way to report the vessel availability rates in the Controlling Officer's Report;
- as regards the maintenance and repair work carried out outside the Government Dockyard, they were usually minor and simple in nature. Examples of such work included repair of fluorescent lamp and wiper and fixing of oil leakage of the engine and exhaust pipe, which could normally be completed within two hours. In order not to cause interruption to the operations of the user departments, MD would liaise with the user departments in advance to arrange for such work to be carried out at a time when the vessels had returned to their bases upon completion of operations. Under this arrangement, the normal operation of the government vessels could be maintained and the downtime arising from these minor repairs was minimal; and

- the Task Force of Reform of MD was reviewing the Arrival and Completion Form so as to improve the reporting and calculation of vessel availability rates. MD would also consult user departments on the review of the calculation methods of vessel availability rates.

45. In response to the request of the Committee, **Director of Marine** provided in her replies dated 17 and 23 January 2018 (*Appendices 26 and 27* respectively) the downtime of maintenance and repair inside the Government Dockyard of the four major classes of vessels by user departments from 2012 to 2017 and statistics, including the frequency and service time, on routine engine oil replacements and engine inspections for major government vessels in 2017 respectively.

46. In reply to the Committee's enquiry about the maintenance staff stationed at MD's user departments, **Director of Marine** stated in her reply dated 17 January 2018 (*Appendix 26*) that, as an example, there were 15 MD maintenance staff stationed at the five regional forward bases of the Marine Police, i.e. Sai Kung, Tai Lam Chung, Ma Liu Shui, Sai Wan Ho and Aberdeen respectively. The maintenance staff belonged to the Artisan grade and were required to carry out on-site minor repairs on the fittings, installations, equipment and machineries of the Hong Kong Police Force vessels at the forward bases.

47. As revealed in paragraph 3.8 of the Audit Report, the total downtime of the four major classes of vessels increased by 24.6% from 2012 to 2016, with the average downtime per vessel increasing from 36 days in 2012 to 44 days in 2016. According to paragraph 3.9 of the Audit Report, MD said that the main reason for the increase in downtime was the ageing problem of the government vessels and with a view to counteracting the ageing effect of the vessels, such as maintaining their service speed, preventive service had been enhanced which also caused extra downtime. The Committee also noted from Table 10 of paragraph 3.16 of the Audit Report that the estimated contract values of maintenance contracts had increased from \$87.3 million in 2012-2013 by 98.6% to \$173.4 million in 2016-2017 due to the increase in number of major vessels receiving preventive service. The Committee asked whether it was cost-effective to maintain vessels serving beyond their expected lifespans in this regard.

48. **Director of Marine** reiterated at the public hearing and in her letter dated 29 December 2017 (*Appendix 20*) that it was not desirable from value-for-money perspective to maintain vessels serving beyond their expected lifespans having regard

to the extra maintenance costs to be incurred and increased downtime. However, in view of the ageing problem of the government vessels, it was a responsible move for MD to acquire additional resources to enhance adequate preventive maintenance service to vessels serving beyond their expected lifespans to ensure that the vessels were safe to operate.

49. Responding to the Committee's enquiry about the basis for the classification of "Major reason" for extra downtime for preventive service of four major classes of vessels from 2012 to 2016 in Table 9 of paragraph 3.11 of the Audit Report, **Director of Marine** stated in her letter dated 17 January 2018 (*Appendix 26*) that:

- the seven "Major reasons" classified for extra downtime for preventive service of the four major classes of vessels were common and frequently occurred reasons leading to extra downtime. The reasons grouped under "Others" were those which could not be grouped under the seven "Major reasons" and these reasons did not occur frequently; and
- examples of reasons grouped under "Others" are as follows:

Material warranty claims to suppliers

- (a) during the five-year period from 2012 to 2016, there was only one warranty claim case in 2016. In this case, the supplier was required to rectify a defective material part on the request of the maintenance inspector. Repeated sea trials and testing were carried out to ensure that the quality was to the satisfaction of MD. The extra downtime caused was 14 days, which was about 44% of the 32 days under the "Others" category in 2016;

Dimension measurements

- (b) the length of the vessel's hull plating at the engine compartment had to be very accurate to ensure the safe and smooth operation of the main propulsion engines and tail shaft. If there was change in vessel length beyond the tolerance level after the replacement of hull plates, dimension measurements had to be carried out to check and rectify the discrepancy. The dimension measurement work was a post-maintenance follow-up which did not occur frequently and hence could not be anticipated at the stage of preparing the maintenance tender/quotation; and

Remedial hull painting work

- (c) after hull painting work was completed, the maintenance inspector would conduct quality check on the painting work. If it was found that the work was not satisfactory, the contractor would be requested to conduct remedial hull painting work until the quality was up to the required standard.

