

海 事 處

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香港九龍深水埗
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MARINE DEPARTMENT

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17 January 2018

Public Accounts Committee
Legislative Council
Legislative Council Complex
1 Legislative Council Road
Central
Hong Kong
(Attn : Mr Anthony CHU)

Dear Mr CHU,

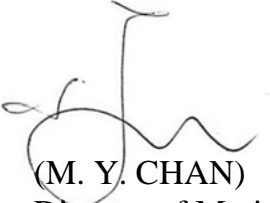
Public Accounts Committee
Consideration of Chapter 2 of the Director of Audit's Report No. 69
Procurement and maintenance of government vessels

Thank you for your letter dated 5 January 2018 to the Director of Marine, which I am authorized to reply on her behalf.

The replies in seriatim to the questions raised by the Public Accounts Committee are set out in the **Annex** attached.

I should be grateful if you could relay the attached information to Members of the Public Accounts Committee for their reference.

Yours sincerely,


(M. Y. CHAN)
for Director of Marine

Encl.

c.c. Secretary for Transport and Housing (Attn: Ms Louisa YAN)
Secretary for Financial Services and the Treasury (Attn: Miss Pat CHUNG)
Director of Audit (Attn: Mr LEE Sik-yum)

Public Accounts Committee
Consideration of Chapter 2 of the Director of Audit's Report No. 69
Procurement and maintenance of government vessels

- (a) With reference to item (i) (i) in the Annex to your reply dated 29 December 2017, please provide a copy of materials received by the staff of the Marine Department ("MD") at the briefing session on 12 January 2015;

Reply: The materials received by the staff of the MD at the briefing session on 12 January 2015 are attached at **Appendix A**.

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

- (b) With reference to paragraph 2.26 (b) of the Audit Report on the inadequacies of the consultancy services received by the Hong Kong Police Force, the delay caused by the consultant not having technical staff stationed in Hong Kong to facilitate discussion;

Reply: The selected consultant is an internationally recognised maritime expert with headquarters based in Italy and a small representative office set-up in Hong Kong. The arrangement enables the consultant to pull together their worldwide expertise.

The contract was awarded to the above consultant for developing a conceptual design and drafting the technical specifications of one ship building project on 22 September 2015. According to the consultancy agreement, the consultant was required to submit the deliverables in two months after commencement of the project, i.e. by 21 November 2015.

According to the MD's record, following the signing of the consultancy service contract on 22 September 2015, the consultant, the Hong Kong Police Force ("HKPF") and the MD had agreed on 25 September 2015 that the first meeting would be held on 13 October 2015 among the three parties by means of video conferencing. After that, the three parties exchanged views on the drafting of the conceptual design and technical specifications through emails. The consultant completed delivery of the service by returning the agreed deliverables to the MD by 20 November 2015 as scheduled. In other words, the entire project was completed by the consultant within two months. The MD considers that there was no delay in the delivery of the consultancy service though some degree of communication inconvenience might have been caused by the time zone difference.

The MD considers that, through setting out the requirement in subsequent consultancy service contracts that the consultant is required to have representatives in Hong Kong, and through the use of modern-day communication technology, the above inconvenience has been mitigated.

