

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

(Received at London Office

14 MAR 1952

Date of writing Report.....19.....

When handed in at Local Office.....19.....

22 FEB 1952

Port of

NEWCASTLE-on-TYNE

No. in
Reg. Book.

Survey held at Jarrow-on-Tyne

Date. First Survey 18th October 1951Last Survey 11th February 1952358845 on the Machinery of the ~~Wood, Iron or Steel~~ S.S. "HEIMDAL"

(No. of Visits.....23.....)

Tonnage Gross 4418

Net 2638

Nominal Horse Power 346 MN

No. of Main Boilers 2SB

No. of Donkey Boilers 1DB

Steam Pressure in Main Boilers 180 lb

in Donkey Boilers 120 lb

Vessel built at Glasgow

Engines made at Glasgow

Boilers, when made (Main) 1928

Owners Nya Angfartygs A/B Heimdal

Managers Rudolf Hellberg

If Surveyed Afloat or in Dry Dock Both

(State name of Dock.)

By whom D. & W. Henderson & Co. Ltd

By whom D. & W. Henderson & Co.

(Donkey) 1928

Owners' Address

(if not already recorded in Appendix to Register Book.)

Port Gothenburg

Voyage

Year. Month.

When 1928 9

When 1928

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

CHARACTER. * for Special Survey. Date of last Survey and of Periodical Surveys.	Years assigned now expired.	Machinery and Boiler Surveys (Including date of N.B., if any)
* 100 A1		* LMC
10.51		BS 3.51
ss md6 9.47.		DBS 6.51
		MS 9.47
		TS (C) 10.51

Last Report No. Port

Particulars of Examination and Repairs (if any) Docking. LMC. OF conversion.

(Periodical Surveys, when held, must be reported in detail and serially in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.)

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined.

Was a damage report made by anyone else? If so, by whom?

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? yes

" " Donkey " " " yes

If not, state for what reasons

What special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?

State latest date of internal examination of each boiler Main boilers 4-1-52. Donkey 4-1-52

Did the Surveyor examine the Safety Valves of the Main Boilers? yes

Did the Surveyor examine the Safety Valves of the Donkey Boilers? yes

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? yes

Did the Surveyor examine the drain plugs of the Main Boilers? yes

Did the Surveyor examine all the mountings of the Main Boilers? yes

Has the screw shaft now been drawn and examined? No

Has it a continuous liner? yes

Has shaft now been changed? yes

Is an approved oil retaining appliance fitted at the after end? yes

Is an approved oil retaining appliance fitted at the after end? yes

stern bush Not available

Is electric light and/or power fitted? yes

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? yes

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done

safety valves of the donkey boiler remain to be adjusted under steam. The Owners

Superintendent states that this will be carried out at the first opportunity.

Now done for docking.

Vessel placed in drydock. Examined propeller, aft end of sternbush, sea cocks and

valves and their shell fastenings all being found or now placed in good order.

Now done for LMC.

Examined main engine cylinders, pistons, valves, chests, covers, rods, bottom

end bearings and pins, main bearings and crankshaft complete, thrust block and

shaft, intermediate shafting and bearings, attached and independent pumps including

ballast, aux. condenser circulating, independent feed and G.S. pumps, main and

auxiliary condensers (tested) evaporator, both generator engines, pumping arrangements,

steering engine and windlass all being found or now placed in good order.

see Sheet N° 2.

General Observations, Opinion, and Recommendation:—

(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, BS 2.11, B&MS 2.11 *LMC 2.11 or *LMC 140 lb., PD, &c.)

seen is in efficient condition and eligible in my opinion to remain as now

classed with fresh record of * LMC 2.52 when the safety valves of the donkey boiler

have been adjusted under steam and to have the notation "Fitted for oil fuel

2.52 F.P. above 150°F" made in the Register Book.

LMC 24:0:0

OF Conversion 25:0:0

Special attendance 3:3:0

ELECTRICAL 8:0:0

NEW GENERATOR 3:0:0

TUES. 22 APR 1952

+ LMC MS 2.52

Fitted for oil fuel 2.52

F.P. above 150°F.

Fees applied for

13 MAR 1952

Received by me,

19

S.N. Clayton. G.B. Kersy

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

004635-004644-0255 5

Sheet N° 2S.S. "HEIMDAL"Now done for LMC contd.

