

Kopi.
C.

H. Blache, Dr.tech.h.c.,
Margrethevej 24,
HELLERUP.

12 August, 1936.

Mr. A. P. Møller,
8, Kongens Nytorv,
København K.

Dear Sir,

M/S "NORA MAERSK" - FIRE.

I have received your letter of August 7th, and enclosed copies of the cable records of which I enclose one copy signed by me.

The following information taken from the cable reports are of importance, with regard to judging the intensity of the fire the machinery has been exposed to and the condition of the machinery after the fire.

Fire broke out in the engineroom 3 p.m. July 19.

Fire was reported all over the ship July 24.

Fire was first reported burnt out in engineroom July 27.

Accordingly the engineroom has been on fire more than 5 days, and possibly 8 days.

The refrigerating compartment casing completely disturbed. Extensive repairs anticipated to engineroom-tanktop and main bulkheads.

Main engine, auxiliaries under water, anticipate very extensive damage. Refrigerating and boiler under water, probably destroyed.

Main motor 6 columns cracked. All white metal crankcase, chainbox melted. Fuel pumps entirely destroyed, blowercase cracked.

No.1. Diesel dynamo dismantled, shaft and armature Hongkong.

No.2. Diesel dynamo white metal melted, damages extensive.

No.3. Diesel dynamo damages water only.

Refrigerating machinery lubricating and cooling water pumps damaged water only.

Fuel valve cooling pumps destroyed.



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Main bedplate broken.

From this can be seen that the fire has been exceptional severe, worse than I know of from information received of fires in other motorships' engine rooms.

The fire has been most severe in the starboard side, where the boiler and the refrigerating machinery casing are placed, and has been right down on the floor plates or below same, as the refrigerating machinery casing is destroyed, as well as the tanktop.

The main engine has been hot throughout, from the lowest part to the top, as the white metal is melted and fuel oil pumps destroyed.

Main crankshaft and layshaft are both built up. The high temperature they have been exposed to may have destroyed the shrinkage, which cannot be ascertained by inspection, and it is advisable to renew both.

Bedplate.

The part of the bedplate cracked must be renewed, the other parts may have got cracks difficult to find, and they may first be found later, when the engine has been working.

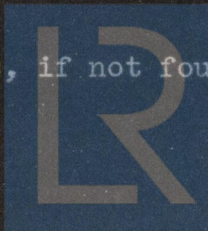
I therefore consider it to be advisable to renew the whole bedplate.

Main bearing caps, main bearing brasses, thrust shaft and thrust block, if not distorted, I consider may be used again. With regard to the trust shaft, Lloyd's inspection to be deciding.

Frames.

Of these 6 are cracked and ~~the~~ the other may first show cracks when engine is working again. It is advisable to renew all frames.

Guideplanes and backguides, if not found cracked or distorted may be used again.



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Connecting rods with bottom and top cast steel bearings may be used again, if not distorted.

Crossheads are made of high carbon steel and accordingly it is advisable to renew all.

Crossheads shoes of cast steel may be used again, if not distorted.

All bolts of heat treated steel, as main bearing bolts, connecting rods bolts are to be renewed. Piston rods of mild steel, if not distorted, may be used again.

Pistonrodliners, piston cromsteel top and bottom part, cylinder liners top and bottom part, top and bottom exhaust piston, top and bottom cylinder covers, all of special perlit and cromsteel, are not to be used even if no cracks are found, as the quality of the material due to the high temperature these engine parts have been exposed to, probably destroyed. These parts are protected by water in the jackets, but due to the long time the engines have been exposed to the fire, it is likely that the water has been evaporated in the jackets, during the fire.

The cast steel bottom cylinder cover frames, the cast steel yokes-top and bottom exhaust pistons, if not distorted may be used again.

There is not reported about the condition of the top cylinder cover frames. As they are complicated castings, I believe the inspection may show cracks in a number of these frames, in which case they will have to be renewed.

Fuel valves, safety valves, indicator valves, starting valves and fuel pumps must be renewed.

Camshaft may be used, if not distorted.

Rollerchains and spiral springs of hardened steel and chain wheels, I consider must be renewed, as well as all screws and

stutts in the chain drive. Brackets and bearings in the chain drive must be very careful inspected.

Blower casings are cracked and **must** be renewed.

Blower rotors, if not distorted, may be used again but shafts and gear wheels have to be renewed.

All instruments have to be renewed.

Steel pipes for high pressure fuel oil and for starting air must be renewed, all other pipes if not distorted may be used. Auxiliary diesel engine.

The two diesel engines which only have been exposed to water may be used again, after through overhaul, the third engine reported having the white metal melted, has been exposed to the fire in same way as the main engine, and it is advisable to renew same parts as main engine.

Auxiliary machinery.

Cooling water pumps, forced lubricating oil pumps reported damaged by water, as well as fresh water cooler and lubricating oil cooler and filters, which I suppose in the same way as the pumps only have been exposed to damage by water, may after careful inspection and overhaul be used again.

All electric cables, dynamoes, electromotors and instruments I suppose are fully destroyed, where these parts have been exposed to fire.

I conclude that my impression based upon the cable reports is that the fire in the engine room has been exceptional severe, and the main diesel engine and one of the auxiliary engines have been exposed to the fire in such a degree, that it would be advisable to condemn them and to replace them by new engines.

Yours very truly,

signed H. Blache.

Enclosure.

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