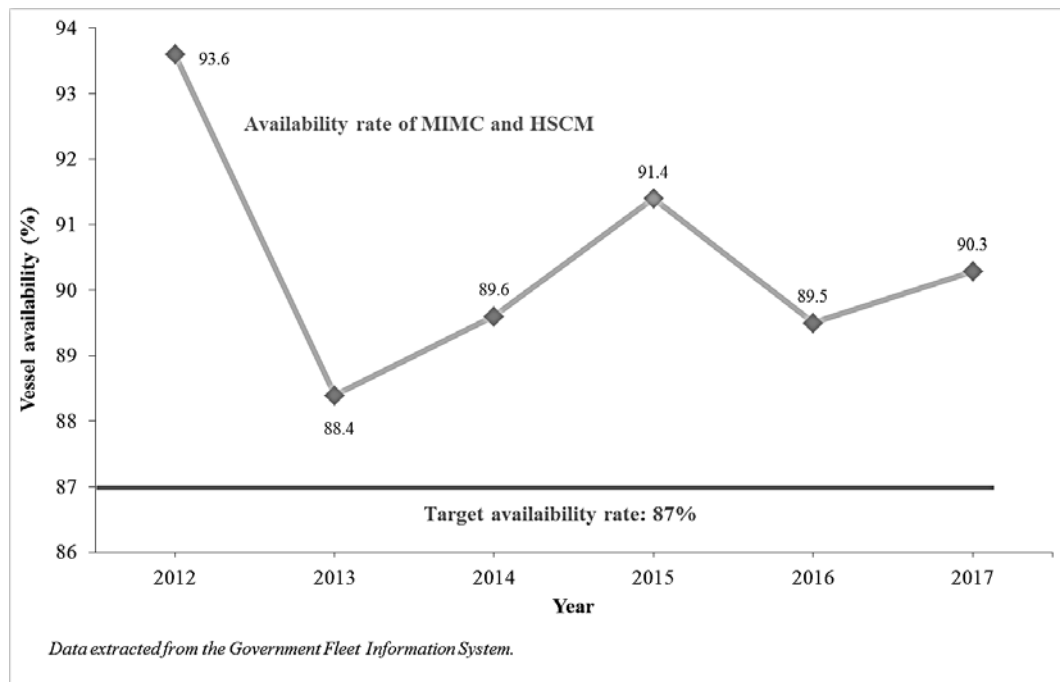
(c) According to paragraph 3.5 of the Audit Report, while MD stated in its Controlling Officer's Report that the target vessel availability rate was set for all users, the reported availability rates only covered two of the four major classes of vessels (i.e. the major mechanised vessels and high-speed craft (large type)). According to Note 15 to paragraph 2.3 of the Audit Report, MD has indicated that the four major classes of vessels need closer monitoring and attention because of the higher maintenance expenditure. 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, please provide:

(i) the reasons for only covering two of the four major classes of vessels in reporting availability rates;

Reply: Currently, the vessel availability rates in the Controlling Officer's Report ("COR") of the MD only cover two of the four major classes of vessels, i.e. major mechanised vessels ("MECV") and high-speed craft (large type) ("HSCL"). The MD has to monitor closely the availability of these vessels as they are mission critical vessels which are 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 are usually more time-consuming, and there are only a limited number of reserve vessels available for respective user departments. Thus, the MD considers that the availability rates of these vessels would more aptly reflect the MD's performance in maintaining the government vessels.

For the remaining two classes of vessels, i.e. minor mechanised vessels ("MIMC") and high-speed craft (medium type) ("HSCM"), more reserve vessels in respective user departments are available for use in case of sudden vessel breakdown. Also, the time required for repair services for these two classes of vessels is relatively short and the chance of affecting user departments' operations due to vessel breakdown is relatively low.

Although the figures for MIMC and HSCM are not reported in the COR, the MD has been monitoring the availability rates of these vessels continuously. The availability rates of MIMC and HSCM from 2012 to 2017 are shown in the graph below.



From the graph above, it is noted that the vessel availability rates for MIMC and HSCM are continuously above the performance target of 87% for the past six years. Exclusion of the availability rates of these two classes of vessels in the MD's COR might have actually deflated, rather than inflated, the MD's performance in government vessel maintenance. That notwithstanding, the MD agrees with the recommendation in the Audit Report and will consult relevant parties including the user departments concerned to consider a more effective way to report the vessel availability rates in the COR.

