

For Discussion
on 22 July 2013

Legislative Council Panel on Economic Development

Update on Follow-up Actions Arising from the Report of the Commission of Inquiry into the Collision of Vessels near Lamma Island on 1 October 2012

PURPOSE

This paper updates Members on follow-up actions undertaken by the Marine Department (“MD”) on enhancing marine safety since our last report in May 2013.

BACKGROUND

2. At the Panel meeting on 27 May 2013, Members were briefed on the follow-up actions arising from the Report of the Commission of Inquiry into the Collision of Vessels near Lamma Island on 1 October 2012 (“CoI”). Those actions include a comprehensive re-inspection of the provision of lifejackets of Class I vessels including all ferries, launches and kaitos as well as the structures of all ferries and launches; strengthening of work on ship inspections, plan approvals and routine patrol of local vessels by MD; drawing up of medium and long-term measures to enhance safety of local passenger carrying vessels; engaging a classification society and a maritime consultancy firm respectively to carry out an independent audit review and a benchmark survey, and the setting up of the Steering Committee on Systemic Reform of the Marine Department (“Steering Committee”) to steer and drive MD to undertake a comprehensive systemic review and reform.

RECENT PROGRESS

3. Through the Local Vessels Advisory Committee and its Subcommittees, MD and the trade has held five meetings during the past two months to discuss the implementation plan of various short-, medium- and long-term improvement measures, including their technical feasibility and related arrangements.

Improvement Measures to be Implemented during the First Phase

4. After detailed discussion, MD will, as a start, implement the following specific improvement measures in the first phase –

- (a) all vessels carrying 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, and high speed crafts should have a look-out at all times. All seamen required to keep a look-out should have an eyesight test at intervals not exceeding five years;
- (b) all passenger vessels carrying 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;
- (c) apart from catering for general emergency situation, the manning required of specific emergency situations (including collision, grounding, abandonment of ship) has to be taken into account in determining the minimum safe number of crew for a ferry or launch, and such should be clearly set out for the trade to follow;
- (d) improving signages and directives relevant to lifejackets on-board, such as requiring ship owners to print the name of the vessel on each of the lifejackets, putting on sufficient signs to show the locations of lifejackets, making use of video or graphic display to demonstrate how lifejackets are to be obtained, donned and used; and
- (e) requiring watertight doors be fitted with alarms to the wheelhouse, so as to indicate whether they are open or closed, and to send alerts when watertight doors are open. Such doors should also be appropriately marked.

5. The above measures do not require legislative amendments and can be implemented by administrative actions and amendments to the Code of Practice (“CoP”). MD will conclude the discussion with the trade on the implementation details within Q3 2013, and will amend the relevant CoP in September this year. The majority of the improvement measures [i.e. items (b), (d) and (e)] will take effect 6 months after the publication of the amended CoP. For those measures that involve employment of additional crew and training, and introduction of eye sight tests; they will be implemented one year after the publication of the amended CoP so to allow sufficient time for the operators to make the necessary preparations.

Medium and Longer Term Measures

6. On the medium and longer term improvement measures, including the 73 recommendations of the expert witnesses appointed by the CoI (Captain Nigel R Pryke and Dr Neville Anthony Armstrong), MD is actively taking follow up actions to revise the concerned CoP. They mainly involve making technical amendments to MD's drawing approval and survey aspects; including plan approval criteria, control on alteration to hull structure or equipment, life-saving appliances provision and arrangement, assessment on damage stability, watertight sub-division design requirements, etc. MD expects to complete the amendments by the second quarter of 2014.

7. Moreover, there are other proposed measures that require legislative amendments which will take longer time for implementation and require collaboration with the trade. MD is therefore discussing with the latter on the follow-up actions. The trade in general recognizes the need to improve maritime safety and the safety of passenger vessels, but they are concerned about possible implications arising from implementation of such measures (e.g. on manpower supply and operating cost, etc.). In particular, the trade is concerned about additional business pressure faced by operators of medium and small passenger vessels. Their views and comments on some specific recommendations are set out as follows –

