

# **Steering Committee on Systemic Reform of the Marine Department**

## **Final Report**

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## **Executive Summary**

1. In response to the call for a systemic change in the Marine Department (“MD”) by the Commission of Inquiry into the Collision of Vessels near Lamma Island on 1 October 2012, the Secretary for Transport and Housing set up the Steering Committee on Systemic Reform of the Marine Department (“Steering Committee”) on 3 May 2013 to advise and steer the Director of Marine to undertake a comprehensive systemic review and reform of MD. In the past three years, under the supervision of the Steering Committee, MD has made significant progress in improving and enhancing its capabilities to fully and properly discharge its functions and responsibilities.
2. On the regulation on passenger safety and local vessels, MD has formulated and implemented a series of improvement measures to enhance marine safety, including enhancing look-out, installation of navigational and communications equipment, improving provision of lifejackets, strengthening the training and examination of coxswains, increasing the minimum coverage of third party risks insurance of local vessels, etc.
3. On business processes and operational procedures, MD has conducted a two-phase organisational review to improve its regulatory functions and business procedures. MD has implemented the review recommendations which seek to strengthen communication between the frontline staff and the management; develop systems and procedures to enhance reporting and documentation; and make use of information technology to improve record-keeping and shared use of information, etc.
4. On manpower strategy and training matters, MD has implemented a series of stop-gap measures to address the acute recruitment difficulties and manpower shortage of the two professional grades, namely, the Marine Officer grade and the Surveyor of Ships grade. MD has adjusted the entry requirement on applicants’ post-qualification working experience as well as language proficiency with a view to widening the pool of eligible candidates without compromising MD’s professional services. These measures are however inadequate to address the existing and upcoming vacancies of the two professional

grades. More fundamental measures such as embarking on a grade structure review of the two grades are required.

5. The review and reform process in the past three years has revealed the need for MD to sustain the improvement measures implemented and further tackle some issues on the regulatory regimes of local vessels, internal governance, and manpower and training of the two professional grades in MD. Looking ahead, a number of legislative exercises are in the pipeline to further strengthen the regulation on passenger safety and local vessels. MD will need to replicate the good practices introduced in the Local Vessels Safety Section and the Shipping Division to address similar deficiencies in the business processes and operational procedures in other Divisions of MD. MD will explore all possible means to tackle the very severe manpower shortage and succession problems of the two professional grades in MD in a bold and innovative manner.
  
6. The challenge ahead is to sustain the momentum of change and improvement in MD, and inculcate in the mindset of officers in MD the need for change and to improve the business processes and practices on a continuous basis. This will be a long process and will take time. The Steering Committee has set the broad directions and priorities for further systemic reforms in MD. MD will take forward the reform process in the years ahead.

## I Background

- 1.1 On 1 October 2012, two local passenger vessels collided near Lamma Island resulting in 39 deaths. On 22 October 2012, the Chief Executive in Council appointed the Commission of Inquiry into the Collision of Vessels near Lamma Island on 1 October 2012 (“Co I”) to inquire into the facts and circumstances leading to and surrounding the collision. The CoI submitted its report to the Chief Executive on 19 April 2013.
- 1.2 In its report, the CoI identified problems with the Marine Department (“MD”) in regulating local passenger vessels, including loopholes and inadequacies in the processes of plan approval, ship inspection, law enforcement and regulation, in particular deficiencies in procedures and documentation. The CoI called for a systemic change in MD.
- 1.3 The Government attached great importance to the findings of the CoI’s report. Taking into account the CoI’s views and recommendations, the Secretary for Transport and Housing (“STH”) set up the Steering Committee on Systemic Reform of the Marine Department (“Steering Committee”) on 3 May 2013 with the terms of reference at Annex A. The Steering Committee is led by STH in person, and two members, Ms Alice TAI Yuen-ying and Mr Irving KOO Yee-yin were appointed initially for a term of two years to 2 May 2015. In order to continue overseeing the related work, STH extended the term of Ms TAI and Mr KOO in April 2015 as members for a term of one more year to 2 May 2016. A Task Force on Reform, headed by a new Deputy Director of Marine (Special Duties), was set up within MD in May 2013 to work with the Steering Committee and assist the Director of Marine (“D of M”) to take forward the comprehensive systemic review and reform of MD.
- 1.4 In the past three years, the Steering Committee held a total of 17 meetings to steer and supervise D of M to undertake a comprehensive systemic review and reform of MD with a focus on the following three areas:
  - (a) regulation on passenger safety and local vessels;
  - (b) MD’s business processes and operational procedures; and

- (c) MD's manpower strategy and training matters.

In addition, the Steering Committee visited different units of MD and the Maritime Services Training Institute ("MSTI") of the Vocational Training Council. Details on the meetings and visits by the Steering Committee are listed at **Annexes B and C** respectively.

- 1.5 To strengthen the professional input to the reform process, MD commissioned a maritime consultancy company in the United Kingdom ("UK") in September 2014 to provide expert advice on various regulatory, management and administrative issues by drawing upon the experience of overseas maritime authorities which adopt regulatory regimes similar to Hong Kong's. The consulting team comprised maritime experts who have profound working experience in maritime authorities in the UK and other jurisdictions ("UK maritime experts"). The advice of the UK maritime experts covered the following areas:

- (a) port control;
- (b) vessel survey and inspection;
- (c) vessel equipment and installations;
- (d) entry qualification requirements and training for the Marine Officer ("MO") and Surveyor of Ships ("SoS") grades in MD; and
- (e) means to enhance collaboration with the maritime industry with a view to facilitating MD's regulatory work.

- 1.6 The UK maritime experts submitted a final report on their advice to MD in October 2015. The Steering Committee considered and discussed the advice provided by the UK maritime experts.

- 1.7 Before the Steering Committee was set up, MD commissioned the Lloyd's Register, an international marine classification society, to carry out an independent audit review of MD's procedures for plan approval and ship inspection, as well as to conduct risk assessment and make improvement proposals. MD also engaged a maritime consultancy firm to conduct a benchmark survey to compare the local passenger vessel safety requirements with those



adopted in Singapore, Sydney of Australia and Southampton of the UK, and to make recommendations for enhancement. The audit review and the benchmark survey were completed in May and June 2013 respectively. The Steering Committee considered and discussed the findings of both the audit review and the benchmark survey.

## II Regulation on Passenger Safety and Local Vessels

### Immediate actions after the vessel collision incident

2.1 Immediately after the vessel collision incident near Lamma Island, MD strengthened its work on ship inspection, plan approval and spot checks on life-saving appliances. During the adjournment debate at the meeting of the Legislative Council (“LegCo”) on 18 October 2012, STH announced that MD would explore ten improvements measures<sup>1</sup> in consultation with the trade. In January 2013, MD engaged a maritime consultancy firm to conduct a benchmark survey to compare the safety requirements of local passenger vessel with those adopted in Singapore, Sydney of Australia and Southampton of the UK, and to make recommendations for enhancement. Completed in June 2013, the benchmark survey put forward recommendations which are largely in line with STH’s ten improvement measures as well as the recommendations made by the CoI and the two expert witnesses appointed by the CoI, Dr Neville Armstrong and Captain Nigel Pryke.

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<sup>1</sup> The ten measures are:

- (a) increase third party risks insurance coverage to accord better protection to passengers;
- (b) explore the feasibility of introducing a Marine Accident Victims Assistance Fund, drawing reference from the Traffic Accidents Victims Assistance Scheme;
- (c) implement measures currently adopted as guidelines by way of legislation and review existing laws with a view to strengthening marine traffic regulation to ensure navigational safety;
- (d) enhance the training courses and system for examination for coxswains in order to raise their professionalism and awareness of navigational safety;
- (e) study the feasibility of mandating the installation of closed-circuit television in the wheelhouse of local passenger vessels to monitor the navigation performance of coxswains;
- (f) study the feasibility of imposing restrictions on the working hours of coxswains and crew, and review their shift system;
- (g) review the minimum manning requirement for local passenger vessels;
- (h) study the feasibility of requiring local vessels to install an automatic identification system for real-time monitoring of vessel speed and location;
- (i) undertake long-term publicity and educational efforts; and
- (j) further enhance collaboration with the industry on marine safety.

## **Improvement measures to enhance marine safety**

- 2.2 Taking into account the recommendations on improvement measures to enhance marine safety from various sources, the Steering Committee advised and steered D of M to undertake a comprehensive review of the legislative compliance and administrative measures governing passenger safety and local vessel regulation and inspection matters.
- 2.3 In the past three years, MD, with the full support and cooperation of the trade and other stakeholders, has studied and worked out the implementation details of a large number of improvement measures to enhance marine safety. A lot of them have already been implemented or will be implemented soon, while some of them are still in progress, notably because legislative amendments are required or the trade has practical difficulties in implementing them in the near future. On further consideration, MD has assessed, and the Steering Committee agreed, that it is not appropriate to further pursue a few measures. The improvement measures to enhance marine safety which the Steering Committee and MD have considered and implemented in the past three years are set out below.

### Look-out

- 2.4 In its report, the CoI recommended that all vessels permitted to carry more than 100 passengers should have a look-out on the bridge, in addition to the coxswain, during the hours of darkness and in reduced visibility. High-speed craft should have a look-out on the bridge at all times. All seamen required to keep a look-out should have an eyesight test at intervals not exceeding five years.
- 2.5 Having sought the endorsement of the Local Vessels Advisory Committee (“LVAC”) in October 2013, MD amended the relevant code of practice in November 2013 to implement the CoI’s recommendations. As the new requirements would have manpower implications for the trade and the trade would have to arrange crew members to take eyesight tests, the new requirements had not been put into effect until November 2014 so as to allow more time for the trade to make the necessary preparation.

2.6 To encourage advance implementation by the trade, MD introduced in February 2014 an incentive scheme under which vessel operators were reimbursed with the cost of the eyesight tests arranged for their crew members if they implemented the new requirements on their vessels by September 2014. The reimbursement was capped at \$350 per eyesight test and five crew members per vessel. Only the costs of the eyesight tests which crew members had passed were reimbursed. A total of \$52,130 was reimbursed in respect of the eyesight tests of 225 crew members on 58 vessels.

#### Muster list

2.7 In its report, the CoI recommended that all vessels permitted to carry more than 100 passengers should have a muster list, so that every member of the crew is aware of his duties in the event of emergency. Having sought LVAC's endorsement in October 2013, MD amended the relevant code of practice in November 2013 to implement the CoI's recommendation. The new requirement took effect in May 2014.

#### Watertight door

2.8 In its report, the CoI recommended that MD should require watertight doors be fitted with alarms to the wheelhouse to indicate whether they are open or closed and that they be appropriately marked. Having sought LVAC's endorsement in October 2013, MD amended the relevant code of practice in November 2013 to implement the CoI's recommendations. The new requirements took effect in May 2014.

#### Minimum safe manning

2.9 During the adjournment debate at the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to review the minimum manning requirement for local passenger vessels.

2.10 During the consultation, the trade indicated concerns about the manpower implications as the trade is facing severe labour shortage. Having taken the trade's concerns into account, MD formulated a guideline on the minimum safe number of crew for ferry vessels and launches with reference to a number of factors, including the vessel's design, size, speed, total power, machinery,

control mechanism and equipment. The minimum safe number of crew provided by the guideline is indicative only. A vessel has to undergo an emergency drill to ascertain whether the indicative minimum safe number of crew is sufficient to cater for emergency situations, and if the vessel fails, additional manning will be required for the vessel's minimum safe manning.

- 2.11 Having sought LVAC's endorsement in October 2013 and October 2014, MD amended the relevant code of practice in November 2013 and November 2014 to implement the new requirements. The guideline took effect in November 2014.

### Lifejackets

#### *Signage and directives relating to lifejackets*

- 2.12 In its report, the CoI recommended that:
- (a) ship owners should be required to print the name of the vessel on each of the lifejackets on board;
  - (b) ship owners should be required to provide sufficient signs designating the locations of lifejackets;
  - (c) demonstration by crew or through graphic display of how lifejackets are donned should be required; if possible, video facilities for safety briefing and demonstration purposes should be installed; and
  - (d) owners and operators should be required to broadcast via video, or put up posters, to demonstrate the donning of lifejackets at all piers used to embark and disembark passengers.

Having sought LVAC's endorsement in October 2013, MD amended the relevant code of practice in November 2013 to implement the CoI's recommendations. The new requirements took effect in March 2014.

#### *Child lifejacket*

- 2.13 In its report, the CoI recommended that sufficient child lifejackets should be carried for every child on board all classes of vessels. Under the current law, local vessels are generally required to carry

child lifejackets for 5% of the total number of persons on board.

- 2.14 During the consultation, the trade expressed strong reservation about providing a large number of child lifejackets on board. While the trade recognised the community's concern about marine safety, it pointed out that the provision of a child lifejacket for every child passenger would not only cause extra financial burden, but also practical difficulties in implementation, for example, difficulties in forecasting and ascertaining the number of child passengers on board before each journey, insufficient space on vessels to store more child lifejackets, and the risk of an adult mistakenly putting on a child lifejacket and vice versa during chaos of an emergency situation.
- 2.15 In view of the trade's concerns, MD commissioned a subsidiary consultancy company of a local university in March 2015 to explore the feasibility of developing a type of lifejacket that is suitable for use by both adult and child. The consultant has developed a prototype lifejacket and the testing of the prototype lifejacket is in progress. The testing is expected to be completed by mid-2016. Subject to the outcome of the feasibility study, MD will further consult the trade on how to implement the CoI's recommendation.