- (ii) the reasons for not taken into account the downtime for repair carried out outside the Government Dockyard in the calculation of the availability rates;

Reply: The maintenance and repair work carried out outside the Government Dockyard are usually minor and simple in nature. Examples of such work include repair of fluorescent lamp and wiper and fixing of oil leakage of the engine and exhaust pipe, which can normally be completed within two hours. In order not to cause interruption to the operations of the user department, the MD would liaise with the user department in advance to arrange for such work to be carried out at a time when the vessels have returned to their bases upon completion of operations. Under this arrangement, the normal operation of the government vessels can be maintained and the downtime arising from these minor repairs is minimal.

- (iii) the downtime of maintenance and repair both inside and outside the Government Dockyard of the four major classes of vessels by user departments from 2012 to 2017;

Reply: The downtime of maintenance and repair inside the Government Dockyard of the four major classes of vessels by user departments from 2012 to 2017 are at **Appendix B**.

Maintenance and repair outside the Government Dockyard are referring to those work carried out at the five Marine Police forward bases, i.e. Sai Kung, Tai Lam Chung, Ma Liu Shui, Sai Wan Ho and Aberdeen of the Hong Kong Police Force (“HKPF”). Maintenance and repair at the forward bases are performed by 15 MD maintenance staff, who belong to the Artisan grade and are stationed in the forward bases for the upkeeping of the HKPF vessels on site (details at (c)(iv) below).

Each Artisan grade staff is provided with logbooks to manually record what have been done on a work day. To extract and compile the information in the logbooks for all the five forward bases from 2012 to 2017 is a very time consuming exercise. It is therefore extremely difficult to come up with the required information within a short time frame.

That said, the MD has collected the records of one of the forward bases as an example to illustrate the repair time carried out in 2016 and 2017. The result, which is set out in the below table, shows that over 99% of the repair work were completed within two hours.

Duration of repair work	No. of jobs completed
≤ 2 hours	2,132 (99.9%)
> 2 hours and ≤ 4 hours	3 (0.1%)

- (iv) manpower of MD stationed at each user department and their job duties, and the division of work between these MD staff and those of the user departments;

Reply: There are 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 belong to the Artisan grade and are required to carry out on-site minor repairs on the fittings, installations, equipment and machineries of the HKPF vessels at the forward bases.

- (v) the vessel availability rates for four major classes of vessels from 2012 to 2017 by using the total downtime in (iii) above in the calculation; and

Reply: As explained in (c)(ii) above, the maintenance and repair work carried out outside the Government Dockyard are usually minor and simple in nature, and the normal operation of the government vessels would not be affected and the downtime arising from these minor repairs is minimal. Thus, there is no impact on the vessel availability rates for the downtime of maintenance and repair work outside the Government Dockyard. The vessel availability rates for the four major classes of vessels are at **Appendix B**. Nonetheless, the MD will consult user departments on the review of the calculation methods of vessel availability rates.

- (vi) measures to improve the reporting and calculation of vessel availability rates;

Reply: The Task Force on Reform of the MD is reviewing the Arrival and Completion Form so as to improve the reporting and calculation of vessel availability rates. The MD will also consult user departments on the review of the calculation methods of vessel availability rates.

(d) With reference to Table 9 of paragraph 3.11 of the Audit Report, please provide:

- (i) the basis for the classification of "Major reason" for extra downtime for preventive service of four major classes of vessels, in particular the rationale for classifying some reasons under "Others" and whether these reasons under "Others" could be instead included under "Extra work not covered in service contract". If not, reasons why not; and

Reply: The seven "Major reasons" classified for extra downtime for preventive service of the four major classes of vessels in Table 9 of the Audit Report are common and frequently occurred reasons leading to extra downtime. The reasons grouped under "Others" are those which cannot be grouped under the seven "Major reasons" and these reasons do not occurred frequently.

- (ii) examples of reasons under "Others" included the submission of claims to suppliers, dimension measurements and remedial hull painting work. In this regard, please explain how the submission of claims would contribute to the increase in downtime, whether dimension measurements are a standard procedure which could be included in the original preventive service contracts, if not, why not, and what are the reasons for the need for remedial hull painting work;

Reply: Material warranty claims to suppliers

During the 5-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 the MD. The extra downtime caused was 14 days, which was about 44% of the 32 days under the "Others" category in 2016.