- (a) Installation of Automatic Identification System (“AIS”), collision avoidance radar and Very High Frequency (“VHF”) radio – it is recommended in the CoI report that launches and ferries permitted to carry more than 12 passengers should be required to carry a VHF radio; and vessels permitted to carry more than 100 passengers be equipped with AIS, collision avoidance radar and VHF radio. MD is of the view that vessels equipped with AIS will allow the detection of their navigation status by other vessels (including ocean going vessels) which enables early collision avoidance actions as necessary; and that the related navigational data could be used for future traffic management planning. As regards installation of radar, it can help detect traffic conditions and predict collision risks. Avoidance actions could then be taken in the earliest opportunity which would in turn enhance navigation safety. Its usefulness is even more significant during times of restricted visibility (heavy fog and rain). VHF radio enables vessels in emergency to summon assistance from the Vessel Traffic Centre and nearby vessels, as well as communicate with and report to government vessels (Marine Police and Fire Service launches) handling emergency situations. The trade in

general is opposed to the AIS installation requirement. They are concerned about the cost and the lack of installation space on-board, crew's knowledge in its usage and its usefulness in collision avoidance. MD will consult the industry on the installation of radar and VHF radio shortly. As such will increase the operation cost, a negative response similar to the requirement on AIS installation is expected from the industry.

- (b) practical operational assessment for coxswains – MD has proposed that new candidates applying for coxswain Grade 1 certificate to operate certain specific vessels be subject to a practical operational assessment using simulator. The trade is concerned that this proposal may discourage new comers to become coxswains and aggravate the current manpower shortage problem. The trade is also concerned about the assessment cost and that candidates might not be familiar with the use of the simulator and hence affecting the assessment results. MD takes the view that such practical operational assessment will be useful as an enhancement to the present written/oral examinations in establishing the coxswains' abilities. MD is exploring with the Vocational Training Council on developing the simulation system for the assessment; and
- (c) rest arrangements for crew working on local passenger carrying vessels – MD proposes that each member of the crew should have at least 30 minutes break after six continuous hours of duty and the total accumulated duty time should be capped at a maximum of 13 hours for a 24-hour duty cycle. The crew unions support the proposal while ferry operators have concerns about recruitment difficulties, rise in staff cost and the change of ferry schedule as a result. They would like to maintain the current “one-day-on and one-day-off” and other detailed rest arrangements.

8. MD considers the above measures essential to enhancing the safety of passenger carrying vessels. As safety is of top priority, passenger safety must be the foremost consideration when taking forward the various measures. The Department will further discuss the implementation details with the trade, including the implementation timetables.

9. Meanwhile, MD is actively pursuing the proposal to increase third party risks insurance coverage and exploring the feasibility of introducing a Marine Accident Victims Assistance Fund. On the former, the trade is concerned about possible increase in insurance premium if the present level of minimum liability is raised, which may impact on their operations. The premium levels under different options are being studied. On the proposal for setting up a Marine Accident Victims Assistance Fund, MD has engaged a consultant to study the technical details, including the scope of coverage of the scheme and the levy to be charged under different options for further consideration by the Government and the trade.

Independent Audit Review and Benchmark Survey

10. MD has commissioned Lloyd's Register, an overseas expert, to carry out an independent audit review of its procedures for plan approval and ship inspection, as well as to conduct risk assessment and make improvement proposals. MD has 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 United Kingdom, and to make recommendations for enhancement.

11. The independent audit review conducted by Lloyd's Register reveals that the quality management system of MD generally complies with the requirements of ISO 9001: 2008, and no major non-conformity is identified. Nevertheless four less serious non-conformities and 19 opportunities for improvements are found. MD has already taken action to rectify the non-conformities and to follow up on the suggestions for improvements. The four non-conformities relate to –

- (a) the frequency of meetings of the Local Vessels Safety Section of MD (which were not held regularly in the past, about once every two months);
- (b) lack of specific penalty mechanism in the control procedures regarding non-conforming services performed by the authorized surveyors¹;

¹ Pursuant to Section 7 of the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the Director of Marine may authorize qualified persons as authorized surveyors. Upon authorization or recognition, the authorized surveyors may undertake the approval of plans and surveys or inspections of specific classes of local vessels in accordance with the scope of services specified under their individual authorization or recognition. In general, the classes of such local vessels include (a) Class II vessels except high risk vessels; (b) Class III vessels; and (c) Class IV vessels licensed to carry not more than 60 passengers and intending to engage in letting for hire or reward (other than vessels of more than 150 gross tonnage or novel type).