Examined both main and the donkey scotch boilers internally and externally together with doors and fastenings, mountings and safety valves all being found or now placed in good order. The safety valves of the main boilers were afterwards adjusted under steam to 180 lbs per square inch.

A selected number of main and auxiliary steam pipes were removed and hydraulically tested in accordance with the Rule requirements with satisfactory results.

N.B. The Owners have now fitted an additional independent feed pump:- Weirs N° 258840 - 6" x 8½" x 13" (see attached certificate) in the engine room, port side fore of the existing harbour feed pump.

A new 18 KW Diesel generating set was installed in the engine room, starboard side:- 2 cylinders J & H. McLaren Engine N° 21189 type MR2/MK11 driving a Crompton Parkinson generator N° F122A137 110 volts 750 RPM 165.5 amps compound wound, continuous rating. (see electrical follow-up sheet)

The new feed pump was tested under working conditions and found efficient. All steam and feed pipes used in connection with this pump were tested in accordance with the Rule requirements with satisfactory results.

Wear and tear repairs.

The LP piston ring was found worn ($\frac{7}{8}$ ") and was satisfactorily renewed. The main engine crankshaft was found lifted in the after main bearings due to misalignment of the thrust block. The engine coupling and all intermediate shaft couplings were broken, all shafting satisfactorily realigned, the thrust and intermediate shaft bearings rechecked and all coupled up in good order.

One bilge ram of the attached pumps was renewed on account of wear and all other rams satisfactorily skimmed.

The piston and piston valve of the fore generator engine were found worn and were renewed. New buckets were fitted to the aux. condenser circulating pump and new bucket rods to the ballast pump.

A number of leaking tubes in the auxiliary condensers were renewed and the condensers tested on completion with satisfactory results.

A small number of plain and stay tubes were renewed in both main boilers on account of leakage at the c.c. ends. A number of c.c. screwed stays were found corroded in each main boiler and were satisfactorily renewed. The flanging of both main boiler c.c. tube plates to the wrapper plates were found corroded on the waterside. The defective places were satisfactorily built up by electric welding.

All the Port Boiler starboard c.c. girders were removed and the chamber top built up by electric welding where found corroded on the waterside. All rivets in way were satisfactorily renewed. New girders were fitted to this chamber.

Corrosion over the crown and sides of all main boiler furnaces on the waterside was satisfactorily built up by electric welding.

see Sheet N° 3.

S.N. Blayton

SURVEYOR TO LLOYD'S REGISTER.

NEWCASTLE-ON-TYNE

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Sheet N° 3

S.S. "HEIMDAL"

Wear and tear repairs contd.

All the donkey boiler c.c. girders were removed and the chamber tops built up by electric welding where found corroded on the waterside. The rivets in way were satisfactorily renewed. The flangings of the donkey boiler c.c. tube and back plates were found corroded on the waterside and were satisfactorily built up by electric welding. A small number of screwed c.c. stays were renewed in this boiler.

Other minor repairs were effected to the main and aux. machinery and the boilers and their mountings.

On completion of all repairs the main and aux. machinery were examined under working conditions and found in good order.

Now done for oil fuel conversion.

The two main scotch boilers have now been converted to burn oil fuel under forced draught in accordance with the approved and amended plans and the Secretary's letters.

A Ray Oil Burner's ^{duplex} low pressure oil burning installation comprising as follows has been satisfactorily fitted :-

Heaters stamped : LLOYDS TEST COILS 600 lbs. 24-12-51 SHELL 400 lbs 27-12-51 S.N.C.

Pressure pumps : Worthington U.S.A. N° 1387004 & 1387004 3" x 2" x 3" stamped LLOYDS TEST 300 lbs 21-4-51 E.M.

Discharge filters : LLOYDS TEST 300 lbs 21-4-51 E.M.

Suction filters : LLOYDS TEST 300 lbs 21-4-51 E.M.

Six Ray type furnace front assemblies : Makers N° 51256-61. stamped LLOYDS TEST 300 lbs 40 lbs 21-4-51 E.M.

An electric and hand operated auxiliary lighting up set is also installed together with an oil fuel transfer pump : Weirs N° 257067 7" x 6½" x 15".

The oil fuel suction, filling and transfer lines were hydraulically tested to 60 lbs per square inch with satisfactory results. The hot oil lines were hydraulically tested to twice the maximum working pressure with satisfactory results and the steam lines used in connection with this oil burning system were hydraulically tested in accordance with the Rule requirements with satisfactory results.