Dimension measurements

The length of the vessel's hull plating at the engine compartment has to be very accurate to ensure the safe and smooth operation of the main propulsion engines and tail shaft. If there is change in vessel

length beyond the tolerance level after the replacement of hull plates, dimension measurements have to be carried out to check and rectify the discrepancy. The dimension measurement work is a post-maintenance follow-up which does not occur frequently and hence could not be anticipated at the stage of preparing the maintenance tender/ quotation.

Remedial hull painting work

After the hull painting work is completed, the maintenance inspector will conduct quality check on the painting work. If it is found that the work is not satisfactory, the contractor will be requested to conduct remedial hull painting work until the quality is up to the required standard.

- (e) According to paragraph 3.12 of the Audit Report, extra work not covered in service contract has caused delays to the maintenance work of 32 vessels by 1 to 17 days each in 2016. Regarding these extra work in 2016, please provide:

(i) the number of contract variations involved;

Reply: No contract variation was made for the extra maintenance work of the 32 vessels in 2016. In considering contract variation, the MD follows the guiding principles set out in the Government 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 is because contract variation may be perceived as single quotation to the existing contractor, which will 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, the 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 anyway.

(ii) the number of new contracts involved; and

Reply: The number of new contracts involved is 25.

(iii) measures taken/to be taken to minimize extra work after the award of a contract;

Reply: To minimise the extra work after the award of a contract during preventive maintenance, the scope for pre-docking inspection has been extended to ensure all maintenance work will be included in the specifications of the service contracts as far as practicable.

Furthermore, the MD is considering the enhancement of the Government Fleet Information System to analyse past maintenance records with a view to predicting the upcoming maintenance needs and

the materials required which will also help minimise extra work after award of a contract.

- (f) 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, please provide:
- (i) the number of invitations to bid sent to the maintenance service providers and the number of bids received in each of the procurement exercises; and

Reply: The number of invitations to a bid sent to the maintenance service providers and the number of bids received in each of the procurement exercises are tabulated below.

Serial No.	No. of invitations issued	No. of bid(s) received
1	31	2
2	31	1
3	18	1
4	18	2
5	18	2
6	15	1
7	31	1
8	15	3
9	31	1
10	15	2
11	15	1
12	31	1
13	18	1
14	18	1
15	18	1
16	31	3
17	15	1
18	18	2
19	31	1
20	31	2
21	15	2
22	31	1

Serial No.	No. of invitations issued	No. of bid(s) received
23	15	1
24	31	1
25	15	1
26	18	1
27	31	1
28	15	1
29	15	1
30	31	1
31	15	2
32	16	1
33	15	1

(Note: Among the 33 term contracts commenced in 2016/17, the number of invitations issued for each quotation exercise ranged from 15 to 31. Among these 33 quotation exercises, only one bid was received for 23 exercises. The 23 contracts were awarded to 11 different companies.)

- (ii) 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; and

Reply: The MD has requested the Corruption Prevention Department of the Independent Commission Against Corruption to examine the existing arrangements in procurement exercises to examine whether there is any risk of corruption. The MD has also approached the Competition Commission to discuss relevant issues for a possible study to ensure that the procurement process is fair and competitive to potential bidders.

- (g) Details of enhancements to the Government Fleet Information System, including the timeline and costs involved.

Reply: The Government Fleet Information System (“GFIS”) is 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. The GFIS was first implemented in 1994 and subsequently enhanced in 1999 and 2015.

To strengthen the functions of the GFIS with a view to enhancing the analytical capacity and management reporting as well as to improving stock management, the following enhancements are proposed for the time being –

- Monitoring of vessel age and results of condition assessments with a view to formulating vessel replacement plans;
- Re-engineering the workflow in stock management with a view to adopting barcode or similar technologies in handling receipt and issue of maintenance materials;
- Capturing digital images of materials for assisting daily store operations as well as stock management;
- 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
- Producing regular management reports for effective monitoring of the stock level, slow-moving materials, vessel downtime, vessel age, etc.