50. The Committee noted from paragraph 3.12 of the Audit Report that extra work not covered in service contract had caused delays to the maintenance work of 32 vessels by 1 to 17 days each in 2016. The Committee enquired about the number of contract variations and new contracts involved and measures taken/to be taken to minimize extra work after the award of a contract.

51. **Director of Marine** stated in her letter dated 17 January 2018 (*Appendix 26*) that:

- while the number of new contracts involved was 25, no contract variation was made for the extra maintenance work of the 32 vessels in 2016. In considering contract variation, MD followed the guiding principles set out in the Stores and Procurement Regulations. According to the relevant guidelines, contract variation should be avoided as far as possible and should normally be used as a stop-gap measure. It was because contract variation might be perceived as single quotation to the existing contractor, which would preclude other potential service providers from bidding under the principles of fair competition and transparency;
- regarding the extra maintenance work of the 32 vessels carried out in 2016, MD noted that, in view of the small value of the extra maintenance work involved, the time taken for obtaining quotations from potential service providers to provide the extra work would not be longer than the time required for contract variation. Besides, in some cases, the original contractor did not have the expertise to carry out the extra maintenance work involved. In these cases, contract variation could not be done;

- to minimize the extra work after the award of a contract during preventive maintenance, the scope for pre-docking inspection had been extended to ensure all maintenance work would be included in the specifications of the service contracts as far as practicable; and
- MD was considering the enhancement of GFIS to analyse past maintenance records with a view to predicting the upcoming maintenance needs and the materials required which would also help minimize extra work after award of a contract.

52. Referring to Case 3 in paragraph 3.13 of the Audit Report on the flooding of a high-speed craft of the Hong Kong Police Force, the Committee asked about the actions to be taken to prevent recurrence of similar problems. **General Manager/Government Dockyard of MD** said at the public hearing and **Director of Marine** stated in her letter dated 29 December 2017 (*Appendix 20*) that subsequent to the initial investigation report conducted by MD, instruction was given to the maintenance inspectors of MD in conducting similar inspection on this type of vessel on 27 September 2017, including the maintenance materials to be used during preventive services. A copy of the initial investigation report prepared by MD is at *Appendix 20*.

53. According to paragraph 3.18 of the Audit Report, MD had 33 term contracts for the maintenance of government vessels in 2016-2017. Among the 33 term contracts, Audit noted that 23 (70%) were each awarded to the only bidder, indicating that there had been limited competition in the procurement exercises. In this regard, the Committee enquired about the measures to be taken by MD to enhance competition in the procurement of vessel maintenance services, whether consideration would be given to seeking advice from the Competition Commission on how to promote competition in the procurement exercises and whether anti-competition conduct/agreement might be involved.

54. **Director of Marine** said at the public hearing and stated in her letters dated 29 December 2017 and 17 January 2018 (*Appendices 20 and 26* respectively) that:

- starting from early 2017, MD introduced a range of measures to enhance the competitiveness of procurement of vessel maintenance services. Since early 2017, the contract periods of a total of 20 fixed-term maintenance contracts had been increased from one year to two years. So far, out of a total of 33 fixed-term service contracts,

the contract periods of 26 contracts had been designated as two years. For the remaining seven fixed-term service contracts, MD would also consider increasing their contract periods from one year or 18 months to 2 years;

- taking into account market affordability and its impact on small businesses, MD had adopted the tendering strategy of consolidating same type of maintenance service contracts as far as possible to enhance the attractiveness of the contracts to bidders; and
- MD had requested the Corruption Prevention Department of the Independent Commission Against Corruption to examine the existing arrangements in procurement exercises to examine whether there was any risk of corruption. MD had also approached the Competition Commission to discuss relevant issues for a possible study to ensure that the procurement process was fair and competitive to potential bidders.

55. In reply to the Committee's request, **Director of Marine** provided the number of invitations to bid sent to the maintenance service providers as well as the number of bids received in each of the procurement exercises in 2016-2017 in her letter dated 17 January 2018 (*Appendix 26*).

56. As revealed in paragraph 3.21 of the Audit Report, there was a case where the payment of \$1.68 million for 98 work items completed under four successive terms of a maintenance contract from 2010 to 2014 had been delayed. The Committee was concerned about the deficiencies in MD's procurement and payment mechanism, and enquired about the reason for the delay and the measures taken/to be taken to prevent recurrence of similar incidents.