### *Infant lifejacket*

- 2.16 In its report, the CoI recommended that consideration should be given to the provision of infant lifejackets. Under the current law, local vessels are not required to carry infant lifejackets on board.
- 2.17 As normally there will not be too many infants on board a vessel on a given journey, and having made reference to the requirements under the International Convention for the Safety of Life at Sea<sup>2</sup>, MD proposes that local passenger vessels should provide a number of infant lifejackets not less than 2.5% of the number of persons that the vessel is licensed to carry. MD will take forward the trade consultation and the implementation of the

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<sup>2</sup> The International Convention for the Safety of Life at Sea provides that for passenger ships on voyages less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board shall be provided.

CoI's recommendation on infant lifejackets in one go together with those on child lifejacket in paragraph 2.15 above.

### Navigational and communications equipment

- 2.18 In its report, the CoI recommended that all ferries and launches permitted to carry more than 12 passengers should be required to carry a Very High Frequency ("VHF") radio and be equipped with rocket parachute flares in the wheelhouse, and vessels permitted to carry more than 100 passengers be equipped with an automatic identification system ("AIS"), a collision avoidance radar, a VHF radio and rocket parachute flares, and the latter to be carried in the wheelhouse.
- 2.19 Currently, only some local vessels are required to be fitted with an AIS, radar and VHF radiotelephone. High-speed ferries granted with an exemption from speed restriction, and certain oil carriers are required to be fitted with an AIS by means of a condition of their operating licences or permits. Ferry vessels or launches which operate a franchised service or a licensed service and which ply outside the Victoria Harbour are statutorily required to be fitted with a radar<sup>3</sup>. Vessels of over 300 gross tonnage registered in the Mainland China or Macau and trading to or from Hong Kong, local vessels which participate in the vessel traffic services ("VTS") and ferry vessels which ply outside the Victoria Harbour are required to carry a VHF radiotelephone.<sup>4</sup>
- 2.20 In view of the CoI's recommendations, the Government proposes that any Class I vessel (i.e. local passenger vessels) licensed to carry more than 12 passengers should be required to be fitted with a VHF radiotelephone. For any Class I vessel licensed to carry more than 100 passengers, it should be required to be fitted with, in addition to a VHF radiotelephone, an AIS and a radar on board. These vessels should also be required to comply with certain related operational requirements (e.g. maintaining the AIS in operation and having a crew member on board who is qualified to use radar and VHF radiotelephone). However, the proposed

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<sup>3</sup> Merchant Shipping (Local Vessels) (Safety and Survey) Regulation (Cap 548G), section 80.

<sup>4</sup> Merchant Shipping (Local Vessels) (General) Regulation (Cap 548F), sections 56 to 58; Cap 548G, Schedule 3, Part 2, Tables 1 and 4.

requirements should exclude floating restaurants, stationary vessels, and vessels which are restricted by conditions under any licence or permit to ply within typhoon shelters only. Since the excluded vessels are stationary, or operate only in very close proximity to the shore or within restricted areas, the risks involved in their navigation are rather low. It is therefore not considered necessary for them to be fitted with the three kinds of navigational and communications equipment.

2.21 For AIS, in addition to Class I vessels licensed to carry more than 100 passengers, the Government proposes to extend the installation requirement to the following two types of Class II vessels (i.e. local cargo vessels):

- (a) Class II vessels fitted with any propulsion engine and of 300 gross tonnage or above; and
- (b) Class II vessels used for carrying dangerous goods (whether fitted with or without any propulsion engine).

Due to the large size of these vessels (for vessels which come under sub-paragraph (a) above) and the dangerous nature of the goods carried (for vessels which come under sub-paragraph (b) above), they pose greater potential hazard to marine safety and their being fitted with an AIS would help ensure safe navigation.

2.22 As for radar, the Government proposes to exclude also Class I vessels which operate a franchised or licensed ferry service plying within the Victoria Harbour and are not allowed to exceed the statutorily permitted speed. These vessels are not required to be fitted with a radar under the existing law. The Government considers it appropriate to exclude these vessels from the proposed requirement for the following reasons:

- (a) in terms of the natural navigational situation, the Victoria Harbour is relatively calm and sheltered from wind;
- (b) coxswains of vessels operating a franchised or licensed ferry service are familiar with the navigational channels and situation in nearby waters; and
- (c) with the installation of an AIS, the navigational risks of such vessels plying within the Victoria Harbour are not high.



- 2.23 LVAC endorsed the proposals on navigational and communications equipment above in April 2014, and the LegCo Panel on Economic Development in general supported them in May 2015. The Government is drafting the legislative amendments and aims at introducing them into the LegCo in the fourth quarter of 2016.
- 2.24 In the meantime, with a view to encouraging early installation, MD launched a scheme between November 2014 and January 2016 to fully subsidise the trade to install an AIS on Class I vessels, subject to a ceiling of \$26,700 for each eligible vessel. A total of 77 applications were received for the AIS subsidy, and as at 31 March 2016, 57 applications were approved for a total of about \$1.37 million. MD also launched another scheme in January 2016 for 15 months to provide half subsidy for installation of radar on Class I vessels. As at 31 March 2016, one application was received for the radar subsidy and it was being processed.
- 2.25 As for rocket parachute flares, notwithstanding the CoI's recommendation, the UK maritime experts advised that rocket parachute flares are useful for identifying the location of a vessel in an open ocean context, but their effects of accurate identification are limited if deployed in the crowded and dense-traffic waters of Hong Kong. Rocket parachute flares are dangerous explosive devices and are difficult to dispose of safely when their safe service life has expired. The Steering Committee agreed that the CoI's recommendation on carriage of rocket parachute flares should not be pursued.

#### Seat attachment

- 2.26 In its report, the CoI recommended that the relevant code of practice should be amended to provide for an empirical value or standard against which the attachment of seats to the deck is to be judged. Such value or standard should take into consideration their loading not only during a normal voyage but must also cater for excessive stern trim in the course of a marine casualty. Currently, the relevant code of practice only requires that the passenger seats should be attached to the deck "adequate for the intended service" without any empirical value or standard against which the attachment of seats to the deck is to be judged.

2.27 Having sought LVAC's endorsement in October 2014, MD amended the relevant code of practice in November 2014 to require every fixed passenger seat on board, except for high-speed craft, shall be able to withstand a tensile force of no less than 2 250 newtons. Passenger seats on high-speed craft shall follow the attachment requirements set out in the International Code of Safety for High-speed Craft. The new requirements took effect in March 2015.

#### Training and examination of coxswains

2.28 During the adjournment debate at the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to enhance the training courses and system for examination of coxswains in order to raise their professionalism and awareness of navigational safety.

#### *Pre-requisites for Coxswain Grade 3 Certificate*

2.29 To ensure that the applicants for the Coxswain Grade 3 Certificate<sup>5</sup> have already acquired a certain level of navigational and local marine knowledge, MD proposed that applicants should be required to complete a maritime course and in-service training before taking the examination for the Coxswain Grade 3 Certificate. Having sought LVAC's endorsement in April 2013, MD amended the relevant examination rules in December 2013. The new requirements took effect in January 2015.

#### *Navigation simulation assessment*

2.30 Currently, applicants for the Coxswain Grade 1 Certificate and Pleasure Vessel Operator Grade 1 Certificate<sup>6</sup> are not required to perform any practical operation test. To better test applicants on their awareness of navigational safety, having sought LVAC's endorsement in August 2015, MD will amend the relevant examination rules in mid-2016 to require that the following two groups of applicants should pass a navigation simulation

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<sup>5</sup> Coxswains of local vessels must hold a local certificate of competency appropriate for the vessel concerned. The certificates are issued in three grades.

<sup>6</sup> Operators of local pleasure vessels must hold a local certificate of competency appropriate for the vessel concerned. The certificates are issued in two grades.

assessment which simulates real-life navigational scenarios as a condition for granting relevant certificates of competence:

- (a) holders of the Coxswain Grade 2 Certificate applying for the Coxswain Grade 1 Certificate to operate Class I vessels of more than 26.4 metres in length overall; and
- (b) holders of the Pleasure Vessel Operator Grade 2 Certificate applying for the Pleasure Vessel Operator Grade 1 Certificate to operate pleasure vessels let for hire or reward of more than 15 metres in length overall.

*Refresher course for coxswains of local passenger vessels*

2.31 To ensure the on-going awareness of marine safety and the updating of navigational knowledge, LVAC endorsed in April 2013 the proposal that coxswains of local passenger vessels should be required to take a one-day refresher course once every three years. The MSTI and the Hong Kong Seamen's Union have been running the refresher course since August 2014 and January 2015 respectively. The attendance of the refresher course is on a voluntary basis in the meantime. We are working on the detailed legislative proposals for compulsory attendance and aim at consulting the trade and the LegCo in 2017.

*Training and examination for coxswains of fast-speed vessels*

2.32 MD commissioned a consultancy study in November 2014 to conduct a risk assessment on local passenger vessels plying at faster speed and to recommend appropriate safety and control measures for such vessels, including professional training required of their coxswains. The consultant submitted the consultancy report in March 2016, recommending that, among others, the coxswains of such vessels should be required to undergo training on recognising and responding to potential collision situations, and hold type-rating certificates. MD will further discuss with the trade on the implementation details of the recommended training requirements for coxswains of such vessels.

Periodic basic medical examination and eyesight test for coxswains

2.33 At present, there is no requirement on the medical fitness of the coxswain of a local vessel either upon the time of obtaining the

qualification as a coxswain or at any other point of time. While an applicant for the coxswain qualification is required to pass an eyesight test as part of the qualification examination, the result of the eyesight test is valid till 65 years old without any requirement of regular revalidation.

- 2.34 The CoI Report recommended that all coxswains of vessels permitted to carry more than 100 passengers should have a basic medical examination and eyesight test at intervals not exceeding five years. Having sought LVAC's endorsement in August 2015, MD will issue an administrative guideline on periodic medical examination and eyesight test by coxswains of local passenger vessels carrying more than 100 passengers in mid-2016.

#### Working hours of crew

- 2.35 During the adjournment debate at the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to study the feasibility of imposing restrictions on the working hours of coxswains and crew and review their shift system.
- 2.36 MD had proposed to formalise the working-hours arrangements for the crew of ferry vessels through promulgation of an administrative guideline. The crew unions have indicated support, while the ferry operators are concerned about the rise in staff cost and change of ferry schedules as a result due to the severe labour shortage in the trade of local vessels. MD has carefully assessed the latest manpower situation in the trade and considers that it is not pragmatic to impose further regulation of the working-hours arrangement for the crew of ferry vessels under the current circumstances. The Steering Committee agreed with MD's assessment and advised MD to keep in view the developments and consider how best to take forward the requirement when the shortage problem in the trade has improved.

#### Safety measures during major events at sea

- 2.37 Since early 1990s, MD has been advising operators of a spectator vessel to make arrangement to ensure that children wear lifejackets at all times while on board and a list of passengers and crew be kept on board during major events at sea by way of issuing administrative Marine Department Notices ("MDNs"). While non-compliance with MDNs, by itself, is not an offence,

MD officers are empowered to give appropriate directions to the non-complying vessels (e.g. prohibition from leaving the pier) and non-compliance with such directions is an offence.

- 2.38 During the adjournment debate at the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to implement measures currently adopted as guidelines by way of legislation. MD identified that the two requirements of children to wear lifejackets at all times while on board and a passenger and crew list to be kept on board during major events at sea should be implemented by way of legislation, so as to raise the safety awareness in general and ensure safety of passengers more effectively. In the vessel collision incident near Lamma Island, contrary to the MDN, children on the Lamma IV did not wear lifejackets while on board and a list of passengers and crew was not kept. The Government is working on the detailed legislative proposals and aims at consulting the trade in the fourth quarter of 2016.
- 2.39 In the meantime, at the New Year's Eve countdown celebrations, the Lunar New Year Fireworks Display and the National Day Fireworks Display in the past three years, MD had stepped up inspection of spectator vessels to ensure that sufficient life-saving appliances were provided on board, lifejackets were worn by children at all times, and a passenger and crew list was kept on board. No case of non-compliance was found.

#### Third party risks insurance

- 2.40 During the adjournment debate at the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to increase the third party risks insurance coverage of local vessels to accord better protection to passengers.
- 2.41 Having reviewed and considered the circumstances (including the number of vessels operating in Hong Kong waters, claims statistics, the liability level that the insurance industry can take on, the availability of insurance coverage, the trade's affordability, etc.), the Government has proposed to increase the third party risks insurance cover as follows:

Types of local vessels	Current minimum liability cover	New minimum liability cover
(a) Local vessels permitted to carry more than 12 passengers, except – (i) Class I primitive vessels; and (ii) Class IV vessels not let for hire or reward	\$5 million	\$10 million
(b) Local vessels permitted to carry no more than 12 passengers  (c) Class I primitive vessels  (d) Class IV vessels not let for hire or reward	\$1 million	\$5 million

2.42 For risk management reason, the insurance industry has indicated that they can only underwrite the proposed liability level set out above or otherwise the insurance policy premium will need to be substantially increased to an unacceptable level for the local vessel trade.

2.43 In May 2015, LVAC endorsed the above proposed increase in liability cover and the LegCo Panel on Economic Development in general supported it. The Government tabled the legislative amendments in the LegCo on 27 April 2016 for negative vetting. Subject to negative vetting by the LegCo, the new liability cover will take effect on 1 September 2016.

Operation of vessels under the influence of alcohol or drug

2.44 One of the CoI expert witnesses, Captain Nigel Pryke, recommended that consideration should be given to legislating for the conduct of random tests to combat drink and drug boating. At present, the law does not make operation of vessels under the influence of alcohol or drug a specific offence. Nor does the law empower law enforcement authorities to conduct compulsory tests for alcohol or drug after a marine traffic accident.

