CLUB CIRCULAR

Friday, 8 November, 2013
BSM-RM-10/007/13

To: All members

Recommendations for the Safety of Cargo Vessel of less than Convention Size

Part II / IV

Continued with BSM-RM-10/006/13

5. Fire Fighting Recommendation

Section 1: Fire Pumps and Fire Main System

The purpose of this Recommendation is to suppress and swiftly extinguish a fire in the space of origin. For this purpose, the following functional Recommendations should be met:

• Fixed fire extinguishing systems should be installed, as applicable, having due regard to the fire growth potential of the protected spaces; and
• Fire extinguishing appliances should be readily available.

The total capacity of the main fire pump(s) is not to be less than:

$Q = (0{,}145\ (L\ (B+D))^{½} + 2{,}170)^{2}$ but need not exceed $25 m^{3}$/hour

Where
B = greatest moulded breadth of vessel, in metres
D = moulded depth to bulkhead deck, in metres
L = Freeboard Length, in metres

Q = total capacity, in m^{3}/hour

Generally one main power pump and one portable fire pump should be provided as specified below:

- Sanitary, ballast, bilge or general service pumps may be accepted as fire pumps, provided that they are not normally used for pumping oil, and that,

if they are subject to occasional duty for the transfer or pumping of fuel oil, suitable changeover arrangements are fitted.

- A power pump is a fixed pump driven by a power source other than by hand.
- In cargo vessels classed for navigation in ice, the fire pump sea inlet valves should be provided with ice clearing arrangements.
- Relief valves should be provided in conjunction with any fire pump if the pump is capable of developing a pressure exceeding the design pressure of the water service pipes, hydrants and hoses. These valves should be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.
- Where a centrifugal pump is provided in order to comply with this sub-Section, a non-return valve should be fitted in the pipe connecting the pump to the fire main.

Portable fire pumps should comply with the following:

- The pump should be self-priming.
- The total suction head and the net positive suction head of the pump should be determined taking account of actual operation, i.e. pump location when used.
- The portable fire pump, when fitted with its length of discharge hose and nozzle, should be capable of maintaining a pressure sufficient to produce a jet throw of at least 12 m, or that required to enable a jet of water to be directed on any part of the engine room or the exterior boundary of the engine room and casing, whichever is the greater.
- Except for electric pumps, the pump set should have its own fuel tank of sufficient capacity to operate the pump for three hours. For electric pumps, their batteries should have sufficient capacity for three hours.
- Except for electric pumps, details of the fuel type and storage location should be carefully considered. If the fuel type has a flashpoint below 60°C, further consideration to the fire safety aspects should be given.
- The pump set should be stored in a secure, safe and enclosed space, accessible from open deck and clear of the Category 'A' machinery space.
- The pump set should be easily moved and operated by two persons and be readily available for immediate use.
- Arrangements should be provided to secure the pump at its anticipated operating position(s).
- The overboard suction hose should be non-collapsible and of sufficient length, to ensure suction under all operating conditions. A suitable strainer should be fitted at the inlet end of the hose.
- Any diesel-driven power source for the pump should be capable of being readily started in its cold condition by hand (manual) cranking. If this is impracticable, consideration should be given to the provision and maintenance of heating arrangements, so that readily starting can be

ensured.

Alternatively to the Recommendations of Portable fire pumps a fixed fire pump may be fitted, which should comply with the following:

- The pump, its source of power and sea connection should be located in accessible positions, outside the compartment housing the main fire pump.
- The sea valve should be capable of being operated from a position near the pump.
- The room where the fire pump prime mover is located should be illuminated from the emergency source of electrical power, and should be well ventilated.
- Pump is required to supply water for a fixed fire-extinguishing system in the space where the main fire pump is situated, it should be capable of simultaneously supplying water to this system and the fire main at the required rates.
- The pump may also be used for other suitable purposes, subject to the approval in each case.
- Pressure and quantity of water delivered by the pump being sufficient to produce a jet of water, at any nozzle, of not less than 12 m in length. For vessels of less than 150 GT, the jet of water may be specially considered.