57. **Director of Marine** said at the public hearing that:

- the incident was caused by the failure on the part of the subject inspector to submit the invoices received from the contractor for payment as the subject inspector found that there was insufficient balance in the approved contract value to cover the payments required; and

- it was an individual case and MD had checked and confirmed that there were no other similar cases. The situation had improved with the introduction of a number of measures to enhance the management of term contracts, such as all invoices issued by term contractors should be submitted to the Administration Tender and Security Services Unit of the Administration Branch of MD centrally, and GFIS was enhanced to assist the management in monitoring the actual expenditure against the relevant term contracts.

D. Management of maintenance materials

58. The Committee noted from paragraph 4.5 of the Audit Report that, after a stock review in July 2013, MD identified 8 023 items of slow-moving stock (i.e. those without movement for over five years) with a total value of \$54.6 million. In this regard, the Committee asked about the write-off policy for stock items in MD and the number of items and the amount involved for spare parts written off in the past three years, and how these items were disposed of.

59. **Director of Marine** said at the public hearing and stated in her letter dated 18 January 2018 (*Appendix 28*) that MD followed the guiding principles set out in the Stores and Procurement Regulations to write off stock items that were unserviceable. According to the relevant guidelines, a Departmental Disposal Committee had been established to process the disposal cases of unserviceable stock items for approval of the appropriate authority. In the past three years, a total of 78 items of spare parts involving a total amount of \$2.6 million had been written off by MD by means of commercial disposal (auction exercises) in two disposal cases.

60. As revealed in paragraph 4.10 of the Audit Report, notwithstanding the system enhancements in 1999 and 2015, some intended benefits of GFIS could not be realized, such as re-order levels generated by GFIS and the use of barcodes for inventory items. In this regard, the Committee requested MD to provide the measures to enhance the functions of GFIS together with the implementation timetable and the costs involved to address these issues.

61. **Mr Allen LEUNG Chun-hung, Chief Management Services Officer (Special Duties) of MD**, said at the public hearing and **Director of Marine** stated in her letter dated 17 January 2018 (*Appendix 26*) that:

- GFIS, first implemented in 1994 and subsequently enhanced in 1999 and 2015, was an online computer system providing an integrated operation platform for Government Dockyard to manage its physical assets, plan maintenance activities and initiate the processes of maintenance/spare parts procurement for all Government vessels/dockyard plant facilities;
- to strengthen the functions of GFIS with a view to enhancing the analytical capacity and management reporting as well as to improving stock management, the following enhancements were proposed for the time being:
 - (a) monitoring of vessel age and results of condition assessments with a view to formulating vessel replacement plans;
 - (b) re-engineering the workflow in stock management with a view to adopting barcode or similar technologies in handling receipt and issue of maintenance materials;
 - (c) capturing digital images of materials for assisting daily store operations as well as stock management;
 - (d) analysing past maintenance records with a view to predicting the upcoming maintenance needs, and determining the re-order level of maintenance materials by analysing their past consumption rates and the ordering lead time etc. with a view to implementing a "Just-in-time" stock strategy; and
 - (e) producing regular management reports for effective monitoring of the stock level, slow-moving materials, vessel downtime, vessel age, etc.; and
- user requirements on the enhancements were being collected and the necessary funding would be sought accordingly. The system enhancements were targeted to be completed by mid-2019 with implementation costs roughly estimated at \$3.5 million.

62. According to paragraph 4.17 of the Audit Report, MD commissioned a consultant to conduct a pre-feasibility study of the modernization of the Government Dockyard in 2016. The Committee enquired about the scope, progress and expected completion date of this study.

63. **Director of Marine** stated in her letter dated 29 December 2017 (*Appendix 20*) that the Electrical and Mechanical Services Department assisted MD to conduct a pre-feasibility study of the modernization of the Government Dockyard. The scope of the pre-feasibility study was to review the entire operations of the Government Dockyard and the corresponding installation including equipment, facilities, site layout, logistics and operating methods with a view to proposing and giving direction to a further feasibility study. The final report of the pre-feasibility study would propose a selection of available technology and methods of operation, facilities, logistics for the servicing, handling and storage of vessels, parts equipment and other materials and technologies for a further feasibility study. The pre-feasibility study was at the final stage and expected to be completed in March 2018. Upon completion of the current study, the Administration would embark on the feasibility study.

64. The Committee noted that while the provisions of the Dangerous Goods Ordinance (Cap. 295) and the Factories and Industrial Undertakings Ordinance (Cap. 59) did not apply to the Administration, MD was committed to minimizing potential hazards and risks and ensuring that all its staff and workers worked in a safe and healthy environment. In this connection, the Committee enquired about the current understanding of MD in respect of the responsibilities and liabilities of MD and its maintenance contractors in handling dangerous goods in the Government Dockyard in accordance with the provisions in the Dangerous Goods Ordinance and the Factories and Industrial Undertakings Ordinance, and details of the work carried out currently by MD to clarify the responsibilities and liabilities of MD and its maintenance contractors in this respect.