2.45 To address the matter, the Government has proposed that specific legislation should be enacted to regulate against operation of

vessels under the influence of alcohol or drug and that reference could be made to relevant provisions for drink and drug driving under the Road Traffic Ordinance (Cap 374) and the relevant legislation in other jurisdictions when drawing up the regulatory framework. LVAC agreed with the proposed legislation in principle in August 2015. The Government is working on the detailed legislative proposals and aims at consulting the trade and the LegCo in 2017.

#### Safety management system

- 2.46 In its report, the CoI recommended that operators of ferries and launches carrying more than 100 passengers should be required to implement a safety management system approved by MD. This involves more fundamental changes to the modus operandi of the trade. MD will take a gradual approach to implement this recommendation by organising a series of seminars and briefing sessions to explain to the trade what safety management system is about in the second half of 2016 before introducing the requirement.

#### Marine Traffic Accident Victims Assistance Fund

- 2.47 During the adjournment debate of the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to explore the feasibility of introducing a Marine Accident Victims Assistance ("M-TAVA") Fund, drawing reference from the Traffic Accidents Victims Assistance Scheme.
- 2.48 MD commissioned a consultancy to study the feasibility of introducing an M-TAVA Scheme modelling on the Traffic Accident Victims Assistance Scheme for road traffic. Considering that the number of vessels in Hong Kong is far smaller than that of vehicles in road traffic, and that marine traffic accidents are by nature low in frequency but highly uncertain in severity, the consultant was of the view that it would be difficult to establish a constant and cost efficient financial arrangement for a scheme that is dedicated to marine traffic accidents. An M-TAVA Scheme would have unpredictable financial implications for the trade as well as the Government. Therefore, the consultant did not consider an M-TAVA Scheme viable under such circumstances. Besides, given the relatively small number of vessels in Hong Kong, a high levy would have to be charged if such a scheme were to be set up, which would likely raise grave

concerns from the trade.

- 2.49 While there is yet to be a financial assistance scheme dedicated for victims of marine traffic accidents, there are nonetheless a number of other more effective emergency financial assistance schemes which could provide relief for victims of marine traffic accidents. Various Government-administered charitable trust funds and private charitable trusts/funds, such as The Hong Kong Jockey Club Charities Trust, General Chinese Charities Fund, Tung Wah Group of Hospitals Emergency Relief Fund, etc., may provide assistance to people in need in emergency situations to cope with hardship arising from unexpected incidents. In the light of the consultant's findings, after careful consideration, the Steering Committee agreed not to introduce an M-TAVA Scheme at this stage.

#### Closed-circuit television in wheelhouse

- 2.50 During the adjournment debate of the LegCo's meeting on 18 October 2012, one of the ten improvement measures announced by STH was to explore the feasibility of mandating the installation of closed-circuit television ("CCTV") in the wheelhouse of local passenger vessels to monitor the navigation performance of coxswains.
- 2.51 During the consultation, the trade expressed strong opposition to the proposed installation of CCTV in the wheelhouse, and grave concern over its privacy implications. MD consulted the UK maritime experts on this matter and on possible alternative measures. The UK maritime experts considered that although the installation of CCTV has a role in modifying behaviour in the wheelhouse and has some limited value in investigating accidents, the cost in resistance from the trade may well offset any practical benefit. The UK maritime experts had considered the installation of a voyage data recorder which is required to be fitted on ocean-going vessels, but concluded that this is impractical and unnecessarily complex for local vessels. The UK maritime experts had also considered audio recording in the wheelhouse and installing a front-view video-recording camera in the wheelhouse, but concluded that neither option provides any useful effect on modifying the day-to-day safety or behaviour of the crew.



- 2.52 As for other modes of public transport in Hong Kong, no CCTV is installed on trams and Mass Transit Railway (“MTR”) trains to monitor the driving performance of the tram motormen and MTR train captains. CCTV is only installed in the driver’s cabin on some of the franchised buses. Yet, bus drivers have divergent views on CCTV installation because on the one hand it may help investigate accidents or complaints and even deter passengers from disturbing bus drivers, on the other hand it may intrude the privacy of bus drivers.
- 2.53 Having considered the UK maritime experts and the trade’s views, as well as the practices in other modes of public transport in Hong Kong, the Steering Committee agreed with MD’s assessment that the proposed installation of CCTV or other monitoring devices in the wheelhouse on local vessels should not be further pursued.

#### Speed limit in approaches to Lamma Island

- 2.54 One of the CoI expert witnesses, Captain Nigel Pryke, recommended introducing a speed limit in the approaches to Lamma Island for an added degree of safety. MD has studied the recommendation. According to MD’s study, there is ample sea room and no visual obstruction in the approaches to Lamma Island. The traffic there is also relatively less dense than that in or nearer to the Victoria Harbour, and indeed some ferry vessels are granted speed exemption to exceed the maximum permitted speed in waters with busier traffic than that in the approaches to Lamma Island. Nor is there any speed limit for the approaches to other Hong Kong’s outlying islands. Therefore, MD considers that there is no strong justification for introducing a speed limit in the approaches to Lamma Island. The UK maritime experts also considered that the proposed speed limit would bring no benefit. The Steering Committee agreed with MD’s assessment that this recommendation should not be pursued.

#### Technical matters and miscellaneous improvements

- 2.55 One of the CoI expert witnesses, Dr Nevile Armstrong, made numerous recommendations on technical matters in relation to MD’s plan approval criteria, control on alteration to hull structure or equipment, standard and arrangement of life-saving appliances, assessment on damage stability, design requirements of watertight sub-divisions, etc. He also identified ambiguities and

inconsistencies in relevant legislation and codes of practice for improvement.

- 2.56 Having sought LVAC's endorsement in October 2013, October 2014 and May 2015, MD amended the relevant codes of practice to make a series of improvement on the technical matters and clarify the contents as recommended. In particular, in the amendments made in May 2015, MD additionally adopted the relevant standards issued by the International Organization for Standardization ("ISO") as one of the acceptable standards for lifejackets on local vessels. Before the amendments, the acceptable standards were mainly the standards made under the International Life-Saving Appliance Code as promulgated by the International Maritime Organization.
- 2.57 Legislative amendments to improve the clarity of the legislation will be made in future legislative exercises.

### **More fundamental changes to the regulatory regime for local vessels**

- 2.58 In the process of the review on the safety of local vessels in the past three years, it has been revealed that there is a need to tackle some more fundamental issues on the regulatory regime and practices for local vessels.
- 2.59 As observed by the benchmark survey and the UK maritime experts, the regulatory regime and practices for local pleasure vessels which are licensed to carry no more than 60 passengers are comparatively more relaxed than those for local passenger vessels. Besides, a vessel owner is not required to register with or seek prior approval from MD for letting a local pleasure vessel for hire or reward at present. MD proposes that local pleasure vessels which are licensed to carry 13 to 100 passengers should be subject to the same level of regulation and standards as local passenger vessels to align with the international norms. MD also proposes to set up a licensing system to tighten up the regulation of local pleasure vessels which are let for hire or reward. MD is formulating the regulatory regime and aims at consulting the trade in the second half of 2016.
- 2.60 At present, the coxswain certificates of local vessels are valid until 65 years old of the holder upon issue. The benchmark survey and the UK maritime experts advised that a periodic revalidation requirement should be introduced. MD considers

that though the suggestion has merits, it involves fundamental change to the coxswain licensing system. The proposal has to be taken forward carefully in view of the implications for the trade which has already been suffering from severe labour shortage. MD will gauge the views of the trade first.

- 2.61 In view of the numerous technical and miscellaneous improvements on the codes of practice as recommended by one of the CoI expert witnesses, the UK maritime experts advised that it is time to review the codes of practice in a wholesale manner. The UK maritime experts also found the current codes of practice overly complex in presentation. MD is re-writing the codes of practice and aims at consulting the trade on the draft re-written codes in the second half of 2016.

### **Summary remarks**

- 2.62 The past three years witnesses a period of great changes and reforms for both MD and the trade of local vessels. Many improvement measures have been introduced and implemented to enhance marine safety and restore public confidence in Hong Kong's marine safety regime. MD will continue to implement the remaining improvement measures in consultation with the trade based on the directions laid down by the Steering Committee.
- 2.63 The Steering Committee appreciated that the trade of local vessels has given full support and cooperation for implementing a series of improvement measures, notwithstanding that the trade is facing a very difficult operating environment and serious manpower shortage. It will take some time for both MD and the trade to consolidate the changes and reforms introduced in the past three years. MD should monitor and review the changes and reforms introduced on a regular basis.
- 2.64 Despite the many improvement measures already implemented, the process of review in the past three years has revealed that there is a need to introduce more fundamental changes to the regulatory regime and practices for local vessels, for example, the regulatory regime and practices for local pleasure vessels and the coxswain licensing system. MD should keep up the momentum for changes and reforms, and continue to take forward the more fundamental changes to the regulatory regime of local vessels in the next few years.

### **III Business Processes and Operational Procedures of the Marine Department**

#### **Problems identified**

- 3.1 In its report, the CoI identified problems of MD in regulating local passenger vessels, including loopholes and inadequacies in the plan approval processes, ship inspection, law enforcement and regulation, as well as working deficiencies in procedures and documentation.
- 3.2 MD commissioned the Lloyd's Register, an international marine classification society, to conduct an independent audit review of MD's procedures for plan approval and ship inspection between March and May 2014. The audit review confirmed that MD's quality management system generally complied with the requirements of ISO9001:2008, and no major non-conformity issue was identified. Nevertheless, it has identified four less serious non-conformity issues and 19 suggestions for improvement. The four less serious non-conformity issues related to the frequency of internal meetings, the control procedures on non-conforming services provided by authorized surveyors<sup>7</sup>, the audit check mechanism on the work of authorized surveyors, and the spot checking of local vessels. The 19 suggestions for improvement included follow-up on complaints, authorization of surveyors, survey status checking, surveys and reporting, on board verification of vessel inspection, issuing of certificates, audit checking, training, controlling of measurement equipment, plan approval, internal communication and purchasing processes. MD rectified the non-conformity issues identified and implemented the suggested improvement measures.
- 3.3 Noting the deficiencies identified by the CoI and the Lloyd's Register audit review, the Steering Committee invited the Efficiency Unit ("EU") to conduct a systemic review on MD's organisational structure and management work process. The organisational review was conducted in two phases. Phase I of

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<sup>7</sup> Under section 7 of the Merchant Shipping (Local Vessels) Ordinance (Cap 548), the Director of Marine may authorize qualified external persons as authorized surveyors to undertake approval of plans and survey of local vessels.

the review took place between August 2013 and February 2014, while Phase II between March 2014 and January 2015. A team of five Management Services Officers was seconded from the EU to MD's Task Force on Reform in March 2014 to assist in conducting the organisational review and supporting change management.

### **Phase I organisational review**

- 3.4 The objectives of the Phase I organisational review were to enhance the efficiency and effectiveness of MD in discharging its core functions and responsibilities in licensing, certification and related regulatory work for local vessels. The scope of the study covered the Local Vessels Safety Section ("LVSS") of the Shipping Division; and the Licensing and Port Formalities Section, the Harbour Patrol Section, and the Prosecution Unit of the Port Control Division. Areas reviewed included the organisation structure; internal governance; supervisory structure; roles and responsibilities; business processes; systems and procedures; communication and referral mechanism; and reporting and documentation.
- 3.5 The review findings revealed that there is room for the relevant sections to improve performance of key functions; enhance operational efficiency and effectiveness; strengthen accountability and supervisory responsibility; optimise the use of competent surveyors<sup>8</sup>; and enhance the use of information technology ("IT"). Details of the review findings and MD's follow-up actions are set out below.

#### Improving performance of key functions

##### *Approval of vessels plans*

- 3.6 The review found that the LVSS did not have adequate resources to meet the increasing demand of plan approval, and thus could not meet the performance targets from 2010 to 2012. The situation exacerbated since the fourth quarter of 2012 when the

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<sup>8</sup> Competent surveyors refer to authorized surveyors and recognized authorities. Under section 7A of the Merchant Shipping (Local Vessels) Ordinance (Cap 548), the Director of Marine may recognize suitable government authorities as recognized authorities to undertake approval of plans and survey of local vessels.

LVSS had to spend more efforts on survey work and spot checks. The review recommended formalising an audit check mechanism on plans submitted by competent surveyors. Moreover, LVSS staff members were required to perform both plan approval and survey duties. There was an opportunity to improve efficiency by division of labour.

- 3.7 To improve the situation and assist the LVSS in handling the substantial growth in the number of plans submitted, the LVSS adopted a risk-based approach to conduct quality check of a certain percentage<sup>9</sup> of the plans submitted by competent surveyors to alleviate the workload of the LVSS. Relevant internal instruction was also issued to formalise the auditing mechanism. Three non-civil service contract (“NCSC”) staff members were employed to help clear the backlog of plan approval work. Besides, a designated team was assigned to handle plan approval work with a view to improving productivity and customer services.

#### *Licensing service*

- 3.8 The review found that the officers-in-charge (“OICs”) of the District Marine Offices (“DMOs”) had been overloaded with duties other than processing licence applications, and hence lengthening the processing time of licence applications. There was room for rationalisation of duties by transferring some of their duties in processing licence applications to other supporting staff in the DMOs.
- 3.9 To address the issues encountered in the licensing services, a new workflow for handling licensing applications was developed in September 2014 to optimise the use of staff resources with the help of the computer system, whereby OICs are relieved from handling clerical duties such as printing of certificates. About 36% of OICs’ time spent on renewal applications has been shortened.
- 3.10 To strengthen the enquiry answering system, the information recorded in the departmental hotline system was updated in June 2015. Frequently asked questions were uploaded to MD’s website in September 2015 to help reduce telephone enquiries at

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<sup>9</sup> About 5% to 8.3% of plans submitted.

the DMOs.