- (c) frequency of company visits made on authorized surveyors and percentage of audit check on work conducted by authorized surveyors; and
- (d) frequency and arrangement for the conduct of spot check for local vessels.

The 19 opportunities for improvement include areas such as follow up on complaints, authorization of surveyors, surveying status tracking, 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. Details are at **Annex I**.

12. Separately, the benchmark survey on local passenger vessels carried out by the maritime consultant indicates that Hong Kong is a very busy port with the most heavy passenger vessel traffic compared to the other ports. From 2007 to 2012, the number of pleasure vessels for hire in the category of Class IV vessels has increased five-fold from 106 to 593, and about 135,000 passengers' trips are made every day on local passenger carrying vessels. From a purely man mile accident point of view, Hong Kong is a safe port to travel by boat.

13. The benchmark survey compares Hong Kong with three other sea ports in respect of vessel licensing, vessel design, safety requirements, crew examination and certification, hours of work and rest, manning, and maritime traffic control, etc. The benchmark survey concludes that similarities exist between all the ports with the most stringent safety and other requirements to be found on the larger and usually faster ferry types, and with gradually less onerous requirements to be found on the smaller vessels carrying fewer passengers. The maritime consultant has also put forward a number of recommendations to enhance marine safety, covering areas such as crew training/qualification, their medical fitness, eyesight checks, navigational equipment, vessel traffic monitoring, lifejackets provisioning, passenger tally, safety management system, pleasure vessel design requirements, and hours of work and rest for crew working on local passenger carrying vessels. These recommendations are largely in line with those made in the CoI report and the ten medium- and long-term measures being discussed with the trade. Details are at **Annex II**.

Other Follow-up Actions

14. Since the setting up of the Steering Committee on Systemic Reform of the Marine Department in May this year, it has held five meetings in the past two months. Members also visited various divisions of MD to better understand its internal operation. After detailed discussion, the Steering Committee considers that the departmental reform should proceed on two fronts. On the one hand, the Steering Committee will recommend on improvements to operational procedures. On the other hand, it will examine systemic and structural issues, including the overall organization of MD and its manpower and training aspects. At present, MD is facing rather serious difficulty in terms of manpower shortage and recruitment. The Steering Committee will specially focus on exploring measures to tackle this issue. At the same time, MD is actively contacting overseas experts to provide professional advice.

15. The Secretary for Transport and Housing announced at the meeting held on 27 May that the investigation on the staff of Marine Department would be conducted by the Transport and Housing Bureau with a view to ensuring objectivity and procedural propriety of the process. The Investigation Team, led by the Permanent Secretary for Transport and Housing (Transport), has been formed and commenced work.

ADVICE SOUGHT

16. Members are invited to give their views on the above follow-up actions.

Marine Department
Transport and Housing Bureau
July 2013

Findings of the Lloyd's Register Audit Report

Item No.	Findings	Follow-up action
	Non-conformity	
1	Regular, internal meetings used to be held at intervals of 2 months. However, there was no evidence of any such meeting being held since April 2012.	The regular meetings will be conducted on a bi-weekly basis.
2	A number of inspection deficiencies have been identified with regard to Authorised Surveyors (AS) inspection. In one case, the AS has received 8 warnings in the past 2 years, and was advised of "serious deficiencies". No further action was taken in this regard.	MD will strictly follow the stipulated procedure.
3	Not all AS are being visited annually and annual performance reports are not compiled as required. The 10% target audit check on AS for survey work is not achieved, and the results of audit check on inspections and plan approval are not collated.	MD will strictly follow the stipulated procedure.
4	There is no pre-determined frequency of spot check.	MD will conduct 1% spot check of total vessels inspected.
	Opportunity for Improvement	
1	There is no target setting or measurement of quality of surveyors or drawing approvals.	MD will explore to set up a system to measure the quality of the survey in terms of the number of deficiencies found during the quality check.
2	Complaints regarding activities of and services provided by local craft are generally well investigated. But the extent of investigation and action is currently limited to compliance with current legislation. Where potential opportunities for improvement arise, these are not taken further.	MD will use the complaints received as driver for change.
3	AS will remain on the approval list for a number of years without necessarily conducting any inspections.	MD will consider to set up the minimum inspection criteria in order for the AS to maintain their authorization.