65. **Director of Marine** said at the public hearing and stated in her letter dated 18 January 2018 (*Appendix 28*) that:

- MD inspected the amount of dangerous goods held by the contractors on each working day to ensure that the amount would not exceed the exempted quantity specified in the Dangerous Goods Ordinance. In case the exempted quantity was exceeded, the excessive dangerous goods would be stored in the licensed dangerous goods stores;
- all along the contractors were well informed of the dangerous goods store facilities provided by MD which were made available for their use as and when required; and

- MD had engaged a dangerous goods consultant in March 2017 to provide advice on how the Government Dockyard could better manage dangerous goods to meet both its operational needs and the requirements of the Dangerous Goods Ordinance and its Regulations. The study was in progress and would be completed by the second quarter of 2018. The study would help clarify further the responsibilities and liabilities of MD and its maintenance contractors.

66. The Committee noted from paragraphs 4.17(a) and 4.18(a) of the Audit Report that the Government Dockyard had to handle large quantity of fuels unloaded from vessels coming for maintenance/repair service. However, there was a long travelling distance for the transfer of fuels from the docking area and the defueling area to the designated dangerous goods stores. Manual handling of petrol and diesel further increased the possibility of accidents. In this regard, the Committee enquired about the measures taken/to be taken by MD to minimize the safety hazards arising from the fuel transfer.

67. **Director of Marine** stated in her letter dated 18 January 2018 (*Appendix 28*) that:

- MD had updated the guidelines for the unloading and conveyance of diesel and petrol respectively (*Appendix 28*) to minimize the safety hazards arising from the fuel transfer;
- the dangerous goods consultant in consultation with the Labour Department and FSD would develop a set of safety measures for the better handling and conveyance of fuel suitable for the operation of the Government Dockyard; and
- in the fuel store renovation project now underway, the Architectural Services Department and the Electrical and Mechanical Services Department were asked to explore the feasibility of installing piping systems and supporting facilities for fuel transfer at the berths of the fuel store.

68. According to paragraph 4.18(b) of the Audit Report, Audit found that MD had not tracked the quantities of oxygen and acetylene cylinders stored/used by the maintenance contractors in the Government Dockyard to facilitate its monitoring of the compliance with the Safety Management Manual requirements. According to

paragraph 4.18(c) of the Audit Report, Audit found that there was no record showing that the unused paints/thinner had been returned to the dangerous goods stores after daily operation. In this connection, the Committee asked about the existing monitoring system of MD to ensure that the oxygen and acetylene cylinders and the unused paints/thinner would be returned to the designated dangerous goods stores after daily operation if necessary, and the measures taken/to be taken to improve the situation.

69. **Director of Marine** said at the public hearing and stated in her letter dated 18 January 2018 (*Appendix 28*) that:

- MD's guidelines in handling of diesel and petrol, the guidelines in storage of oxygen and acetylene cylinders and the guidelines in issuing and storage of paints and thinner (*Appendix 28*) were issued to all relevant staff and contractors, and they were required to attend regular seminars on the compliance of the health and safety measures. Regular reminders would be issued to all contractors to refresh their understanding on the safety practices;
- in 2016, MD applied for funding for creation of additional posts to upgrade the Industrial Safety Sub-unit to an Industrial Safety Unit. A full-time Industrial Safety Manager had been employed to lead three Industrial Safety Inspectors to step up routine inspections to ensure that maintenance works were in compliance with relevant safety requirements. The Industrial Safety Manager assumed his post in October 2017;
- the Industrial Safety Unit had compiled a "Safety Guidelines for transfer of Diesel between Government Vessel and Oil Barge" and "Safety Procedures for Petrol Unloading/Conveyance/Loading Within Government Dockyard" and had strengthened its supervision of the fuel disposal and conveyance processes;
- the Industrial Safety Unit kept records of the quantities of used oxygen and acetylene cylinders and oversaw the daily return of oxygen and acetylene cylinders not in use to licensed dangerous goods stores; and
- apart from setting the appropriate quantities of paints and thinner to be issued each time, the Industrial Safety Unit also oversaw the return of unused paints and thinner to dangerous goods stores by maintenance contractors at the end of a working day.