- 3.11 To optimise the use of DMO resources, duties like processing of online licence renewal applications were transferred from the busy DMOs to the less busy ones in March 2016 to even out their workload.

### Enhancing operational efficiency and effectiveness

#### *Reporting and documentation*

- 3.12 In the past, MD inspectorate staff performed their survey work by making reference to past experience or verbal advice from more senior colleagues. The review recommended that detailed guidelines for plan approval should be drawn up for reference in the LVSS. The method of recording survey results could be improved as well.
- 3.13 To introduce a structured mechanism for reporting and documentation, a series of technical guidelines on various aspects for plan approval, initial survey, and periodic and final inspections were developed. MD will continue to update the guidelines to provide better guidance for frontline staff and to reflect the latest best practices. Moreover, standardised checklist and forms were designed and used to ensure a consistent practice in recording plan approval and ship survey results. Clear records and their consistent presentation will make it easier for vessel owners to carry out remedial actions, whilst facilitating follow-up and re-surveying work by MD officers. Instructions were also formalised and shared amongst staff for easy reference to ensure a consistent practice.

#### *Records and information management*

- 3.14 The review found that instructions, guidelines and other essential information were documented in different sources (such as files, emails, meeting minutes, etc.) and it took some time for staff to locate and retrieve the necessary information to facilitate their daily operations. The review recommended that a common platform should be established to facilitate storage, retrieval and sharing of information in the LVSS.
- 3.15 To introduce a structured mechanism for records and information management, an intranet portal was set up in the LVSS to

facilitate storage and retrieval of related information. Updated guidelines and instructions, law and regulations and codes of practices, etc. are uploaded to the intranet portal for sharing amongst LVSS staff. Staff members have real-time access to the most updated information to facilitate the discharge of their duties now.

- 3.16 To take advantage of the latest IT, MD has participated in a pilot programme of the Electronic Recordkeeping System (“ERKS”) led by the Office of the Government Chief Information Officer. The development of ERKS can further facilitate and strengthen record keeping and sharing of information in MD. In the longer term, MD plans to implement an Enterprise Information Management System (“EIMS”) which will help enhance operational efficiency and meet the increasing expectation of the community.

#### Strengthening accountability and supervisory responsibility

##### *Division of roles and responsibilities*

- 3.17 The review found that there was room to strengthen the internal communication and referrals between the Port Control Division and the Shipping Division in handling licence applications, conducting compliance checks, handling non-compliance cases and carrying out enforcement actions.
- 3.18 To address the above issue, new institutional arrangements were introduced to deal with issues requiring the joint efforts of different sections and units. For example, the LVSS has devised guidelines and arranged briefings for the Harbour Patrol Section to facilitate patrolling officers to carry out inspection of fire-fighting and life-saving appliances during their daily work. Arrangements have also been made to streamline the existing practices and regular liaison of the two sections on suspected non-compliance cases discovered and the follow-up of such cases. Actions were taken to strengthen the communication between frontline staff and the management. A three-tier system was established in March 2015 to enhance cross-section and cross-division communication. To provide a high level steer, a coordination panel chaired by the Deputy D of M was set up in March 2015 to resolve issues which could not be settled at the sectional and divisional level.



### *Supervisory and performance monitoring mechanisms*

- 3.19 The review recommended that in the LVSS, supervisors would be formally assigned to Ship Inspectors or Assistant Ship Inspectors to supervise their work on a day-to-day basis. Besides, regular review and reporting would be carried out at divisional and sectional level.
- 3.20 To strengthen the supervisory and performance monitoring mechanism in the LVSS, each Ship Inspector or Assistant Ship Inspector is paired up with an auditing officer at the level of Senior Ship Inspector to facilitate the latter to audit and check the survey work and discuss issues encountered by the former in his daily work on a regular basis. In addition, new monthly and quarterly reports on the achievement of performance targets and other operation-related indicators has been put in place. Regular meetings between the management and section heads have also been arranged to devise action timelines, review performance, discuss complicated issues and identify practical solutions.

### Optimising the use of competent surveyors

- 3.21 To take full advantage of the scheme of delegating plan approval and survey work on low risk vessels to competent surveyors, a publicity drive has been launched since July 2014 to attract more potential candidates to join the scheme of competent surveyors. MD is also exploring the feasibility in delegating more plan approval and survey work to competent surveyors so as to alleviate the workload of the LVSS and allow the LVSS to focus more on its regulatory role.
- 3.22 The LVSS has now adopted a risk-based approach in conducting quality check on submitted plans performed by competent surveyors. The internal target for audit check on the survey work done by competent surveyors has also been reviewed. Their performance (e.g. audit checks results, warning letter issued) is systemically and centrally recorded to facilitate monitoring. Communication with competent surveyors has also been enhanced by having annual meetings with them to discuss their overall performance and the latest requirements or development.

## Enhancing the use of IT

- 3.23 MD is taking steps to enhance the Licensing and Survey of Local Vessel System, which provides key support for plan approval and vessel survey. The system captures information of all licensed local vessels. Enhancement is being introduced so that a closed-loop system and the workflow functions for plan approval and initial survey work will be incorporated into the system. The enhancement seeks to ensure consistency in processing applications by staff; facilitate internal checking, statistical reporting and analysis; and facilitate review and monitoring of case progress by the supervisors. In addition, approved ship plans and survey reports are being converted into electronic images and stored at the intranet portal for on-line retrieval and sharing amongst authorized staff.
- 3.24 A central repository under the EIMS for better knowledge management and information sharing will be developed. As it will take some time to implement, MD's Intranet has been enhanced as an interim measure to provide a platform for storing and retrieval of reference materials and information.
- 3.25 As for the enhancement of communication with competent surveyors, a dedicated corner for competent surveyors was created on MD's website in May 2015 to provide them with most up-to-date information such as guidelines, reminders, etc. Besides, MD is setting up an electronic submission channel to facilitate competent surveyors in submitting plans for approval and survey information with a view to improving operational efficiency.

## **Phase II organisational review**

- 3.26 The objectives of the Phase II organisational review were to enhance the efficiency and effectiveness of MD in discharging its regulatory functions related to ship safety and navigational safety. The scope of the study covered the relevant sections in the Shipping Division, Port Control Division and Multi-lateral Policy Division. Areas reviewed included roles and responsibilities, control and monitoring, business processes, systems and procedures, reporting and documentation, as well as communication and referral mechanism.

- 3.27 The review findings revealed that there is room for the relevant sections to strengthen their roles and functions related to safety; enhance control and monitoring; and optimise the use of IT. Details of the review findings and MD's follow-up actions are set out below.

### Strengthening roles and functions related to safety

#### *Survey and certification work of Hong Kong-registered passenger ships*

- 3.28 Except for a few safety certificates, such as the International Oil Pollution Prevention Certificate and the International Load Line Certificate which may be issued either by MD or approved classification societies<sup>10</sup>, most safety certificates of Hong Kong-registered passenger ships are issued by MD only because of the present legal requirements. The review examined the feasibility of delegating more survey and certification work to classification societies in order to provide more options for ship owners and better deploy MD's scarce manpower resources.
- 3.29 The review found that savings from delegation of work was minimal given that monitoring of the delegated work would be required, and there was no backlog in MD on the survey and certification work for Hong Kong-registered passenger ships. Besides, it is expected that the number of Hong Kong-registered passenger ships will decrease after the commissioning of the Hong Kong-Zhuhai-Macao Bridge. The feasibility in delegating more work to the approved classification societies will be assessed again in due course. Nevertheless, MD will encourage ship owners to engage the services of the approved classification societies for those safety certificates which may be issued by them.

#### *Eligibility requirements for Pleasure Vessel Operator Certificates*

- 3.30 For the application of Pleasure Vessel Operator Grade 1 and Grade 2 Certificates, only written examination with no practical operation assessment is required. The applicants are not required to meet other pre-requisites such as having safety

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<sup>10</sup> Under section 8 of the Merchant Shipping (Safety) Ordinance (Cap 369), the Secretary for Transport and Housing may approve an organization for the purposes of surveying ships and issuing certificates under the Ordinance.

certificates and basic training. Besides, the certificate holders are eligible to operate local pleasure vessels let for hire or reward with no additional certification requirements. For certificate revalidation upon the holders attaining 65 years old, only eyesight test result is required. The review recommended strengthening the eligibility requirements for the Pleasure Vessel Operator Certificates.

- 3.31 Having sought LVAC's endorsement in August 2015, MD will amend the relevant examination rules in mid-2016 to introduce a navigation simulation assessment for applicants of certain Pleasure Vessel Operator Certificates (see paragraph 2.30 above). Besides, MD plans to consult the LVAC in mid-2016 on the proposed requirement of a medical fitness certificate for revalidation of Pleasure Vessel Operator Certificates after the holders have attained 65 years old.
- 3.32 MD has also proposed to require the applicants for the Pleasure Vessel Operator Grade 1 Certificate to acquire basic safety certificates as a pre-requisite; and introduce a refresher course for holders of Pleasure Vessel Operator Certificates who operate local pleasures vessels which are let for hire or reward upon revalidation of their certificates. MD will consult LVAC to seek its endorsement for the two proposals in mid-2016.

#### *Operational situation of Vessel Traffic Centre*

- 3.33 The VTS provided by MD's Vessel Traffic Centre ("VTC") is regarded as world-class standard, albeit the review found that occasionally the VTC could not provide instant response to vessels navigating in the waters of Hong Kong due to the limits of the existing system and the overloaded work within some VTS sectors.
- 3.34 To improve the operational situation of the VTC, MD will seek additional resources for a re-demarcation of the VTS sectors. The Government is also preparing legislative proposals to reduce the calling-in points and revise the reporting procedures. Furthermore, MD is upgrading the information systems of the VTC to include automatic recognition and data capturing functions, and replace the paper trip cards by electronic trip cards. The system upgrade will be completed in late 2016.

## Enhancing control and monitoring

### *Quality assurance of Hong Kong-registered cargo ships*

- 3.35 MD is committed to conducting ship quality inspections and audits of the ship management company on 5% of Hong Kong-registered ships annually. To meet the performance target amid rapid expansion of the fleet size of Hong Kong-registered ships, more frequent company audits are conducted which lead to a dwindling proportion of ship quality inspections.
- 3.36 To maintain the performance and safety standards of Hong Kong-registered cargo vessels, MD will set up a standalone indicator of 5% on ship quality inspections which separates from company audits in mid-2016.

### *Reporting and documentation mechanism*

- 3.37 At present, improvement follow-up actions which have been proposed in the quality assurance examination (“QAE”) on the VTC and subsequently implemented by relevant sections are recorded in files in different sections. To fully record the actions taken, the review recommended that follow-up actions should be centrally recorded in a QAE register system. Proper recording and convenient retrieval of all follow-up actions taken by relevant sections are important for the progress monitoring and quality assurance of the follow-up measures.
- 3.38 MD is now enhancing the QAE register system to establish a workflow for reporting the follow-up actions by relevant sections. The system is expected to be completed in mid-2016.

### *Internal performance audit for Vessel Traffic Services staff*

- 3.39 According to the operational practices of the VTC, every VTS officer should be audited twice a year so that their performance for different posts could be completely assessed once a year. The review found that the internal performance audit was not carried out in full in recent years due to manpower shortage. To rectify the situation, MD resumed the internal performance audit for VTS operators and VTS supervisors in February and July 2015 respectively.

### *Internal target for marine accident investigation*

- 3.40 It was a past practice in MD to set a maximum number of hours for completing an accident investigation. Under this practice, the time span for completing the investigation could be unduly long.
- 3.41 To control the time span for completing an accident investigation, MD revised the internal guidance note in January 2015 to adopt an internal target of 52 weeks. An NCSC staff member was recruited in February 2015 to assist in drafting accident investigation reports.

### Optimising the use of IT

#### *Adoption of electronic submission*

- 3.42 In view of the large number of certificates and documents submitted by the approved classification societies for MD's record and quality checking, MD is facing difficulties in timely updating the information into the computer system. Obsolete records not only impede day-to-day monitoring of the fleet, but will also affect the shortlisting of under-performers for quality inspection.
- 3.43 The adoption of electronic submission will not only provide an additional channel of information and application submission to the trade and the public, it will also save MD's staff efforts in data input in respective computer systems. To explore further electronic submission opportunities, MD conducted a comprehensive review of the public forms on MD's website in May 2015 to identify forms suitable for electronic submission.
- 3.44 MD is conducting system development work to facilitate electronic submission of information on statutory certificates relating to Hong Kong-registered cargo ships. A trial run has been carried out in March 2016. The system is expected to be ready for operation in mid-2016.

*Automating the checking of monthly roster of coastal-going passenger ships*

- 3.45 MD checks the rosters of the crew working on Hong Kong-Macao passenger ships for compliance with the working hour requirements under their permits. The check is carried out manually and takes about 49 man-hours per month. The review recommended that the checking process could be automated with the use of computer programmes.
- 3.46 MD is developing a computer system to automate checking of the monthly roster of crew working on Hong Kong-Macao passenger ships. The computer system is expected to be completed in mid-2016.

*Harnessing the optimal use of marine accident data*

- 3.47 The review identified that better use and wider sharing of the marine accident data kept in the database would be beneficial for MD to take accident prevention and safety precaution measures. A computer programme for analysing the marine accident data has been developed and the analysis result has been uploaded to MD's intranet for sharing since March 2016.