Item No.	Findings	Follow-up action
4	There may be a number of local vessels in Hong Kong waters whose Certificates of Survey have expired. Although the vessels may not be operational during this period, they are not formally laid up, and crew on board may still be dependent on the use of Life Saving Appliances (LSA) and Fire Fighting Appliances in an emergency situation.	MD will set up a system to track the validity of the Certificates of Survey and draw the attention of the owners in advance of the expiry of the certificates.
5	MD does not issue a list of approved thickness gauging companies, nor require its inspectors to be present during thickness measuring when required.	MD will require the approval information of the thickness measurement gauges used by the shipyards to be presented for the inspection.
6	There is no apparent process or requirement for taking any form of preventive action against owners of vessels that have made unauthorized modifications to structure or equipment between inspections.	MD will conduct 1% spot check of total vessels inspected.
7	AS are required to use a different inspection reporting method to MD inspectors.	MD will require AS to use a same inspection reporting method to MD inspectors.
8	On one incident, it was found that China Classification Society survey report is not made available at the time of inspection by MD, consequently the MD inspector was not aware of the survey findings of the class surveyor.	MD will require the Class survey report to be available at time of inspection.
9	MD may wish to consider implementing the requirement for inserts with suitable rounded corners and crack arrest holes on bilge keel butt welds to avoid possible damage or spread of damage arising due to local stress concentration. There was no documentary evidence of checking and / or confirming of the approval weld procedures and welder qualifications.	MD will implement the requirement for inserts with suitable rounded corners and crack arrest holes on bilge keel butt welds and will require documentary evidence of checking and / or confirming of the approval weld procedures and welder qualifications on the Inspection Report Sheets.
10	There was no means to determine and / or control the oil content of effluent water. There is no requirement for alarm or automatic discharge stopping device to be fitted.	MD will implement requirements for such suitable means to determine and / or control of the oil content of the effluent water.

Item No.	Findings	Follow-up action
11	<p>Certificates of Survey are being issued correctly and in accordance with current requirements. However, MD may wish to consider the two following points -</p> <p>(1) Any permanent ballast is currently recorded by weight only, but there is no indication as to its location on the vessel.</p> <p>(2) The number and type of portable fire extinguishers on board is identified, but there is no indication as to their weight or volume, as specified in the relevant Code of Practice.</p>	<p>The details of the permanent ballast and portable fire extinguishers will be entered in the inspection report or record.</p>
12	<p>A system for recording / monitoring performance of AS through audit check has been adopted but is not referenced in the Quality Management System (QMS).</p>	<p>The system for recording / monitoring performance of AS will be incorporated into the QMS manual.</p>
13	<p>MD may consider the merits of placing some level of Continuing Professional Development requirements on its AS.</p>	<p>MD will require the AS to regularly submit record of Continuing Professional Development.</p>
14	<p>On occupational safety and health, there is only one multi-gas meter and 3 O₂ meters available among 12-13 active inspectors. Further, this equipment is rarely utilized by MD staff.</p>	<p>MD will require the ship inspectors to carry the gas meters to attend inspection of enclosed space.</p>
15	<p>Drawing approval files were found generally in order. However, more care could be taken to ensure that plans approved by Class or other bodies are correctly marked.</p>	<p>MD will require that plans approved by Class or other bodies are correctly marked.</p>
16	<p>It is unclear as to how the importance of customer and statutory requirements is communicated to staff.</p>	<p>Relevant information will be circulated to all staff concerned periodically.</p>
17	<p>The “Stores & Procurement Regulations” and guidelines issued by Government Logistics Department do not cover selection and evaluation of service suppliers such as Authorised Organisations (AO)’s, Recognised Authorities (RA)’s & AS’.</p>	<p>The Stores & Procurement Regulations are not applicable to the services provided by AS, AO and RA. The quality of the survey service carried out by the AS, AO and RA is monitored by a separate monitoring system.</p>
18	<p>It was found on one vessel that one locker was stowing 250 lifejackets. MD should consider whether allowing so many lifejackets to be stowed in</p>	<p>MD will strictly enforce that whenever a local vessel is being used or operated, every</p>

Item No.	Findings	Follow-up action
	one place may hinder passengers' ability to retrieve a lifejacket in an emergency.	life-saving appliance carried on board shall be placed in a position easily accessible.
19	There was no evidence and / or record that outstanding repairs were completed to the attending inspector's satisfaction after the final visit.	MD will ensure any inspection of the outstanding repair to be properly recorded.