70. In reply to the Committee's request, **Director of Marine** provided information on the maximum quantity of diesel, petrol, oxygen cylinders, acetylene cylinders, paints, and thinners stored at the Government Dockyard as well as the highest number of maintenance contractors working in the Government Dockyard at the same time in the past three years in her letter dated 18 January 2018 (*Appendix 28*).

E. Conclusions and recommendations

Overall comments

71. The Committee:

- emphasizes that:
 - (a) the Marine Department ("MD") is responsible for all navigational matters in Hong Kong. To maintain Hong Kong as a major port and safeguard life and property, the safety standards of all classes and types of vessels as well as port safety must not be compromised under any circumstances; and
 - (b) since MD is the designated endorsement authority and agent for procurement of government vessels of 14 government departments, including five disciplined services departments, and provides maintenance services for these vessels,⁷ the provision of effective and efficient services by MD to the user departments is essential for the departments' operational safety and efficiency, in particular, for the disciplined services departments to carry out law enforcement and emergency duties;
- observes that MD's poor judgment and inexplicable decision in suspending vessel procurement projects from December 2009 to October 2012 had led to serious delay in the procurement of new vessels. The average ages of major vessels had increased significantly as a result of the delay, and this in turn called for more preventive maintenance and incurred extra maintenance costs and

⁷ Apart from the procurement of government vessels, MD also performs planned and unplanned maintenance of government vessels at the bases of the relevant departments or at the Government Dockyard.

downtime for the vessels. This had adversely affected the user departments' operational safety, efficiency and effectiveness;

Inadequate planning for the procurement of government vessels

- expresses dismay and grave concern about MD's lack of adequate and well-conceived planning for the procurement of new and replacement vessels as evidenced by the following:
 - (a) the average ages of four major classes of government vessels had increased significantly in the past 10 years from 2007 to 2016, i.e. from 12.3 to 16.1 years for major mechanized vessels, from 7.8 to 13.2 years for minor mechanized vessels, from 5.4 to 14.2 years for high-speed craft (large type) and from 10.7 to 13 years for high-speed craft (medium type);
 - (b) as of March 2017, 76 (41%) of 187 major government vessels had served beyond their expected lifespans by 1 to 12 years. Comparing with the position in March 2012 when only 33 (18%) of 183 such vessels were operating beyond their expected lifespans, the situation had deteriorated; and
 - (c) MD had never prepared five-year rolling plans on procuring new or replacement government vessels, contrary to the requirement set out in an internal circular issued by MD in 2008. Instead in December 2016, it started to work out with a major user department⁸ a tentative 10-year vessel replacement plan;
- urges MD to have good planning and execution for the procurement of government vessels. Meanwhile, it should continue to closely monitor the government vessels that have served beyond their expected lifespans and take proactive and effective measures to ensure they are maintained in good operational conditions in a timely manner until they are retired/replaced by new vessels;

⁸ Subsequent to the preparation of a 10-year vessel replacement plan for the Fire Services Department in December 2016, MD was working with other major user departments, including the Hong Kong Police Force, the Customs and Excise Department, the Agriculture, Fisheries and Conservation Department, and user sections within MD to formulate their 10-year vessel replacement plans.

Delay in the procurement of government vessels

- expresses alarm and finds it unacceptable that MD had failed to fulfil its duty in providing effective and timely government vessel procurement service for the user departments as evidenced by the following:
 - (a) as at August 2017, of 25 ongoing procurement projects for 90 major government vessels, 12 projects had experienced delays, including five projects which missed their target vessel delivery dates by five months to four years, and seven projects which were still in tender/shipbuilding stage some four to six years after funding approval. Most of the 12 projects involved the replacement of vessels of disciplined services departments;
 - (b) as a result of the delays, additional commitments of \$91.97 million were required to cater for the increase in construction costs of 27 vessels involved. While maintaining a vessel beyond its expected lifespan might incur extra maintenance cost and downtime, it was observed that the estimated contract values of maintenance contracts had increased from \$87.3 million in 2012-2013 by 98.6% to \$173.4 million in 2016-2017 due to the increase in number of major vessels receiving preventive service; and
 - (c) as a measure to clear the backlog of vessel procurement projects, MD obtained funding of \$35.44 million from the Transport and Housing Bureau ("THB") in October 2013 to engage consultants from 2014-2015 to 2016-2017 to manage 10 projects for the procurement of 26 vessels. However, up to August 2017, MD only engaged consultants to assist in the management of six procurement projects of 16 vessels.