User requirements on the enhancements are being collected and the necessary funding will be sought accordingly. The system enhancements are targeted to be completed by mid-2019 with implementation costs roughly estimated at \$3.5M.

Downtime and Vessel Availability of Four Major Classes of Vessels by User Departments from 2012 to 2017

Agriculture, Fisheries and Conservation Department

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	103	90.6%	110	90.0%	68	93.8%	161	85.3%	196	82.2%	87	92.1%
HSCL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MIMC	83	92.5%	38	96.6%	112	89.8%	61	94.4%	128	88.3%	88	92.0%
HSCM	141	95.2%	317	89.1%	377	87.1%	399	86.3%	412	85.8%	271	89.4%
Total	327	93.6%	464	90.9%	557	89.1%	621	87.8%	736	85.6%	445	90.6%

Customs and Excise Department

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	296	88.5%	243	90.5%	257	89.9%	287	88.8%	280	89.1%	273	89.3%
HSCL	110	90.0%	178	83.7%	163	85.1%	172	84.3%	181	83.5%	196	82.1%
MIMC	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
HSCM	90	87.7%	148	79.8%	97	86.8%	74	89.8%	18	91.9%	Nil	Nil
Total	496	88.7%	569	87.0%	516	88.2%	533	87.8%	478	87.7%	469	87.2%

Fire Services Department

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	395	88.0%	349	89.4%	392	88.1%	442	86.6%	530	83.9%	471	85.7%
HSCL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MIMC	46	95.8%	159	85.5%	94	91.4%	27	97.5%	143	87.0%	103	88.8%
HSCM	92	87.4%	142	80.6%	129	82.3%	26	96.5%	46	93.8%	68	90.7%
Total	533	89.6%	649	87.3%	615	88.0%	494	90.3%	719	86.0%	642	87.0%

Hong Kong Police Force

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	1392	89.4%	1573	88.0%	1490	88.7%	1591	87.9%	1790	86.4%	1589	87.9%
HSCL	790	80.4%	616	83.1%	934	74.4%	1096	70.0%	774	78.9%	663	81.8%
MIMC	76	97.4%	190	93.5%	42	98.5%	105	94.7%	0	100.0%	12	99.4%
HSCM	1087	92.2%	1825	86.8%	1744	87.4%	1210	91.3%	1526	87.8%	1352	88.4%
Total	3345	90.2%	4204	87.5%	4209	87.4%	4003	87.7%	4090	86.9%	3615	88.1%

Immigration Department

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	362	85.9%	364	85.8%	298	88.4%	338	86.8%	333	87.0%	367	85.6%
HSCL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MIMC	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
HSCM	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Total	362	85.9%	364	85.8%	298	88.4%	338	86.8%	333	87.0%	367	85.6%

Marine Department

Year / Vessel class	2012		2013		2014		2015		2016		2017	
	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate	Downtime (days)	Availability Rate
MECV	989	90.0%	1243	86.9%	1276	86.6%	1036	88.9%	1109	87.9%	1171	87.0%
HSCL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MIMC	36	96.7%	39	96.4%	20	98.2%	59	94.6%	29	97.4%	43	96.1%
HSCM	79	95.7%	248	86.4%	195	89.3%	252	87.6%	197	89.2%	187	88.1%
Total	1104	91.4%	1530	87.7%	1491	88.0%	1347	89.2%	1335	88.9%	1401	88.0%

Source: Data of Government Fleet Information System

Note: MECV - Major mechanised vessel
 HSCL - High-speed craft (large type)
 MIMC - Minor mechanised vessel
 HSCM - High-speed craft (medium type)

N.A. - Not applicable as no such class of vessels
 Nil - No downtime was recorded