**Promoting good practices in other Divisions of MD**

- 3.48 While the two-phase organisational review has much improved the business processes and operational procedures, MD needs time and mechanisms to consolidate and internalise the changes introduced. The focus of the organisational review undertaken so far is largely on the business processes and operational procedures in the LVSS and the Shipping Division. MD will need to replicate the good practices introduced in the LVSS and the Shipping Division to address similar deficiencies in the business processes and operational procedures in other Divisions of MD, notably the Government Fleet Division which takes up over 40% of both the manpower and resources of the whole Department. MD will focus on the financial controls in the Government Fleet Division and the arrangements on procurement of government vessels for other Government departments. Besides, there is a need for MD to set up in longer term a more elaborate internal audit and compliance mechanism to ensure that the good practices introduced could be sustained and fully followed after the disbandment of the Task Force on Reform.

## Summary remarks

- 3.49 In the past three years, MD has made significant progress in modernising and improving its working procedures and practices on various fronts:
- (a) on reporting and documentation, standard checklist and forms have been put to use to ensure a consistent practice in recording plan approval and ship survey results, and internal instructions and guidelines have also been developed and strengthened;
  - (b) on operational efficiency and effectiveness, work processes on plan approval, survey and licensing of local vessels have been improved;
  - (c) on internal cooperation and collaboration, roles and responsibilities amongst sections have been delineated, and a new communication mechanism has been set up;
  - (d) on supervision and performance monitoring, the supervisory structure in the LVSS has been rationalised, and new institutional requirements have been introduced to monitor achievement; and
  - (e) on communication with competent surveyors, annual meeting with competent surveyors has been arranged, and web facilities have been developed to enhance information dissemination.
- 3.50 The Steering Committee considered that MD should make further use of IT to strengthen records management in supporting the Department to fulfill its business objectives. Towards this end, the Steering Committee noted that MD is developing an EIMS to further enhance MD's operational efficiency.
- 3.51 The Steering Committee strongly supported that MD should replicate the good practices introduced in the LVSS and the Shipping Division to address similar deficiencies in the business processes and operational procedures in other Divisions of MD, notably the Government Fleet Division, and set up in longer term a more elaborate internal audit and compliance mechanism to ensure that the good practices introduced could be sustained and fully followed.



## **IV Manpower Strategies and Training Matters of the Marine Department**

### **Manpower situation of the Marine Officer and Surveyor of Ships grades**

#### An overview of the MO and SoS grades

- 4.1 MO and SoS are the two core professional grades in MD for discharging the statutory functions relating to all navigational matters in the waters of Hong Kong and the safety standards of all classes and types of vessels. Both grades consist of three ranks: the two non-directorate ranks of MO/SoS and Senior MO/Senior SoS; and at the directorate level, Principal MO/Principal SoS (D1). The MO and SoS grades are also the two feeder grades for the senior directorate ranks, from Assistant D of M (D2) up to D of M (D6).
- 4.2 At the entry rank, the SoS grade is divided into three streams: namely Nautical (“N”), Ship (“S”) and Engineer and Ship (“E&S”). The MO grade is not streamed. In general, the senior directorate ranks in MD can be filled by officers from both disciplines. As the staff of the two grades have a multi-faceted role in various maritime-related duties in MD, it is considered necessary for a candidate to acquire specific maritime and/or maritime-related academic and professional qualifications and post-qualification working experience in order to be eligible to apply for the MO or SoS posts (details at **Annex D**). Candidates for the MO, SoS(N) or SoS(E&S) posts must work on board ocean-going vessels at designated responsible positions for the required sea service in order to acquire the relevant qualifications and experience. Although candidates for the SoS(S) post do not need to acquire any ocean-going sea service, they have to accumulate a total of four more years’ relevant experience in the naval architectural field after obtaining the professional qualification on naval architecture. Besides, the lack of a local undergraduate degree programme on naval architecture has made it even more difficult for MD to source young talents in the field to join its workforce.
- 4.3 As shown in Table 1 below, it normally takes about 9.5 years to 12 years for a candidate to acquire the necessary qualification and experience in order to be qualified for the respective posts.

Table 1 : Estimated time to acquire the qualification and experience required for the MO or SoS posts

<i>Rank</i> <i>Requirement</i>	<i>Surveyor of Ships</i>			<i>Marine Officer</i>	
	<i>Ship</i>	<i>Engineer and Ship</i>			<i>Nautical</i>
Academic qualification	<b>4 years</b> <i>[Degree]</i>	<b>4 years</b> <i>[Degree]</i>	<b>4 years</b> <i>[Degree]</i>	<b>4 years</b> <i>[Degree]</i>	<b>2 years</b> <i>[Higher Diploma]</i>
Professional qualification	<b>4 years</b> <i>[Corporate membership]</i>	<b>4 years</b> <i>[CoC (MEO) Class 1]</i>	<b>3 years</b> <i>[CoC (MEO) Class 2 + Corporate membership]</i>	<b>6.5 years</b> <i>[CoC (DO) Class 1]</i>	<b>6.5 years</b> <i>[CoC (DO) Class 1]</i>
Post-qualification working experience	<b>4 years</b> <i>[in naval architectural field]</i>	<b>2 years</b> <i>[2<sup>nd</sup> Engineer]</i>	<b>4 years</b> <i>[2<sup>nd</sup> Engineer]</i>	<b>2 years</b> <i>[Chief Officer]</i>	<b>1 year</b> <i>[Chief Officer]</i>
<b>Total</b>	<b>12 years</b>	<b>10 years</b>	<b>11 years</b>	<b>12.5 years</b>	<b>9.5 years</b>

CoC (MEO) : Certificate of Competency (Marine Engineer Officer)

CoC (DO) : Certificate of Competency (Deck Officer)

#### Supply of marine professionals in the market

4.4 Hong Kong's maritime sector has been facing with an acute shortage of professionals with a sea-going background for the last decade because there is a general lack of interest amongst young people to work on board ocean-going vessels. Most youngsters do not prefer changing their life pattern and spend long years at sea in order to progress to the senior officer positions. As a result, the supply of home-grown trained seafarers has always been very limited. Besides, the maritime industry is a highly global business and shipping companies in the private sector are more flexible to address their manpower problems by offering a competitive remuneration package and recruiting employees from all over the world.

4.5 In 2014-15, the Maritime Services Training Board of the Vocational Training Council conducted a manpower survey on the maritime services industry<sup>11</sup>. It revealed the same situation that, of those officer level seafarers who were hired from Hong

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<sup>11</sup> The survey covered companies sampled from the maritime services industry in Hong Kong with emphasis on the employees of Hong Kong. The findings of the survey reflect the manpower situation of the maritime services industry in August 2014.

Kong, only 7.4% were permanent residents (“PRs”) of Hong Kong. While the surveyed companies indicated that they did not have recruitment need for seafarers at the time of the survey, it was possible that the employers might have hired suitable candidates from the overseas labour market due to the recruitment difficulties they faced in Hong Kong.

- 4.6 The MD’s recruitment is however bound by the civil service policies and rules (e.g. civil service pay scale, remuneration package, the requirement to recruit Hong Kong PRs under normal circumstances, etc.). Since MO and SoS recruits are required to possess professional qualifications (which entailed long period of sea service) plus additional post-qualification working experience, many home-grown trained seafarers have sought alternative employment in the private sector or outside Hong Kong. Coupled with the highly competitive remuneration for jobs of comparable professional requirements<sup>12</sup>, MD has encountered great difficulties in attracting a sufficient number of qualified seafarers or naval architects with Hong Kong PR status to pursue a public service career.

#### Manpower situation of the MO and SoS grades prior to 2013

- 4.7 Over the years, the manpower shortage problems for both the MO and SoS grades remain severe. At the same time, the two grades have been facing a critical succession situation, including at the directorate ranks because most MOs and SoSs were well above their 40s when they were first appointed at the basic rank to the respective grade.
- 4.8 Since the lifting of the civil service recruitment freeze in 2007, MD has been conducting open recruitment exercises for both the MO and SoS posts. The outcome was however far from satisfactory. Out of the 15 exercises conducted between 2007 and 2012, the average number of MOs and SoSs successfully recruited in each exercise were only 2 and 2.5 respectively; and

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<sup>12</sup> Through informal survey by MD, the monthly salary for a high speed craft master (excluding other benefits e.g. housing allowance, overtime allowance) is in the range of about \$43,000 - \$54,810; \$45,000 - \$80,000 for a port captain; US\$9,480 - US\$14,000 for a sea-going master; \$35,000 - \$90,000 for a technical manager; \$40,000 - \$110,000 for a senior technical manager; \$35,000 for a classification society’s surveyor; and about \$160,000 for a junior pilot. The monthly salary levels of MO and SoS for 2015-16 range from \$51,805 - \$95,215 and \$63,095 - \$95,215 respectively.

the average age of the new recruits was 44.4 for MO and 44.3 for SoS as at the time of appointment. **Annex E** is a summary of the relevant statistics for these recruitment exercises.

- 4.9 From a snapshot taken on 30 April 2013 when it was slightly before the Steering Committee was established (Table 2), it shows that the very low intake rate of new recruits is far from sufficient to cover the anticipated wastage (or projected retirement) of the grades.

Table 2 : Vacancy and average age of the MO or SoS grades  
(position as at 30 April 2013)

Grade	Establishment	Strength (average age)	Vacancy	Projected Wastage (Up to March 2017)
MO	64	54 (52.9)	<b>10</b> (15.6%)	<b>21</b>
SoS	57	52 (52.2)	<b>5</b> (8.8%)	<b>17</b>

- 4.10 In a few years' time, MD will face very serious succession problem. It calls for immediate actions to draw up stop-gap measures and formulate a long term manpower strategy to address the long-standing vacancy situation of the two grades.

## **Manpower review and stop-gap measures**

### Manpower review

- 4.11 The manpower and succession issues are critical to the reform of MD since the lack of qualified professionals to join MD will adversely affect the Department's capability in discharging its functions and responsibilities. In order to explore possible options to address the long-standing vacancy situation of the MO and SoS grades, the Steering Committee took note of the relevant information and statistics about the manpower situation of MD as well as those of the industry as a whole; examined in detail the career development of seafarers in Hong Kong; met the respective grade management in MD; and visited the MSTI of the Vocational Training Council, which is the major academic institute supplying home-grown seafarers.
- 4.12 In advising MD to map out a manpower strategy, the Steering Committee noted the constraints under the civil service appointment system. But in view of the acute manpower shortage and succession problems faced by MD, the Steering

Committee considered that a macro view should be taken to set out the directions for the review and to draw up possible solutions.

#### Relaxation of entry requirements

- 4.13 At present, the entry requirements for both the MO and SoS grades are rather stringent. Besides, the recruitment exercises launched are confined to the local labour market with PR status candidates only, who must also attain the requirements on the Chinese and English language proficiency.
- 4.14 The entry requirements have effectively prevented young candidates from joining MD. After completing the relevant academic studies, youngsters who are interested in pursuing a sea-going career have to join the sea-going sector in the maritime industry. By the time they have attained the professional qualifications and accumulated the sea-going working experience required by MD, they should have established their career in the sector and are most likely receiving a competitive remuneration package. This makes the jobs in MD relatively unattractive since under the existing civil service policy, MD in general only recruits basic ranks. Most potential candidates just stay in the private sector. Only when they decide to stop sea-going and look for a land-based job, will MD become one of the many opportunities available to them. This also explains why the average age for the new recruits of MO and SoS is so high.
- 4.15 In order to compete with the private sector for limited talents and to recruit younger officers to fill the MO and SoS vacancies, MD could no longer rely on the supply of fully qualified and experienced professionals from the open market. It is necessary to consider a larger pool of candidates who have the attributes and potential to be developed into a competent MO or SoS. It is time for MD to explore grooming its own professional cadres in the longer run by allowing potential candidates to join MD at an earlier stage in their sea-going career. That is, at a time when the prospect and remuneration package that can be offered by MD is still competitive. The Steering Committee considered that MD would need to review and enhance the existing training programme for the new recruits to bring their competence/qualifications on par with that required for the MO and SoS ranks.
- 4.16 The language proficiency and PR status requirements that are

generally applicable to all civil service appointments have further reduced the pool of available qualified sea-going talents to fill MD's posts. The qualifications and experience of the sea-going professionals are recognised internationally and English is the common working language for the maritime industry. To enlarge the pool of qualified candidates in the recruitment exercises, the Steering Committee considered that MD should consider conducting recruitment overseas and allowing English speaking only candidates to fill some of the MO and SoS posts that do not require the incumbent to be bilingual. Furthermore, in view of the critical manpower shortfall, the Steering Committee considered that MD should explore with relevant authorities for accepting non-PR candidates from overseas.

#### Attracting young people joining and remaining in the seafaring sector

- 4.17 Unlike shore-based jobs, manpower shortage is more acute for sea-going positions/jobs, as reflected in the recruitment of the professional streams in MD and the ageing profile of local harbour pilots in the private sector. Accordingly, the Sea-going Training Incentive Scheme<sup>13</sup> ("Incentive Scheme") was launched in 2004 with a view to enhancing the supply of local qualified personnel with sea-going experience to work in the maritime industry.
- 4.18 The charts in **Annex F** are derived from past statistics on sea-going cadets under the Incentive Scheme. They show that the Scheme has had some success in attracting graduates of related studies, in particular those of MSTI to pursue a sea-going career. Since 2004 when the Incentive Scheme was launched, there has been a marked increase in MSTI graduates opting for sea-going deck cadet training (see Chart A in **Annex F**). The Incentive Scheme is however less attractive among graduates from related degree/higher diploma programmes of the Hong

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<sup>13</sup> The Sea-going Training Incentive Scheme aims to encourage Hong Kong youngsters to take on and complete sea-going training with a view to developing their future careers in the port and maritime support industries. It is administered by MD. Under the Scheme, a cadet will receive \$6,000 per month from the Government during the individual stipulated training period which will qualify him/her to sit for the Class 3 Deck/Engineer Officer Examination. The incentive will be paid in arrears directly to the successful applicants by MD as a lump sum on completion of each employment contract up to the maximum training period of 18 months for a deck cadet and 12 months for an engineer cadet.