As a result of the delay and the need for more preventive maintenance for the vessels, the user departments' operational safety and efficiency might be compromised;

- expresses grave dismay and alarm about the poor judgment and inexplicable decision of MD in suspending the processing of vessel procurement projects by the Government New Construction Section ("GNCS") under the Government Fleet Division ("GFD") of MD from December 2009 to October 2012 (a total of 35 months) pending the

finalization of the review of the marking scheme for tender assessment. During the almost three-year period, nine projects for the procurement of 29 vessels with total approved funding of \$263.7 million were postponed for periods ranging from 4 months to 2.8 years. There was no record of MD's senior management's monitoring of GNCS's work on the review or any consideration by MD on the possible measures to mitigate the impact of the protracted review from 2010 to 2012;

- expresses grave concern about MD's inadequacy in dealing with the difficulties in recruiting Surveyors of Ships ("SoSs")⁹ which contributed to the delays in vessel procurement. While the recruitment problem had emerged since 2007, MD had only taken some stop-gap measures in the recruitment exercises in 2014. The average number of SoSs successfully recruited in each exercise was only 3.2 against the targets of 7 to 10 recruits;
- notes that:
 - (a) Director of Marine and Deputy Director of Marine (Special Duties) had attended the Government Dockyard management meetings since February 2016 on a regular basis to strengthen the management oversight of GFD; and
 - (b) MD had been working with the Civil Service Bureau through the conduct of a grade structure review to address the critical manpower shortage and succession problems of SoS and the Marine Officer grades staff of MD;
- urges MD to:
 - (a) expedite actions to clear the backlog of vessel procurement projects;
 - (b) closely liaise with relevant bureaux/departments to ascertain in a timely manner the government vessels requirements and to commence the procurement procedures expeditiously;

⁹ SoSs in GNCS of MD play an important role in the procurement of government vessels. They act as the marine engineer and naval architect for MD on the construction of new vessels.

- (c) closely monitor the implementation of ongoing government vessel procurement projects to ensure that their target vessel delivery dates are met in the future; and
- (d) liaise with the relevant bureaux to take effective new measures to address the critical manpower shortage and succession problems of SoS and the Marine Officer grades staff of MD and conduct a review of their effectiveness in due course;

Maintenance of government vessels

- is surprised and regrets to note about the inadequacies in reporting vessel availability rates by MD as not all classes of vessels were covered in reporting the availability rates, and only the downtime for carrying out maintenance and repair inside the Government Dockyard would be taken into account in calculating the vessel availability rates;
- expresses grave concern that there had been limited competition in the procurement exercises of maintenance services for government vessels as 23 (70%) of MD's 33 term contracts in 2016-2017 were each awarded to the only bidder;
- finds it appalling and unacceptable about the deficiency in MD's procurement and payment mechanism as revealed by a case that payment of \$1.68 million for 98 work items completed under four successive terms of a maintenance contract from 2010 to 2014 had been delayed.¹⁰ This incident might further discourage potential maintenance service providers from submitting bids for MD's contracts;
- notes that MD has implemented new measures to:
 - (a) enhance competition in the procurement of vessel maintenance services, such as increasing the duration of one-year term contracts to two years and adopting the tendering strategy of consolidating same type of maintenance service contracts; and

¹⁰ The incident was caused by the failure on the part of the subject inspector to submit the relevant job orders to his supervisor for approval before asking the contractor to carry out the maintenance and repair work, and to submit the relevant invoices received from the contractor to MD's Accounting Services Section for processing payment.

- (b) tighten job order and payment control under maintenance term contracts, in particular through enhancing the monitoring features of the Government Fleet Information System ("GFIS");¹¹
- urges MD to:
 - (a) consider expanding the scope of reporting vessel availability rates to cover all four major classes of vessels and reviewing the current practice of calculating the vessel availability rates without taking into account the downtime for repair outside the Government Dockyard; and
 - (b) closely monitor the implementation of new measures to enhance competition in the procurement of vessel maintenance services and to tighten job order and payment control under maintenance term contracts;

Monitoring role of the Transport and Housing Bureau

- expresses grave concern that THB, as the Bureau overseeing the operations of MD, as in other cases previously investigated by the Committee,¹² had failed to perform its monitoring role to ensure the provision of effective government vessel procurement services to the user departments by MD;
- notes that THB will hold regular meetings with MD to discuss the problems faced by MD and take follow-up actions as appropriate; and
- urges THB to:
 - (a) closely monitor the performance of MD to prevent further delays in the implementation of the procurement projects for major vessels and to catch up with the progress of the delayed projects;

¹¹ Please see paragraph 3.23 of the Audit Report for the new measures introduced to tighten job order and payment control under maintenance term contracts.