For vessels less than 150 GT fitted with an approved fixed fire-fighting system in the engine room, portable pumps may be omitted. Means to illuminate the stowage area of the portable pump and its necessary areas of operation should be provided from the emergency source of electrical power.

The diameter of the **fire main** should be based on the required capacity of the fixed main fire pump(s) and the diameter of the water service pipes should be sufficient to ensure an adequate supply of water for the operation of at least one fire hose. The wash deck line may be used as a fire main provided that the Recommendations of this sub-Section are satisfied. All exposed water pipes for fire-extinguishing should be provided with drain valves for use in frosty weather. The valves should be located where they will not be damaged by cargo. the fire main, fire hoses and nozzles, the pressure maintained at any hydrant should be sufficient to produce a jet throw at any nozzle of not less than 12 m in length. (For vessels less than 150 GT, the jet of water may be specially considered).

For vessels less than 150 GT the number and position of the **hydrants** should be such that at least one jet of water may reach any part normally accessible to the crew, while the cargo vessel is being navigated and any part of any cargo space when empty. Furthermore, such hydrants should be positioned near the accesses to the protected spaces. (At least one hydrant should be provided in each Category 'A' machinery space).

For vessels equal or greater than 150 GT the number and position of hydrants should be such that at least two jets of water not emanating from the same hydrant, one of which should be from a single length of hose, may reach any part of the vessel normally accessible to the crew while the vessel is being navigated and any part of any cargo spaces when empty. Furthermore, such hydrants should be positioned near the accesses to the protected spaces. Other Requirements specified by the Administration may be considered.

Materials readily rendered ineffective by heat should not be used for fire mains. Where steel pipes are used, they should be galvanized internally and externally. Cast iron pipes are not acceptable. The pipes and hydrants should be so placed that the fire-hoses may be easily coupled to them. The arrangement of pipes and hydrants should be such as to avoid the possibility of freezing. In vessels where deck cargo may be carried, the positions of the hydrants should be such that they are always readily accessible and the pipes should be arranged, as far as practicable, to avoid risk of damage by such cargo. There should be complete interchangeability of hose couplings and nozzles. A valve should be fitted at each fire hydrant so that any fire-hose may be removed while the fire pump is at work.

Where a fixed fire pump is fitted outside the engine room, an isolating valve should be fitted in the fire main so that all the hydrants in the vessel, except that or those in the Category 'A' machinery space, can be supplied with water. The isolating valve should be located in an easily accessible and tenable position outside the Category 'A' machinery space; and the fire main should not re-enter the machinery space downstream of the isolating valve.

Fire-hoses should be of approved non-perishable material. The hoses should be sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. Their length, in general, is not to exceed 18 m. Each hose should be provided with a nozzle and the necessary couplings. Fire-hoses, together with any necessary fittings and tools, should be kept ready for use in conspicuous positions near the water service hydrants or connections. For vessel less than 150 GT, one hose should be provided for each hydrant. In addition one spare hose should be provided onboard Vessel equal or greater than 150 GT should be provided with fire hoses the number of which should be one for each 30 m length of the ship and one spare, but in no case less than three in all. Unless one hose and nozzle is provided for each hydrant in the ship, there should be complete interchangeability of hose couplings and nozzles.

Standard nozzle sizes are 12 mm, 16 mm or 19 mm, or as near thereto as possible, so as to make full use of the maximum discharge capacity of the fire

pump(s). For accommodation and service spaces, the nozzle size need not exceed 12 mm. The size of nozzles used in conjunction with a portable fire pump need not exceed 12mm. All nozzles should be of an approved dual purpose type (i.e. spray/jet type) incorporating a shut-off.

To be continued…

If our valued member has any doubt, please contact our Risk Management Department at riskmanagement@britishsteamship.com.

Yours faithfully
British Steamship Management Limited
Manager of
British Steamship P&I Association (Bermuda) Limited
www.britishsteamship.com