Kong Polytechnic University (see Chart B in **Annex F**). For the engine cadet stream, enrollment under the Incentive Scheme has been low even though there are more institutions providing qualified degree/higher diploma programmes (see Charts C and D in **Annex F**).

- 4.19 As shown in Charts E and F in **Annex F**, out of the total 385 sea-going cadets enrolled for the Incentive Scheme, 18 of them (12 from the deck stream and six from the engineer stream) have reached the Certificate of Competency (“CoC”) Class 1 level. It is expected that more will come on-stream in the years ahead. However, the number is still far from sufficient to meet the demand of the local sea-going sector. As the industry-wide competition remains keen, MD will face the same difficulties in attracting these fully qualified fresh talents to join MD when they obtain their CoC Class 1 qualifications and have accumulated the working experience required. In other words, although the Incentive Scheme starts to bear some positive results, it does not guarantee a steady supply of young professionals to join MD to relieve the manpower shortage and ageing problems of the MO and SoS grades. Again, it will be necessary for MD to explore more possible means to secure the availability of competent candidates early in their career to join MD.
- 4.20 The picture in Charts E and F in **Annex F** is however not complete. The statistics available only cover CoCs issued in Hong Kong. Of the large difference in the numbers between cadets and CoC Class 1 holders, some may have acquired only the Class 3 or Class 2 qualifications and some may have left the sea-going job before obtaining the Class 1 Certificate. Besides, there should be some cadets who choose to acquire the CoC qualifications overseas where structured preparatory courses for the examinations are available. Under the existing mechanism, there is no avenue which enables MD to keep track of the development of all cadets under the Incentive Scheme throughout their CoC path. It is worth exploring the size of this group of qualified seafarers and finding means to reach this group for promoting the jobs in MD or those in the maritime industry in Hong Kong.

## Manpower strategy directions

4.21 To tackle the manpower shortage and ageing problems of the MO and SoS grades, it is necessary to enlarge the pool of candidates for the posts and to attract potential candidates to join MD as early as possible in their career. In order to achieve this, the Steering Committee considered that MD should seriously review and explore the following directions:

- (a) to lower the hurdle on the professional and experience requirements to allow potential candidates joining the two grades at an earlier stage in their sea-going career;
- (b) to relax the normal requirements for civil service appointments on exceptional grounds so as to capture more qualified candidates to be considered;
- (c) to develop a structured training programme for grooming potential new recruits with focuses on the core competencies required for delivering the jobs of MO and SoS;
- (d) to offer a better remuneration package to compete for those fully qualified and experienced professionals in the maritime sector; and
- (e) to provide more incentives to attract and retain the targeted potential candidates in the sea-going career until they reach the CoC Class 1 level.

## Stop-gap measures

4.22 While the broad directions have been set out in developing the long-term measures and implementation details, it is necessary to address the acute manpower shortage that MD is facing. Along the same direction, MD has identified scope for taking forward a number of pilot measures on a stop-gap basis to help alleviating the manpower shortage problem. After obtaining approval from the relevant authorities, MD had implemented these stop-gap measures in three MO/SoS recruitment exercises conducted in 2014 and 2015. The details are as follows:

- (a) Relaxation of language proficiency requirement – In general, applicants for MO/SoS posts are required to attain level 1 of the Common Recruitment Examination for civil service



appointment. They are now only required to obtain a pass in English and Chinese languages in the Hong Kong Certificate of Education Examination or Hong Kong Diploma of Secondary Education Examination. Furthermore, MD has opened up a limited number of new recruit places for exemption of Chinese language proficiency requirement;

- (b) Granting of incremental credit for working experience – To attract experienced maritime professionals from the private sector to join the MO/SoS grades, pay-point increments for relevant working experience attained are granted to qualified new recruits;
- (c) Relaxation of entry requirement on working experience – The post-qualification working experience for MO and SoS posts were completely waived or relaxed through a special arrangement of sub-entry point, i.e. with appropriate reduction in the entry salary below the minimum point for normal entry qualification; and
- (d) Enhancing the publicity of the recruitment exercises – MD has touched base with the relevant training institutions, professional organisations, unions and associations to encourage potential candidates to apply for the posts.

4.23 It is worth noting that there has been a slight increase in the total number of applications received in the past three recruitment exercises conducted in 2014 and 2015, and more younger candidates are found suitable for the MO and SoS posts although the total number remains small – seven for MO and six for SoS in those three recruitment exercises. Among them, four candidates eventually did not take up the appointments mainly on financial considerations. The total successful intake within the past two years was only five MOs and four SoSs. This is considered not satisfactory in tackling the fundamental problem of scarce supply of suitable talents in the local labour market.

#### Latest manpower situation

4.24 As at 31 March 2016, the vacancy position of the MO grade stood high at 18. As shown in the projection table attached in Annex G, 53% of the present strength will have reached the normal retirement age in five years' time. In ten years' time, the

cumulative normal wastage will have reached 67% of the present total strength. **Annex H** compares the age distribution of the MO grade between April 2013 and March 2016. The overall strength of the grade has decreased from 54 to 43 (by 20%). Although there were younger talents in the age range of below 40 joining the grade, the number of new intakes during the period was far from sufficient to meet the normal wastage of the grade.

- 4.25 For the SoS grade, as at 31 March 2016, the vacancy position was 13. The grade is facing similar problems. As shown in the projection in **Annex I**, 42% of the present strength will have reached the normal retirement age in five years' time. In ten years' time, the cumulative normal wastage will be 70% of the present total strength. **Annex J** compares the age distribution of the SoS grade between April 2013 and March 2016. The age profile of the grade remains top heavy with only two officers at the age range of below 40.
- 4.26 It is necessary for MD to explore further relaxation of the qualification requirements for MO and SoS in the long-run in order to capture a larger pool of potential candidates to acquire the skills required at the MO/SoS level after completion of the tailored-made training or development syllabus. In this regard, a possible long-term measure is to create a new training or assistant rank through embarking on a grade structure review for the two grades. As regards to the possibility of offering a more competitive remuneration package to attract fully qualified and experienced professionals to join MD, the Steering Committee considered that direct recruitment of suitable candidates to fill the vacancies in the senior ranks of the two grades should also be explored.
- 4.27 In the meantime, MD will continue to implement the stop-gap measures for the recruitment exercises of the two grades. Besides recruiting manpower to meet the Department's operational needs, the recruitment exercises will provide very useful data for MD to review the effectiveness of the stop-gap measures.
- 4.28 At the industry level, the Steering Committee considered that continuous efforts should be made to attract youngsters to join the industry and to retain them in a seafaring career, from the time of their enrollment for relevant study programmes until attaining the relevant professional qualifications. Considerations could also

be given to enhance the public perception of the sea-going career; increase the training opportunities available; and broaden the scope of the Government financial incentives to a higher level of the seafaring professional development pathways. It is however understood that these are long-term initiative measures and involve not only the policy area of maritime services. There is also a need to have the support and collaboration amongst the stakeholders within the Government as well as external institutions and organisations.

## **Advice of the UK maritime experts**

### Global situation

- 4.29 The UK maritime experts provided advice on how MD might enhance its longer-term manpower and training strategies with reference to the experience of comparable overseas maritime authorities. In terms of jobs, positions equivalent to MO and SoS in MD were identified in comparable overseas maritime authorities. At the same time, the UK maritime experts were fully aware that MD is subject to common civil service rules, regulations and pay structure of the Government of the Hong Kong Special Administrative Region in all manning and recruitment matters. According to the UK maritime experts, these overseas maritime authorities also similarly recruit fully qualified maritime professionals for equivalent posts.
- 4.30 The UK maritime experts noted that many maritime authorities have introduced changes to their recruitment policy in recent years. For instance, in employing professional seafarers, some started recruiting candidates with a lower vocational qualification. Appropriate training followed, and good quality surveyors were produced. There are maritime authorities that have gone even further to recruit suitable graduates with relevant degrees and place them on in-house training courses, where they are introduced to the business of ship survey.
- 4.31 For the MO jobs which in general are intended for discharging the port management functions, there are no commonly recognised international qualification system. The entry requirements to equivalent positions in comparable maritime authorities vary widely, depending on the mode of port operation, degree of privatisation, the part of the organisation that an officer is recruited for and the scale of manning, etc. However, the

common feature among them is the availability of a structured and comprehensive training programme for the officers to progress to other parts of the organisations or promotion.

#### Long-term manpower and training strategies

- 4.32 The UK maritime experts took similar views that the professional qualifications required for entry to the MO and SoS grades tended to be stringent and this could be the major reason leading to the manpower shortage and succession problems. The UK maritime experts considered that there was room to lower the entry requirement for both grades. Whilst a certain amount of sea-going experience would continue to be seen as useful, many overseas maritime authorities now accept that graduates without any sea service could also take up SoS or MO equivalent positions with appropriate in-house training. Along this trend, the UK maritime experts supported the idea of recruiting from a wider pool of potential candidates through relaxing the professional qualifications. In addition, they considered broadening the experience of MD's middle and senior managers by bringing in a wider level of experience and a broader view of the business of MD may bring advantages in developing the longer-term vision of the Department.
- 4.33 As regards training, the UK maritime experts advised that MD should adopt a competency-based system designed around the core competencies needed by the officers for their assigned roles. Where needed, competency-based refresher training should be introduced.

#### **Summary remarks**

- 4.34 The Steering Committee considered that the broad directions for tackling the manpower shortage and succession problems of the MO and SoS grades in the long-run are on the right path. The UK maritime experts also made similar observations. In view of the UK maritime experts' advice, there is a need for MD to review fundamentally the attributes and core competencies required of the MO and SoS grades for drawing up the strategies for recruiting suitable candidates for the base ranks and the training and development arrangements for in-service officers to assume management responsibilities in the long run. This will facilitate MD to work out how the professional qualification and experience hurdles may be lowered or adjusted for enlarging the pool of

candidates and capturing younger talents; and design a structured and competency-based training programme for in-house development of these young talents. Where possible, exceptional arrangements should be made to allow English speaking only candidates to take up some MO and SoS posts.

- 4.35 The Steering Committee considered that MD should continue to implement the stop-gap measures that have already been rolled out. Apart from that, MD should continue to identify more practicable stop-gap measures for recruiting suitable candidates along the recommended directions. It will not be long when all existing MO/SoS retire from the service. As an interim and stop-gap measure, MD should seriously consider the option of recruiting experienced professionals to the senior rank(s).
- 4.36 As regards the more fundamental and long-term measures to address the manpower and succession problems of the MO and SoS grades, the Steering Committee strongly supported the creation of a new training or assistant ranks through embarking on a grade structure review for the two professional grades. A full-fledged grade structure review will take some time to complete. The stop-gap measures being implemented would need to be continued in the interim.
- 4.37 Against the above analysis, it has been shown that the manpower shortage and succession problems of MD is very critical. The Steering Committee called for the collaboration of the management and grade members to explore all possible means to tackle the issues in a bold and innovative manner without further delay.

## **V Conclusion**

- 5.1 MD is a Government department with a long history. It has many dated traditions and practices which needs to be fundamentally revamped to catch up with modern-day developments and international best practices as well as meet public expectations. Under the supervision of the Steering Committee, MD has undergone a host of changes in the past three years to transform itself into a maritime regulatory authority which can live with the public services needs of the day and rise to the challenges ahead. In taking forward the review and reform of MD in the past three years, it has revealed the need for MD to sustain the improvement measures implemented and further tackle some issues on the regulatory regimes of local vessels, internal governance, and manpower and training of the two professional grades in MD.
- 5.2 On the regulation on passenger safety and local vessels, MD should continue to take forward a review of the regulatory regime and practices for local pleasure vessels so as to align the regulation and standards of local pleasure vessels with the international norm; a review of the coxswain licensing system so as to introduce a periodic revalidation requirements for the certificate holders; and a re-write exercise of the codes of practice for local vessels so as to reflect the latest standards and make them more user-friendly.
- 5.3 On business processes and operational procedures, MD should make further use of IT to develop an EIMS to strengthen records management. MD should also replicate the good practices introduced in the LVSS and the Shipping Division to address similar deficiencies in the business processes and operational procedures in other Divisions of MD, notably the Government Fleet Division, and set up in longer term a more elaborate internal audit and compliance mechanism to ensure that the good practices introduced could be sustained and fully followed.
- 5.4 On manpower strategy and training matters, MD should review fundamentally the attributes and core competences required of the MO and SoS grades for drawing up a strategy on the recruitment of suitable candidates and the training and development arrangements for in-service officers for further progression in the Department. In this connection, MD should explore the

practicability of creating a new training or assistant rank through embarking on a grade structure review for the two professional grades.

- 5.5 The challenge ahead is to sustain the momentum of change and improvement in the Department and inculcate in the mindset of the officers in MD the need for change and to improve the business processes and practices on a continuous basis. This will be a long process and will take time. Based on the broad directions set out above, the Steering Committee was confident that MD would sustain the systemic reforms undertaken to further strengthen its capabilities to discharge its functions and responsibilities to rise to the challenges ahead.