¹² Please see Part 4 of the Public Accounts Committee Report No. 63A on the administration of the air traffic control and related services and Part 4 of the Public Accounts Committee Report No. 67A on the maintenance and safety-related improvements of public rental housing flats. The two concerned departments, Civil Aviation Department in the former case and the Housing Department in the latter, are under the policy directives and supervision of THB.

- (b) step up its supervisory role to proactively identify the problems faced by MD, such as arranging regular meetings and visits to MD, and take effective measures to address MD's problems; and
- (c) consider conducting a study on the maritime industry in Hong Kong to adjust its policy to render timely assistance to the industry to meet the new challenges, including measures to address the severe shortage of maritime manpower and vessel maintenance contractors.

Specific comments

72. The Committee:

Procurement of government vessels

- expresses alarm and finds it unacceptable that of the 25 ongoing procurement projects for 90 vessels of the four major classes as at 31 August 2017, five projects (with funding approved by the Finance Committee) could not meet their target dates of vessel delivery. The delays ranged from five months to four years up to August 2017, with three projects still in tender stage. Furthermore, the progress of three other projects amongst the seven projects approved before 2013-2014 (in the context of the Appropriation Bill or by Financial Secretary) was particularly slow, i.e. they were still in the tender stage some five years after funding approval. The Audit Commission ("Audit")'s examination has revealed the following factors contributing to the delays:
 - (a) MD in consultation with relevant departments had taken almost three years (from December 2009 to October 2012) to review the marking scheme which had been used by MD for assessing tenders of a procurement project with value exceeding \$1.43 million. As a result, nine projects for the procurement of 29 vessels were postponed. There was no record showing any reporting/discussion at the meetings of the Government Dockyard or MD's senior management on the likely impact of the protracted review and any possible measures to mitigate the impact (such as reassessing the need for using marking schemes for the pending

procurement projects). After obtaining the Central Tender Board's approval of the revised marking scheme in 2012, MD only used marking schemes for three vessel procurement projects;

- (b) since the lifting of the civil service recruitment freeze in 2007, MD has been experiencing difficulties in recruiting SoSs. Notwithstanding the implementation of the stop-gap measures in the recruitment exercises (including granting of incremental credit for working experience) since 2014, the number of vacancies in SoS grade in MD continued to increase from 5 (i.e. 9.3% of the establishment of 54 posts) as of April 2013 to 11 (i.e. 20% of the establishment of 55 posts) as of March 2017. Over this period, GNCS carried one to three vacancies. MD was also facing critical succession problem in SoS grade. The average age of SoS grade staff was 52.2 as at 30 April 2013 and 52.1 as at 31 March 2017. Of the 47 SoSs as at March 2016, 33 (70%) would reach the normal retirement age in ten years' time; and
- (c) due to inadequacies in MD's checking of the tender notices and tender documents for two vessel procurement projects, discrepancies were found after invitation of tenders. As a result, one of the two projects was delayed by one year;
- expresses alarm and finds it unacceptable that, according to the vessel replacement plan of July 2017, only 54 (71%) of the 76 vessels serving beyond their expected lifespans had been included in the replacement plan. For the remaining 22 vessels not included in the replacement plan, MD had not conducted condition assessments for two vessels, i.e. one year and six years respectively after passing their expected lifespans and there were inadequate follow-up actions on the assessment results for 18 of the other 20 vessels;
- finds it appalling and unacceptable that frequent machine failures were found in two new vessels built by the same contractor ("Contractor A") during the warranty period from February 2015 to February 2016 and/or in the following year, resulting in downtime of 196 days and 125.5 days respectively. However, up to August 2017, MD had not conducted any review of the excessive downtime of the two vessels;

- notes that:
 - (a) MD has instigated penalty measures on Contractor A, including the extension of the warranty period of three months after the expiry of the 12-month warranty period and issuing a warning letter to the contractor to reiterate the relevant provisions of the tender document for the Government to exercise its rights in future award of tenders; and
 - (b) Director of Marine has agreed with Audit's recommendations in paragraph 2.36 of the Director of Audit's Report ("Audit Report");
- urges MD to consider formulating a penalty mechanism against contractors with repeated substandard performance, such as the introduction of points deduction system in future tenders or barring the contractor concerned from submitting any tenders for a specific period of time;

Maintenance of government vessels

- is surprised and regrets to note the following inadequacies as revealed by Audit's examination:
 - (a) while MD's service on the maintenance of government vessels is important to the work of all user departments, the reported availability rates of government vessels to all users decreased from 88.8% in 2007 to 86.1% in 2016. For three years in 2009, 2015 and 2016, the availability rates were below the target of 87%, ranging from 86.1% to 86.4%. For the major mechanized vessels and high-speed craft (large type) of the Hong Kong Police Force and the Immigration Department, their operational efficiency could have been adversely affected as the target availability rate of 87% was not met in three of the five years from 2012 to 2016;
 - (b) from 2012 to 2016, the total downtime of four major classes of government vessels due to preventive service and running repair increased from 6 583 days by 24.6% to 8 201 days. The average downtime per vessel had increased from 36 days in 2012 by 22% to 44 days in 2016. According to MD, the main reason for the increase in downtime was the aging problem of the government

vessels which in turn was due to the delay in the procurement of the vessels; and

