

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Received at London Office

Date of writing Report 10th Oct 1952 When handed in at Local Office \_\_\_\_\_ 19\_\_ Port of Augsburg

No. in Survey held at Augsburg Date, First Survey 7th April, Last Survey 2nd September 1952  
Reg. Book. \_\_\_\_\_ Number of Visits 32

Single  on the Twin  Triple  Quadruple  Screw vessel M.S. HOEGH CLIPPER Tons Gross --- Net ---

Built at Kiel By whom built Messrs. Howaldtswerke A.G. Yard No. 960 When built ---

Owners Reed. Leif Hoegh & Co. of Oslo Port belonging to Norway

Oil Engines made at Augsburg By whom made Maschinenfabrik Augsburg-Nürnberg A.G. Engine No. 430969/970/971 When made 1952

Generators made at --- By whom made --- Generator No. --- When made ---

No. of Sets 3 B.H.P. of each Set 300 M.N. as per Rule --- Capacity of each Generator --- Kilowatts.

Is Set intended for essential services ---

**OIL ENGINES, &c.**—Type of Engines M.A.N. Standard Type G5V42 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 51 atm. Diameter of cylinders 285 mm Length of stroke 420 mm No. of cylinders 5 No. of cranks 5

Mean indicated pressure 6,72 atm. Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 358 mm

Is there a bearing between each crank yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 3500 kgm<sup>2</sup> Revolutions per minute 365

Flywheel dia. 1500 mm Weight 2350 kg Means of ignition dir. inj. Kind of fuel used Diesel oil

Crank Shaft,  Solid forged  ~~cast~~ dia. of journals as per Rule --- as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 280 mm Thickness parallel to axis --- Mid. length thickness 89,5 mm Thickness round eye-hole ---

Flywheel Shaft, diameter as per Rule --- as fitted --- Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) ---

Are means provided to prevent racing of the engine yes Means of lubrication forced Kind of damper if fitted ---

Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled

Cooling Water Pumps, No. and how driven --- Is the sea suction provided with an efficient strainer which can be cleared within the vessel ---

Lubricating Oil Pumps, No. and size 1 x 4,54 m<sup>3</sup>/h each

Air Compressors, No. --- No. of stages --- Diameters --- Stroke --- Driven by ---

Scavenging Air Pumps or Blowers, No. --- How driven ---

**AIR RECEIVERS:**—Have they been made under Survey yes State No. of Report or Certificate 382

(other than main engines) State full details of safety devices safety valves

Can the internal surfaces of the receivers be examined and cleaned yes

Is there a drain arrangement fitted at the lowest part of each receiver yes

High Pressure Air Receivers, No. --- Cubic capacity of each --- Internal diameter --- thickness ---

Seamless, lap welded or riveted longitudinal joint --- Material --- Range of tensile strength --- Working pressure ---

Starting Air Receivers, No. 1 Total cubic capacity 200 ltrs. Internal diameter 421 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 49,0 Working pressure 30 atm.

**ELECTRIC GENERATORS:**—Type \_\_\_\_\_

Pressure of supply \_\_\_\_\_ volts. Full Load Current \_\_\_\_\_ Amperes. Direct or Alternating Current \_\_\_\_\_

If alternating current system, state the periodicity \_\_\_\_\_ Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off \_\_\_\_\_

Generators, are they compounded as per Rule \_\_\_\_\_ is an adjustable regulating resistance fitted in series with each shunt field \_\_\_\_\_

Are all terminals accessible, clearly marked, and furnished with sockets \_\_\_\_\_ Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched \_\_\_\_\_

Are the lubricating arrangements of the generators as per Rule \_\_\_\_\_

If the generators are under 100 kw. full load rating, have the makers supplied certificates of test \_\_\_\_\_ and do the results comply with the requirements \_\_\_\_\_

If the generators are 100 kw. or over have they been built and tested under survey \_\_\_\_\_

Details of driven machinery other than generator \_\_\_\_\_

**PLANS.**—Are approved plans forwarded herewith for Shafting appr. 30.3.51 Receivers --- Separate Tanks ---

(If not, state date of approval) Have Torsional Vibration characteristics if applicable been approved to be forw. by Yard Armature shaft Drawing No. ---

(State date of approval and name of previous duplicate case, if any) Has the spare gear required by the Rules been supplied yes

The foregoing is a correct description,  
**Maschinenfabrik Augsb.-Nürnberg A.G.**

Manufacturer.

*W. Luepke* *J. R. Luepke*



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4<sup>c</sup> 165

Dates of Survey while building  
 During progress of work in shops - - 1952: April, 7; May, 14, 21; June, 4, 14, 18, 19, 21, 25; July, 2, 5, 15, 16, 18, 21, 22, 23, 28, 29, 31; Aug., 1, 2, 5, 6, 7, 11, 12, 14, 23, 25, 30; Sept., 2, -  
 During erection on board vessel - - -  
 Total No. of visits. Thirty-two

Dates of Examination of principal parts - Cylinders 28+30.7.52 + 1.8.52 Covers 2.8.52 16+29.7.52 Pistons 21.7.+2.8.52 Piston rods - -  
 Connecting rods 21.7.+2.8.52 Crank ~~and Flywheel~~ shafts 14.6.52 Intermediate shafts - -

Crank shaft	Material	S.M. Steel			Tensile strength	2212	2213	2214
	Elongation	2212	2213	2214		% on 50 mm	59,3	63,4
		31,6	26,0	32,6		LLOYDS 1230A	LLOYDS 1283A	LLOYDS 9444A
							G.H. 14.6.52	

Flywheel shaft, Material - - Identification Marks - -

Identification marks on Air Receivers  
 129/1 Lloyd's Test  
 LLOYD'S TEST No. 2212  
 T.P. 852 lbs. T.P. 60 atm.  
 W.P. 426 lbs. W.P. 30 atm.  
 H.D. 19.12.51 G.H. 23.8.52

Is this machinery duplicate of a previous case - - If so, state name of vessel Standard Type

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
 These heavy oil auxiliary engines have been constructed under special survey in accordance with the approved plans, the Secretary's letters and instructions thereto. The material used in the construction is good and the workmanship was found to be satisfactory. The engines have been tested running on Makers test bed under full-, over-, and partial loads with good results. In our opinion the vessel for which these engines are intended will be eligible for the notation **+** L.M.C. (with date) when the whole machinery has been satisfactorily fitted aboard the vessel and has been tried under full working conditions.

3m.6.51.-T. (MADE AND PRINTED IN ENGLAND)

The amount of Fee ... : 1050.-  
 3x working charges : 180.-  
 3x test bed trial : 180.-  
 Travelling Expenses (if any) : 60.-  
 When applied for 19  
 When received 19

FRI. 20 MAR 1953

*Mr. Currier*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned See F.B. usby. opt.