**Terms of Reference of the  
Steering Committee on Systemic Reform of the Marine Department**

To advise and steer the Director of Marine, who shall be assisted by the Task Force on Reform and other units in the Marine Department headed by a new Deputy Director (Special Duties), to:

- (a) undertake a comprehensive review of the legislative compliance and administrative measures governing passenger safety and local vessel regulation and inspection matters, in the light of the recommendations in the Report of the Commission of Inquiry into the Vessel Collision Incident near Lamma Island, drawing up detailed improvement proposals and seeing to their implementation;
- (b) review and re-engineer the business processes, operational procedures and supervisory structure in the Marine Department's management, to strengthen internal governance; and
- (c) map out a strategy to address the long-standing vacancy situation of the professional grades in the Department and to develop a manpower training programme.

The overall objective is to ensure that the Marine Department possesses the necessary capabilities to fully and properly discharge its functions and responsibilities.



**List of Meetings of the  
Steering Committee on Systemic Reform of the Marine Department**

	<u>Date</u>
1 <sup>st</sup> Meeting	21 May 2013
2 <sup>nd</sup> Meeting	28 May 2013
3 <sup>rd</sup> Meeting	24 June 2013
4 <sup>th</sup> Meeting	2 July 2013
5 <sup>th</sup> Meeting	10 July 2013
6 <sup>th</sup> Meeting	26 October 2013
7 <sup>th</sup> Meeting	19 November 2013
8 <sup>th</sup> Meeting	6 December 2013
9 <sup>th</sup> Meeting	27 February 2014
10 <sup>th</sup> Meeting	24 March 2014
11 <sup>th</sup> Meeting	26 May 2014
12 <sup>th</sup> Meeting	27 June 2014
13 <sup>th</sup> Meeting	20 October 2014
14 <sup>th</sup> Meeting	27 November 2014
15 <sup>th</sup> Meeting	23 March 2015
16 <sup>th</sup> Meeting	16 November 2015
17 <sup>th</sup> Meeting	28 April 2016

**List of Visits by the  
Steering Committee on Systemic Reform of the Marine Department**

<u>Date</u>	<u>Visit</u>
6 June 2013	Multi-lateral Policy Division, Marine Department ("MD")
	Planning and Services Division, MD
10 June 2013	Port Control Division, MD
11 June 2013	Shipping Division, MD
19 June 2013	Government Fleet Division, MD
13 March 2014	Maritime Services Training Institute, Vocational Training Council
3 February 2015	In attendance at a meeting of MD's Change Management Team

**Entry Requirements for the Marine Officer  
and Surveyor of Ships Grades**

***Qualifications and Experience***

**Marine Officer (“MO”)**

- a CoC (Deck Officer) (Master Mariner) Class 1; and
- one year’s experience as Chief Officer or above on a sea-going ship.

**Surveyor of Ships (“SoS”)**

**A. Engineer and Ship Stream**

- (i) a degree in engineering or technology relevant to the work of the surveyor of ships; or a corporate membership of an engineer institution by examination; and a CoC (Marine Engineer Officer) Class 1; or
- (ii) a CoC as Extra First Class Marine Engineer Officer; or
- (iii) a degree in Mechanical/Marine Engineering or equivalent; a corporate membership of an engineer institution; and a CoC (Marine Engineer Officer) Class 2; and
- for (i) & (ii), two years’ } experience at the rank of second engineer or
- for (iii), four years’ } above on sea-going ships or at equivalent responsible levels in the maritime engineering related industry

**B. Nautical Stream**

- an Extra Master’s CoC; or
- a degree in Nautical Studies or related subject; and a CoC (Deck Officer) Class 1 (Master Mariner); and
- two years’ experience at the rank of the Chief Officer or above on sea-going ships or at equivalent responsible levels in the nautical-related industry.

**C. Ship Stream**

- a degree in naval architecture or related technology;
- a corporate membership of a naval architect institution; and
- four years’ relevant experience after obtaining corporate membership.

***Language Proficiency Requirements (for MO and all streams of SoS)***

- Level 2 or above in Chinese Language and English Language in the HKDSEE or HKCEE or equivalent.

### ***Other Requirement for Civil Service Appointees***

- Permanent residents of the Hong Kong Special Administrative Region at the time of appointment unless they were first appointed on civil service terms of appointment before 1 July 1997 and have continued in service without a break.

### ***Legends***

*CoC*            *Certificate of Competency*

*HKCEE*       *Hong Kong Certificate of Education Examination*

*HKDSEE*     *Hong Kong Diploma of Secondary Education Examination*

### ***Remarks***

1. *The CoC refers to the one issued by or acceptable to the Director of Marine (“D of M”) or equivalent.*
2. *The aforementioned academic and professional qualifications refer to those acceptable to the D of M.*

## Annex E

### **Statistics on New Appointees to the Marine Officer (“MO”) and Surveyor of Ships (“SoS”) Grades for the Recruitment Exercises Held Between 2007 and 2012**

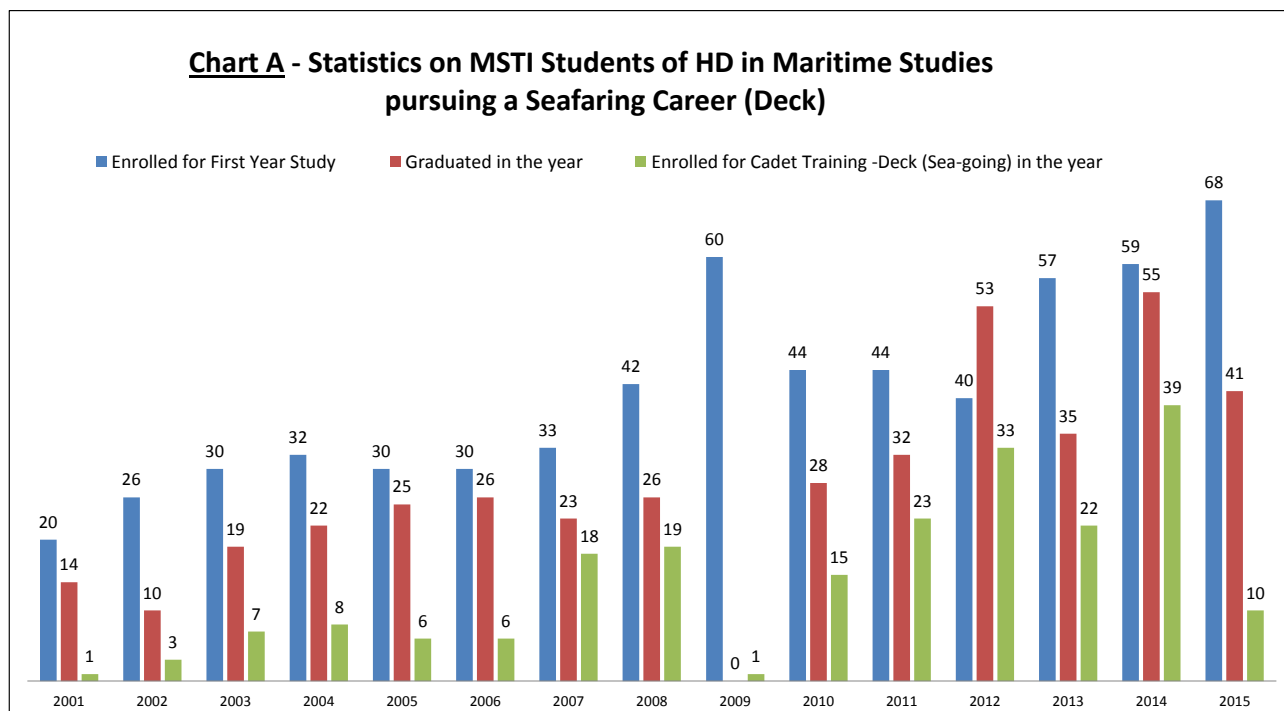
#### (a) Summary of Exercises Conducted

<b>Entry Rank</b>	<b>No. of Exercises</b>	<b>No. of Vacancies</b>	<b>No. of Appointees</b>	<b>Average No. of Appointees</b>	<b>Age (as at the Time of Appointment)</b>	<b>Average Age</b>
MO	7	6 – 11	14	2	32 – 55	44.4
SoS	8	2 – 9	20	2.5	37 – 55	44.3

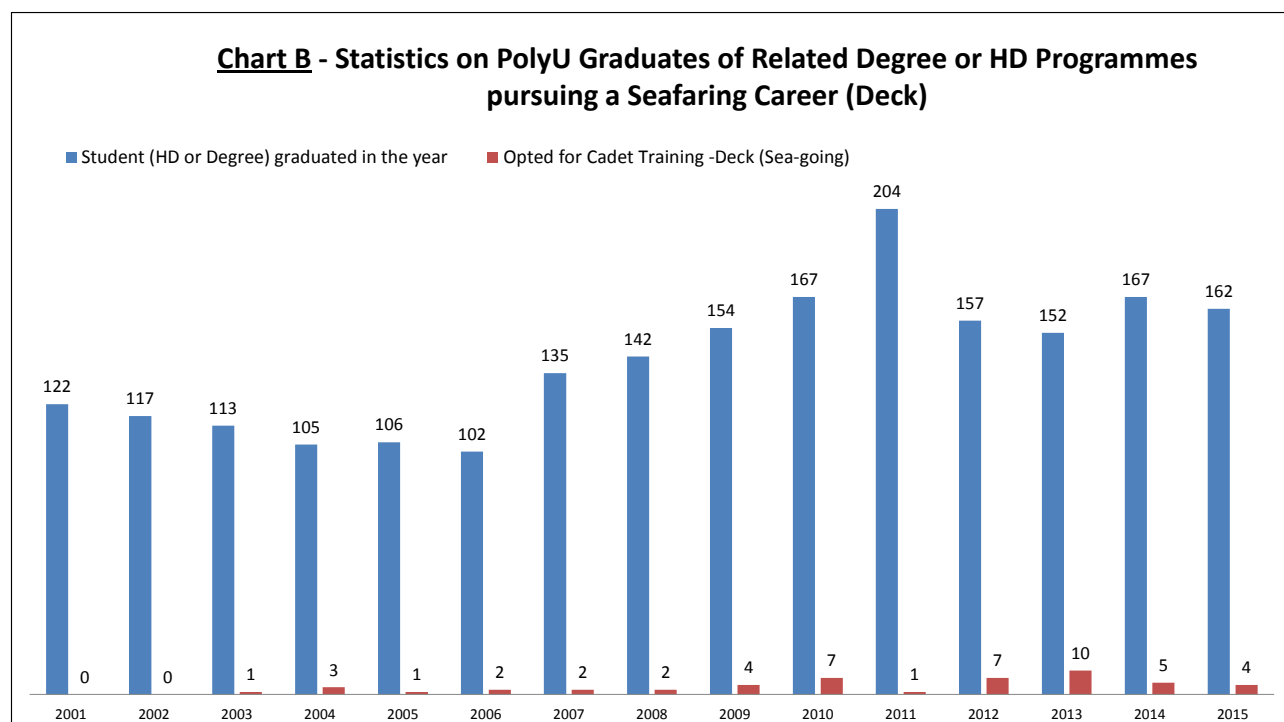
#### (b) Age Distribution as at the Time of Appointment

<b>Entry Rank \ Age</b>	<b>30 to &lt;35</b>	<b>35 to &lt;40</b>	<b>40 to &lt; 45</b>	<b>45 to &lt; 50</b>	<b>50 to &lt;55</b>	<b>55 and above</b>
MO	1	4	2	3	3	1
SoS	0	4	6	8	1	1
<b>Total</b>	<b>1</b>	<b>8</b>	<b>8</b>	<b>11</b>	<b>4</b>	<b>2</b>

**Manpower Supply of Sea-going Cadets  
under the Sea-Going Training Incentive Scheme ("SGTIS")**



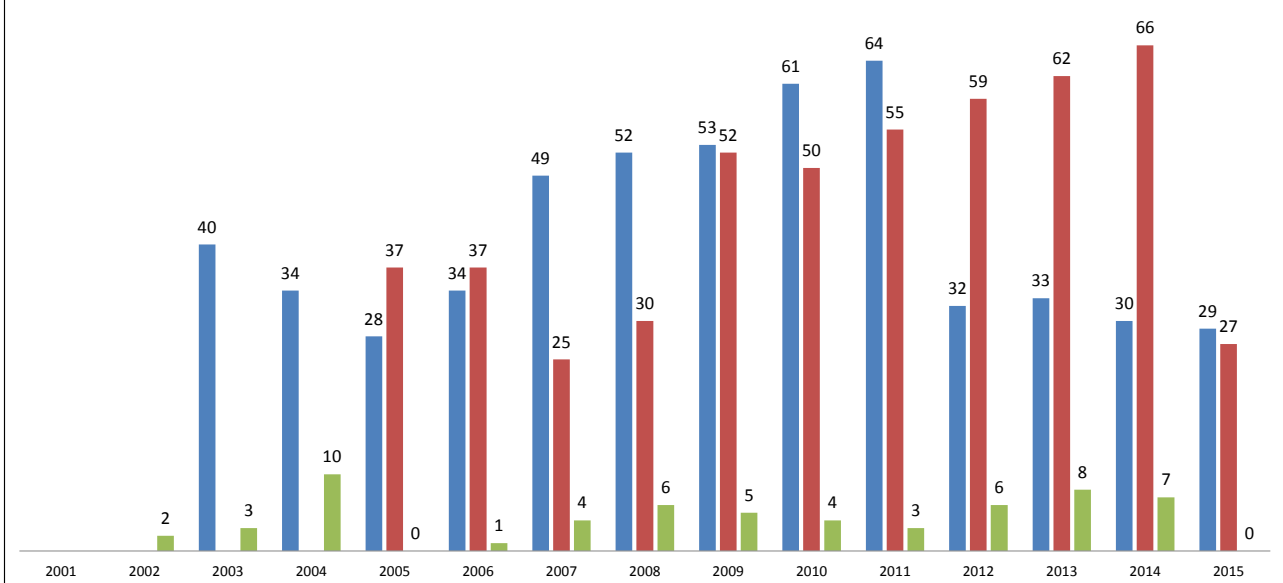
Note : Programme lasts for 24 months (changed to 36 months for programme commencing 2007 - 2011)