- (c) the downtime due to running repair had increased by 53.9% from 2 393 days in 2012 to 3 683 days in 2016 which could partly be attributable to the delay in the procurement of the vessels. Based on MD's records of 25 July 2017, there were five running repair cases (each lasting five days or more) occurring within about three months of preventive service. In one case, a high-speed craft of the Hong Kong Police Force was found to have sustained serious flooding in about two months after receiving preventive service at the Government Dockyard;
- notes that Director of Marine has agreed with Audit's recommendations in paragraph 3.26 of the Audit Report;

Management of maintenance materials

- is surprised and regrets to note that:
 - (a) of 16 473 stock items held by the Government Dockyard as at 30 June 2017, 8 412 were slow-moving items (5% up from 8 023 in 2013) with a total value of \$73 million (34% up from \$54.6 million in 2013). For the 8 023 slow-moving items (i.e. those without movement for over five years) identified in 2013, MD only completed a review of 547 items and disposed of 68 items in July 2016. The delay of nearly four years before taking follow-up action in 2017 on the remaining 7 476 items is unsatisfactory as any obsolete/dormant stock could not be disposed of in a timely manner to save storage space and realise any resalable value where commercial disposal is applicable;
 - (b) notwithstanding the system enhancements in 1999 and 2015, some intended benefits of MD's GFIS could not be realized. For example, the re-order levels generated by GFIS¹³ could not fully reflect the current stock replenishment practice of the Government Dockyard. Moreover, while GFIS could generate barcodes for inventory items in the Government Dockyard stores, they could not be used to automate the stock management operations; and

¹³ One of the functions of GFIS was to generate the re-order level of a stock item to remind relevant MD staff to initiate replenishment process.

(c) while the provisions of the Dangerous Goods Ordinance (Cap. 295) and the Factories and Industrial Undertakings Ordinance (Cap. 59) do not apply to the Government, it is uncertain whether the provisions of those two ordinances are similarly not applicable to the independent maintenance contractors engaged by MD to work in the Government Dockyard. MD is committed to ensuring that all its staff and workers at work are in a safe working condition and healthy environment in order to minimize potential hazards and risks. However, there were inadequacies in the management of dangerous goods in the Government Dockyard as evidenced by the following:

- the Government Dockyard had to handle large quantity of fuels unloaded from vessels coming for maintenance/repair service. However, there was a long travelling distance for the transfer of fuels from the docking area and the defueling area to the designated dangerous goods stores. Manual handling of fuels increased the possibility of accidents;
- while MD's Safety Management Manual requires maintenance contractors to keep their number of oxygen and acetylene cylinders in the Government Dockyard at a minimum and to keep any excessive gas cylinders in the specified dangerous goods stores, MD had not tracked the quantities of oxygen and acetylene cylinders stored/used by maintenance contractors. As revealed by MD's consultant and Audit's inspections, unused cylinders had not been returned to the designated dangerous goods stores after daily operation; and
- Audit's sample check revealed that during January to July 2017, large quantities of paints and thinner were issued to maintenance contractors for their painting work. While the entire painting operation might take about 10 days, there was no record to show that the unused paints/thinner had been returned to the dangerous goods stores after daily operation;

- notes that:

(a) in March 2017, MD engaged a consultant to provide advice on how the Government Dockyard could better manage the

dangerous goods to meet both its operational needs and the requirements of the Dangerous Goods Ordinance and its Regulations;

- (b) MD has obtained additional manpower resources to upgrade the Industrial Safety Sub-unit to become the Industrial Safety Unit and put it under the purview of the Support Services Section. The Industrial Safety Manager who is the Unit Head of the Industrial Safety Unit assumed the post in October 2017; and
- (c) Director of Marine has agreed with Audit's recommendations in paragraphs 4.12 and 4.21 of the Audit Report; and
- urges MD to consider reviewing the procurement strategy of maintenance materials having regard to the availability of storage space and to ensure the compliance with the safety requirements on the storage of dangerous goods by the contractors working in the Government Dockyard.

Follow-up action

73. The Committee wishes to be kept informed of the progress made in implementing the various recommendations made by the Committee and Audit.