

**LOCAL VESSELS ADVISORY COMMITTEE**

**Proposal on Extension of Survey Intervals for Main Engines, Gear Boxes, Tail Shafts, etc. of Class IA (> 60 people) Passenger Vessels**

**Purpose**

This paper sets out the proposal to extend the survey interval for survey items relating to the main engine, gear box, tail shaft, etc. of Class IA vessels which are licensed to carry more than 60 passengers (Class IA (> 60 people) passenger vessels).

2. The extension proposal set out in this paper does not cover ferries and launches carrying not less than 100 passengers fitted with medium speed engines. Regarding the extension of the survey interval for medium speed engines, please refer to Annex K to the current “Code of Practice - Safety Standards for Class I, II and III Vessels” (Code of Practice)<sup>1</sup>.

**Background**

3. According to the requirements on periodical survey as set out in Table 2 of Chapter II of the current Code of Practice, items 1, 2, 3 and 10 of No. C&D regarding the main engine, gear box, tail shaft, etc. of Class IA (> 60 people) passenger vessels, surveys for these vessels should be conducted at the interval of every two years<sup>2</sup>. The industry has reflected that the running hours of some main engines and gear boxes which are due for a survey are far below the time for overhaul (i.e. stripping down for repair and inspection) recommended by the manufacturers, and that the tail shafts, propellers, rudders and rudder stocks seldom have serious wear and tear.

<sup>1</sup> [http://www.mardep.gov.hk/en/pub\\_services/ocean/pdf/lvs\\_cop123.pdf](http://www.mardep.gov.hk/en/pub_services/ocean/pdf/lvs_cop123.pdf)

<sup>2</sup>

No.	Survey Item	Class/Category /Type of Vessel	Class IA >60 P Vessel		
			Survey Intervals (*1) (*11)		
			1	2	4
<b>C&amp;D MACHINERY AND ELECTRICAL INSTALLATION</b>					
1	Main Engine - hydraulic test of coolers (incl. air, lub. oil, cooling water), cylinder head and water jacket			✓	
2	- overhaul of fuel oil pump, fuel nozzles			✓	
3	Main Engine and Gear Box - stripped down for inspection (*5)(*16)			✓	
10	Tail Shaft, Propeller, Rudder and Rudder Stock (*13) - drawn out for inspection			✓	

Moreover, main engines and gear boxes which have been overhauled or renewed before their survey due dates for other reasons are still required, for compliance with the requirements of the Code of Practice, to be stripped down for inspection in the periodical survey, thus incurring extra operating cost. The industry is of the view that the Marine Department ('MD') should consider extending the survey interval as appropriate for items such as the main engine, gear box and tail shaft.

## **Proposal**

4. In response to the request of the industry, MD collected information on time between overhauls, in terms of number of running hours, for main engines under several major brands which are commonly used by local vessels. The information shows that the average time between overhauls is 7 600 running hours. The overhaul interval should be once every three years if a main engine runs 8 hours a day and the vessel operates 320 days a year. Moreover, past vessel surveys show that the wear and tear to tail shafts, propellers, rudders and rudder stocks in two years' time is within acceptable tolerance. Based on the assessment made after careful examination, MD considers that shipowners who fulfil the conditions set out in the *Annex* may apply for extending the survey interval for the main engine, gear box, tail shaft, propeller, rudder and rudder stock for 12 months, from the current once every two years to once every three years.

## **Sub-committee on Survey Work of Local Vessels**

5. The Sub-committee on Survey Work of Local Vessels at its meeting on 5 May 2016<sup>3</sup> endorsed the proposal set out in this paper, and agreed to submit the proposal to the Local Vessels Advisory Committee for discussion.

## **Way Forward**

6. Subject to Members' comments, MD will amend the Code of Practice concerned for implementation of the proposal.

Local Vessels Safety Branch  
Shipping Division  
Marine Department  
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<sup>3</sup> Paper No. 2/2016 of the Sub-committee on Survey Work of Local Vessels ([http://www.mardep.gov.hk/hk/aboutus/pdf/lvac\\_sc\\_survey\\_p1602c.pdf](http://www.mardep.gov.hk/hk/aboutus/pdf/lvac_sc_survey_p1602c.pdf))

1. Owners of Class IA (> 60 people) passenger vessels may apply for a 12-month extension of the survey interval for the main engine, gear box, tail shaft, propeller, rudder and rudder stock which are listed under items 1, 2, 3 and 10 of No. C&D in Table 2 of Chapter II of the current “Code of Practice - Safety Standards for Class I, II and III Vessels”, provided that:

- (a) the running hours of the main engine and gear box, when they are due for a survey, have not reached the time for overhaul recommended by the manufacturers or in other materials;
- (b) the main engine and gear box have been overhauled within the 24 months preceding the survey due date; or
- (c) the main engine and gear box have been completely renewed within the 24 months preceding the survey due date.