Change over devices were fitted to Nos 2, 2A, 4 and 5 tanks these tanks being used alternatively for oil fuel and water ballast.

The G.S. pump was blanked off from the dirty ballast main. No funnel damper is fitted. No lead pipes removed (none fitted)

The steaming out connections were fitted with ring and blank flanges and the feed pumps are not connected to the oily bilge or ballast lines. ^{S.D. N.R. Valves.}

The installation was finally examined under working conditions, the steam smothering, all deck control gear, the furnace front quick closing cocks all tested and found in order, and the oil pipes between the pumps and furnace fronts in efficient condition.

A subsequent sea trial was held, attended by the Owners Representatives and stated to have been entirely successful.

S.N. Clayton.

see Sheet N° 4.

Sheet N° 4.S.S. "HEIMDAL"Now done for oil fuel conversion contd.

The following plans covering this conversion are attached hereto:-

Diagrammatic oil fuel pumping arrangement (approved)

Diagrammatic Arrangement of Oil Fuel Filling, Pumping etc. (as fitted)

Sketches of Oil Fuel Compartment showing Oil pumps, Heaters etc. (as fitted)

Arrangement of Steam and Exhaust leads in Engine Room (as fitted)

Piping at Furnace fronts (as fitted)

S.N. Blayton

NB The vessel returned to the Mercantile Dry Dock berth owing to an explosion having occurred in the Starboard Boiler, starboard furnace, stated to have been caused by an operational fault, a lighted torch having been inserted into the furnace some unknown period after the burner had been extinguished. The resulting explosion fractured the clamping arrangements holding the furnace front assembly. The unit then swung on its hinge allowing the flame to burn in the stokehold space.

Now Done

The clamping arrangements were suitably strengthened on all furnaces.

The MOT Surveyor subsequently made an examination and recommended two strongbacks be fitted across each unit.

G.M. Kersey.SURVEYOR TO LLOYD'S REGISTER,
NEWCASTLE-ON-TYNE

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S.S. 'HEIMDAL'
SURVEY OF ELECTRICAL INSTALLATION.

No in Reg. Bk **358845** NAME OF VESSEL — **HEIMDAL** FIRST SURVEY **8/11/51** LAST SURVEY **11/2/51**
 Capacity of Installation K.W. **Generators: 1-15KW. 1-10KW. 110volts. (1-18KW. 110volts added at this time)**
 Nature of Survey **Special Survey.**
 No of Visits **5** Where Surveyed **Jarrow-on-Tyne.**

A Special Survey of the electrical equipment was carried out. Generators, Cables, Fittings, and Main Switchboard examined.

The following modifications and repairs were carried out:— Additional diesel driven generator set fitted in engine room adjacent to existing steam driven generators. (for use when vessel is in port) 18KW. 110volts. 750 R.P.M. 163.5amps compound wound by Crompton Parkinson Serial No F/22 A137 in new condition, driven by the Laren diesel engine. New generator main cables fitted. Existing main switchboard replaced by new board. arranged for the running of two generators, outgoing circuits being controlled by change over switches, construction, and arrangement of switchboard in accordance with rules requirements.

Echo sounder equipment fitted German type "ATLAS ECHOLOT"

Radar equipment fitted "Decca" type.

Engine room, and accommodation wiring overhauled, and renewed where required, all faults on circuits and fittings rectified.

On completion of repairs, installation seen under working conditions generators tested for compounding, and governing, all circuits megger tested and all found to be in order.

It was noted that a Field Regulator was not fitted for 18KW diesel driven generator, arrangements made to have same fitted at owner's convenience, operation of set found to be satisfactory without regulator. (Set installed for use in port only.)

J. W. Wright

SURVEYOR TO LLOYD'S REGISTER.
 NEWCASTLE-ON-TYNE.

Subject.

LMC due 9.51 now held
MBS due 3.52 now held
OOS due 6.52 partly held.

Docking.

A new Quay. Generator eng. fitted. In order.
Shafting re-aligned.
F.O. conversion. In accordance with Rule
requirements. Pumping appts. approved.

It is submitted that the
vessel **WILL BE** eligible for
the record. + LMC 2.52 when the
D.B. Sft 7 VLS. have been adjusted
+ LMC MS 2.52 now
without special conditions

"fitted for Oil Fuel 2.52
FP above 150°F"

Jm 16/4/52



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