Benchmark Survey

Item No.	Recommendations	Follow-up action
1	<i>Passenger vessels</i> : to have a clear demarcation of a passenger vessel as one that is capable of carrying more than 12 passengers, irrespective of whether or not it is intended to be a commercial (let for hire or reward) or purely private use vessel. This will allow for higher and more uniform standards of safety to be applied.	MD will study the recommendation and consult the trade.
2	<i>Training and certification</i> : Locally licensed crew need only attend an initial examination and once they have qualified, there is no further training or need for revalidation. A system of revalidation is suggested.	The trade has agreed that coxswains operating Class I vessels are required to attend a one-day refresher course once every 3 years. Additional training for certain vessel types would involve consultation with the trade.
3	<i>Medical fitness</i> : there is no requirement for revalidation of personal health certification. A requirement for regular medical examination should be considered.	MD will study the recommendation and consult the trade.
4	<i>Eyesight checks</i> : there is no requirement for regular eye sight tests.	MD will require all seamen keeping a lookout should have an eyesight tests at intervals not exceeding five years.
5	<i>Navigation equipment</i> : there is a lack of basic navigational equipment installed on a vessel, including VHF radios and radar.	MD will consult the trade on the implementation of the recommendation.
6	<i>Vessel Monitoring</i> : in Singapore the Harbour Craft Transponder System (HARTS) tracking system serves as both a security and a safety purposes. The implementation of such a system to run alongside Automatic Identification System (AIS) may allow for better monitoring of traffic in Hong Kong and for more advanced statistical data collection for use by MD.	MD considers HARTS is not suitable to be implemented in Hong Kong. MD is consulting the trade on the installation of AIS.
7	<i>Lifejackets</i> : in keeping with the other ports, Hong Kong requires 100% of lifejackets to be provided for	MD will require children's lifejacket to be provided to

Item No.	Recommendations	Follow-up action
	adults, but the provision of lifejackets for children and infants is not a requirement for all vessels.	every child on board.
8	Passenger tally : presently there would seem to be no system in place for the counting of passengers on some classes of vessels.	MD will introduce mandatory requirements of keeping a passenger and crew list on board for vessels taking part in major maritime events.
9	Safety management system : In Southampton and Sydney, emphasis is placed on safe procedures and the implementation of safety management systems for ships and shipping companies. The intention is to reduce the chance of problems happening and, when they do, to improve the recovery from them.	MD will study the recommendation and consult the trade.
10	Class IV vessels : A significant increase in the number of pleasure vessels for hire in Hong Kong has occurred over the last 5 years. It is time to look at imposing more stringent requirements on such craft.	MD will study the recommendation and consult the trade.
11	Hours of work and rest : in Hong Kong there is no specific requirement of the hours of work for crew but it appears that the working hours of the crew exceed that of both Sydney and Southampton, meaning that Hong Kong crew are more susceptible to fatigue and any complications that this may bring.	MD proposes to formalise duty/rest/break arrangements for the crew of local passenger carrying vessels through promulgation in guidelines as follows - (i) crew should have an entitlement of at least 30 minutes break at a maximum 6-hour continuous navigational duty time; (ii) the total accumulated duty time should be capped at a maximum of 13 hours for a 24-hour duty cycle; and (iii) crew should have a minimum of 40 minutes for each meal time (meal time is regarded as a break).

Item No.	Recommendations	Follow-up action
12	<i>Vessel design</i> : in contrast to the other benchmarked ports, Hong Kong does not appear to have specific stability and watertight (bulkhead) subdivision requirements in relation to Class IV vessels.	MD will study the recommendation and consult the trade.