2. An extension will only be granted provided that the following conditions are met:

**A. Main Engine and Gear Box**

**(A1) In the case that the running hours of the main engine and gear box, when they are due for a survey, have not reached the time for overhaul recommended by the manufacturers or in other materials,**

- (a) the shipowner shall submit to MD a written application at least one week before the survey due date;
- (b) the shipowner shall submit to MD information on overhaul intervals provided by the manufacturer or other sources;
- (c) the shipowner shall provide the repair and maintenance records kept in accordance with the recommendations of the manufacturer or the maintenance manual for at least the past 24 months, including the date and report of last overhaul;
- (d) the shipowner shall provide records on running hours in respect of the main engine and gear box for the past 24 months;
- (e) the shipowner shall provide the estimations which show that the remaining running hours of the main engine and gear box can last for 12 months and the time between overhaul period recommended by the manufacturer or in other materials will not be exceeded;

- (f) the main engine and gear box shall pass the visual inspection and running test conducted by MD during the periodical survey;
- (g) the shipowner shall sign a declaration to confirm the following:
  - (i) the main engine and gear box, which are working properly, have been repaired and maintained in accordance with the recommendations of the manufacturer or the maintenance manual, and no incident arising from disrepair has occurred in the past 24 months;
  - (ii) the running hours (including those to be accumulated in the following 12 months) of the main engine and gear box are estimated to be within the limits of the time between overhaul period recommended by the manufacturer or in other materials; and
  - (iii) the main engine and gear box shall be stripped down for overhaul and inspection when they are due for the next survey (i.e. 12 months later).

**(A2) In the case that the main engine and gear box have been overhauled within the 24 months preceding the survey due date,**

- (a) the requirements set out in (A1) above, with the exception of item (A1) (g), are applicable;
- (b) the shipowner shall provide the following documents:
  - (i) a report on the inspection and overhaul of the main engine and gear box after they have been stripped down, which shall include results of the hydraulic test of coolers (including air, lubricating oil and cooling water), main engine cylinder heads and water jackets; and a report on the inspection and repair of fuel oil pumps and fuel nozzles;
  - (ii) photos (with dates) showing, inter alia, the hydraulic test of coolers (including air, lubricating oil and cooling water), main engine cylinder heads and water jackets; and components of the main engine after it has been stripped down for overhaul and inspection; and
  - (iii) relevant delivery notes and/or invoices issued by contractors;
- (c) the shipowner shall sign a declaration to confirm the following:

- (i) the main engine and gear box have been overhauled in accordance with the recommendations of the manufacturer or the maintenance manual with satisfactory results;
- (ii) the main engine and gear box have been working properly and no incident arising from disrepair has occurred subsequent to the overhaul;
- (iii) the running hours (including those to be accumulated in the coming 12 months) of the main engine and gear box are estimated to be within the limits of the time between overhaul period recommended by the manufacturer or in other materials; and
- (iv) the main engine and gear box shall be stripped down for overhaul and inspection when they are due for the next survey (i.e. 12 months later).

**(A3) In the case that the main engine and gear box have been completely renewed within the 24 months preceding the survey due date,**

- (a) the requirements set out in (A1) above, with the exception of item (A1) (g), are applicable;
- (b) the shipowner shall provide the following documents:
  - (i) a copy of the manufacturer's product certificate and the type approval certificate acceptable to MD; and
  - (ii) relevant delivery notes and/or invoices issued by the manufacturer or supplier;
- (c) the shipowner shall sign a declaration to confirm the following:
  - (i) the main engine and gear box after renewal have been repaired and maintained in accordance with the recommendations of the manufacturer or the maintenance manual and have been working properly, and no incident arising from disrepair has occurred in the past 24 months;
  - (ii) the running hours (including those to be accumulated in the following 12 months) of the main engine and gear box are estimated to be within the limits of the time between overhaul period recommended by the manufacturer or in other materials; and
  - (iii) the main engine and gear box shall be stripped down for overhaul and inspection when they are due for the next

survey (i.e. 12 months later).

**B. Tail Shaft, Propeller, Rudder and Rudder Stock**

An application for a 12-month extension of the survey interval for survey items relating to the tail shaft, propeller, rudder and rudder stock may be made together with that for the main engine and gear box, provided that the last survey and past maintenance records are submitted by the shipowner, and that a pass has been obtained for the visual inspection and running test conducted by MD during the periodical survey.

3. MD inspectors will, as appropriate, take photos of the components of the main engine, gear box, tail shaft, propeller, rudder and rudder stock for filing purposes. Shipowners are required to notify MD immediately if an accident relating to the above components happens during the extension period, and a report detailing the circumstances and causes of the incident and subsequent corrective actions shall be submitted. The survey interval will not be allowed to be further extended upon the expiry of the extension period and the main engine, gear box, tail shaft, propeller, rudder and rudder stock must be stripped down for overhaul and inspection according to the requirements currently applicable to surveys conducted at two-year intervals.

4. Shipowners must concurrently apply for a 12-month extension of the survey interval for both the main engine and gear box. If the survey interval for either of them (i.e. the main engine or gear box) cannot be extended, the main engine and gear box are to be surveyed once every two years as currently required.

5. Shipowners should note that the above proposal on extension of survey intervals may incur extra work and disrupt the arrangements for other mandatory survey items not covered by the proposal. However, they cannot for this reason request for a deferral of the survey schedule, simplification of procedures, or exemption from the survey or procedures regarding other mandatory survey items.

6. If some of the survey items regarding the internal hull which are subject to a two-year survey interval have not been thoroughly surveyed (e.g. the survey of the engine and steering compartments of the internal hull) due to the above proposed extension, a re-survey of those items should be conducted together with other periodical survey items upon the expiry of the extended survey interval for the engine, gear box, etc. (i.e. 12 months later).

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