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# Lloyd's Register of Shipping,

71, Fenchurch Street, E.C.3.

24th February, 1950.

Dear Sirs,

Motorship "PORT HEARNE"

With reference to your Report No.5966, I shall be glad if you will confirm the following points:-

- (1) That the electric installation was completed in accordance with Rule requirements, and forward, for record purposes, a plan of the electric wiring.
- (2) That the vessel is equipped with hand bilge pumps, and state the number and sizes of these according to the particulars recorded on your First Entry Report No.5966. The capacities of the main engine driven and independent power bilge pumps are small and do not by themselves meet Rule requirements for capacity. I shall accordingly be glad if you will forward a plan showing bilge piping, location of suctions and pump capacities for records.
- (3) That arrangements are provided in the after hold for protecting the intermediate shafting, which it would appear from the ship arrangement plan is not contained in a tunnel, and state whether there is any means of access to the shaft bearings when carrying cargo in the after hold. I shall also be glad if you will confirm that suitable arrangements are provided to protect the cargo from damage in the event of stern gland leakage. Further, I shall be glad if you will state what arrangements are normally provided for shaft protection etc. in these small Canadian ships, and whether these satisfy the Owners.
- (4) I shall be obliged if you will obtain from the engine builders, Messrs.Fairbanks Morse a complete calculation of the torsional vibration characteristics of the engine, gearing shafting system, including a frequency tabulation and vector summation, together with particulars of any torsional vibration records which may have been taken from similar engines at the makers' works.

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It appears from an approximate calculation made in this Office (based on the limited information regarding critical speeds given in Messrs. Fairbanks Morse & Company's letter of the 22nd April, 1949 and on data available in this Office for Fairbanks Morse engines), that there is a critical speed at 375 RPM - 8th order 2 node - which would produce a vibration stress of about 12,000 lb/M<sup>2</sup> in the crankshaft, and accordingly would necessitate the imposition of a barred speed range for the installation.

Yours faithfully,

Clerk to the  
Classification Committee

The Surveyors,  
HALIFAX.



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