Note : Recognised programmes include Degree Course in International Shipping & Transport Logistics and Transport Logistics HD Course in International Transport Logistics

**Chart C - Statistics on VTC Students of HD in Mechanical Engineering pursuing a Seafaring Career (Engine)**

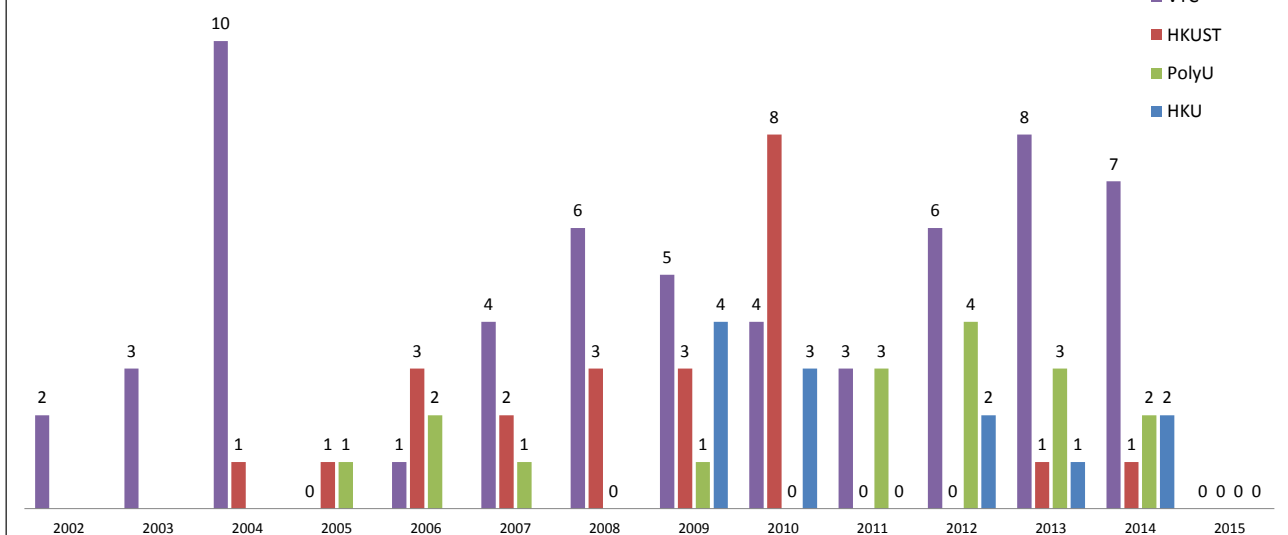
■ Students from Transport Technology / Marine Engineering elective ■ Graduated in the Year ■ Opted for Seagoing Engine Cadet Training



Note : Course began in 2002 with the first batch of 2nd year students selecting elective subjects in 2003; and the first batch of graduates in 2005. Cadet figures before 2005 represent graduates from related engineering programme before the HD

**Chart D - Statistics on Sea-going Cadet (Engine) by Institutions**

■ VTC ■ HKUST ■ PolyU ■ HKU



Note : Courses for engineer cadets -

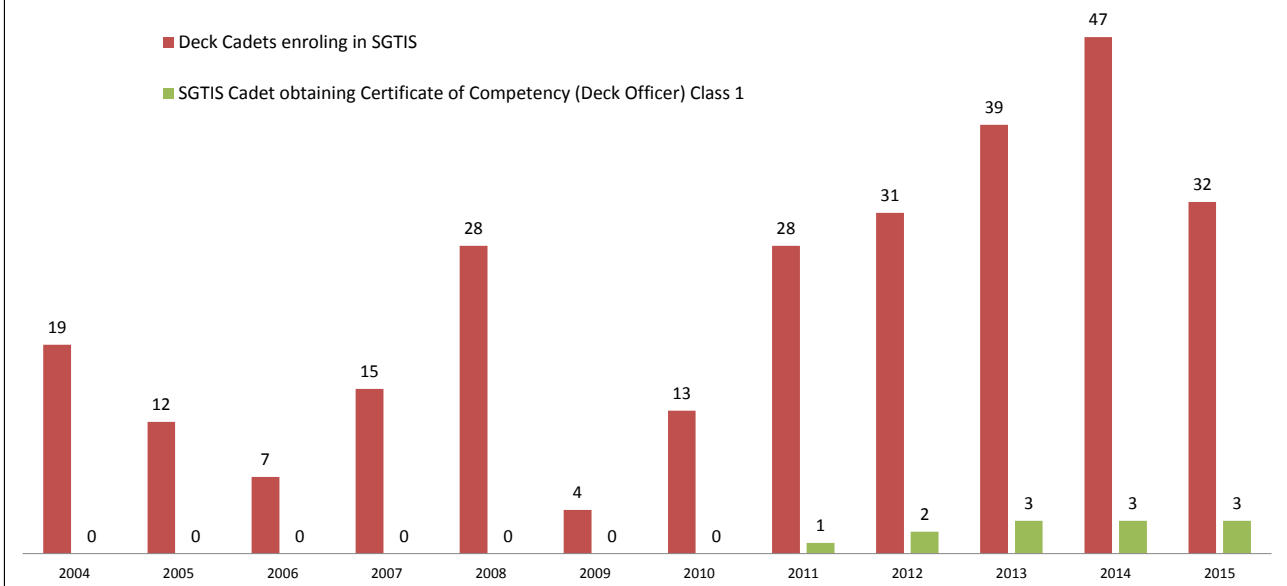
VTC : HD in Maritime Technology & Management (up to 2004)

HD in Mechanical Engineering - Transport Technology Stream / Marine Engineering elective (from 2005)

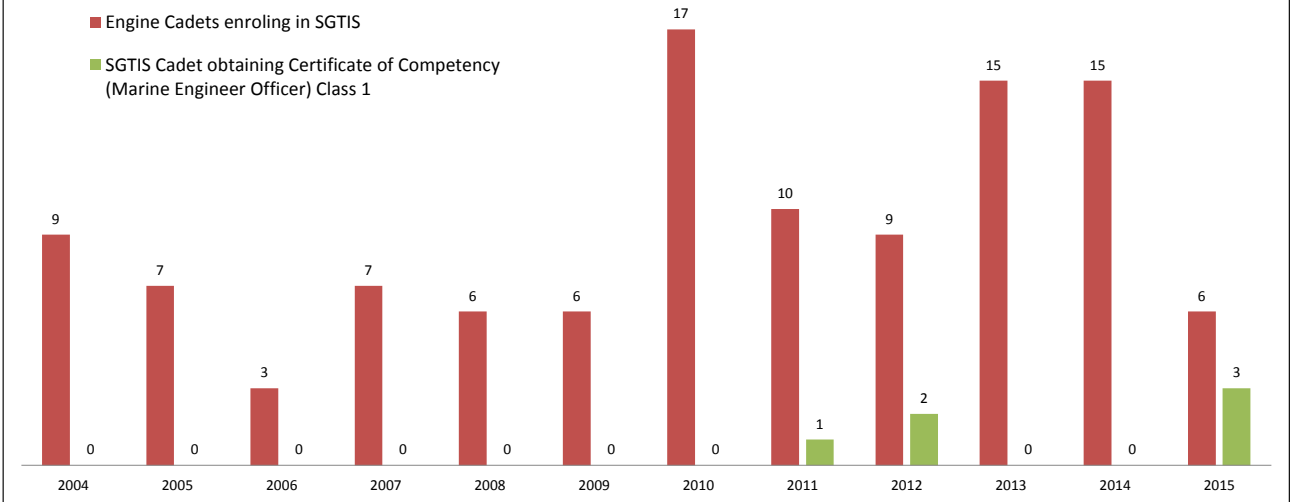
HKUST / HKU : BEng(Hons) in Mechanical Engineering and BEng(Hons) in Building Services Engineering

PolyU : BEng(Hons) in Mechanical Engineering

**Chart E - Statistics on Cadet (Deck) enrolling in SGTIS**



**Chart F - Statistics on Cadet (Engine) enrolling in SGTIS**



**Legends -**

HKU : The University of Hong Kong

HKUST : Hong Kong University of Science and Technology

MSTI : Maritime Services Training Institute

PolyU : The Hong Kong Polytechnic University

VTC : Vocational Training Council

BEng : Bachelor of Engineering

HD : Higher Diploma



**Projected Wastage (Retirement) in the Marine Officer ("MO") Grade from 1 April 2016 to 31 March 2026  
(Position as at 31 March 2016)**

	ESV Position													
	E	S	V	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	Total
<b>Principal MO</b>	5	5	0	0	0	1	2	1	0	1	0	0	0	<b>5</b>
<b>Senior MO</b>	20	20	0	6	2	4	3	1	1	1	1	0	0	<b>19</b>
<b>MO</b>	36	18	18	1	1	0	1	0	1	0	0	1	0	<b>5</b>
<b>Total</b>	<b>61</b>	<b>43</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>29</b>
<i>Cumulative Total</i>				7	10	15	21	23	25	27	28	29	29	
<b>S/E Ratio</b>				59.0%	54.1%	45.9%	36.1%	32.8%	29.5%	26.2%	24.6%	23.0%	23.0%	

Note

E - Establishment

S - Strength (excluding officers on pre-retirement leave)

V - Vacancy

**Marine Officer (“MO”) Grade**  
**Comparison of Age Profile (April 2013 and March 2016)**

**(a) As at 31 March 2016**

Rank Age Group	Principal MO	Senior MO	MO	Total
55 and above	4	16	3	<b>23</b>
50 – <55	1	3	2	<b>6</b>
45 – <50	0	0	3	<b>3</b>
40 – <45	0	1	4	<b>5</b>
35 – <40	0	0	3	<b>3</b>
31 – <35	0	0	3	<b>3</b>
<b>Total</b>	<b>5</b>	<b>20</b>	<b>18</b>	<b>43</b>
<b>Average Age</b>	<b>55.4</b>	<b>56.0</b>	<b>44.2</b>	

**(b) As at 30 April 2013**

Rank Age Group	Principal MO	Senior MO	MO	Total
55 and above	2	11	12	<b>25</b>
50 – <55	3	9	7	<b>19</b>
45 – <50	0	0	3	<b>3</b>
40 – <45	0	0	6	<b>6</b>
35 – <40	0	0	1	<b>1</b>
31 – <35	0	0	0	<b>0</b>
<b>Total</b>	<b>5</b>	<b>20</b>	<b>29</b>	<b>54</b>
<b>Average Age</b>	<b>54.2</b>	<b>55.1</b>	<b>51.2</b>	

**Notes** : The above

1. include officers on permanent establishment (“PE”) and non-PE; and
2. exclude officers who are on pre-retirement leave.

**Annex I**

**Projected Wastage (Retirement) in the Surveyor of Ships ("SoS") Grade from 1 April 2016 to 31 March 2026  
(Position as at 31 March 2016)**

	ESV Position													
	E	S	V	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	Total
<b>Principal SoS</b>	7	7	0	1	3	0	1	1	1	0	0	0	0	<b>7</b>
<b>Senior SoS</b>	18	16	2	2	3	1	1	1	2	1	1	1	0	<b>13</b>
<b>SoS</b>	35	24	11	2	0	1	1	2	2	4	0	1	0	<b>13</b>
<b>Total</b>	<b>60</b>	<b>47</b>	<b>13</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>33</b>
<i>Cumulative Total</i>				<i>5</i>	<i>11</i>	<i>13</i>	<i>16</i>	<i>20</i>	<i>25</i>	<i>30</i>	<i>31</i>	<i>33</i>	<i>33</i>	
<b>S/E Ratio</b>				70.0%	60.0%	56.7%	51.7%	45.0%	36.7%	28.3%	26.7%	23.3%	23.3%	

Note

E - Establishment

S - Strength (excluding officers on pre-retirement leave)

V - Vacancy

**Surveyor of Ships (“SoS”) Grade  
Comparison of Age Profile (April 2013 and March 2016)**

**(a) As at 31 March 2016**

Rank Age Group	Principal SoS	Senior SoS	SoS	Total
55 and above	6	8	6	<b>20</b>
50 – <55	1	5	7	<b>13</b>
45 – <50	0	3	5	<b>8</b>
40 – <45	0	0	4	<b>4</b>
35 – <40	0	0	1	<b>1</b>
31 – <35	0	0	1	<b>1</b>
<b>Total</b>	<b>7</b>	<b>16</b>	<b>24</b>	<b>47</b>
<b>Average Age</b>	<b>56.9</b>	<b>54.0</b>	<b>49.4</b>	

**(b) As at 30 April 2013**

Rank Age Group	Principal SoS	Senior SoS	SoS	Total
55 and above	5	10	9	<b>24</b>
50 – <55	2	6	8	<b>16</b>
45 – <50	0	1	2	<b>3</b>
40 – <45	0	0	8	<b>8</b>
35 – <40	0	0	1	<b>1</b>
31 – <35	0	0	0	<b>0</b>
<b>Total</b>	<b>7</b>	<b>17</b>	<b>28</b>	<b>52</b>
<b>Average Age</b>	<b>55.7</b>	<b>54.6</b>	<b>49.8</b>	

**Notes** : The above

1. include officers on permanent establishment (“PE”) and non-PE; and
2. exclude officers who are on pre-retirement leave.