

REC'D ED

NEWCASTLE ON TYNE, No 107110

2 DEC 1949

pt. 4c.

12892 No.

IN D.O.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Date of writing Report 19th Nov 49 When handed in at Local Office 19 Port of Copenhagen Received London Office 23 NOV 1949

No. in Survey held at Kalundborg Date, First Survey 11th September 1949 Last Survey 19

eg. Book. Single Screw vessel NELLY MAERSK Tons Gross 8223.08
Triple Net 4805.36

built at Bygh By whom built Bygh by Byghs, Shipbuilding Co Ltd Yard No. 342 When built 1950

owners MESSRS AP. MOLLER Port belonging to FREDERICIA

Engines made at Kalundborg By whom made W. A. Borchsenius Bueh Contract No. 6411 When made 1949

Generators made at Manchester By whom made Brush & Platt Contract No. 124023 When made 1949

No. of Sets 2 Engine Brake Horse Power 67 M.N. as per Rule 16.75 Total Capacity of Generators 90 Kilowatts.

Set intended for essential services YES

OIL ENGINES, &c.—Type of Engines 48160 - Heavy oil - solid injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm² Diameter of cylinders 160 mm Length of stroke 230 mm No. of cylinders 4 No. of cranks 4

Mean indicated pressure 6.5 kg/cm² Firing order in cylinders 1-3-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 165 mm

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 or Kg.-cm.²) 72 x 10⁴ Revolutions per minute 625

Flywheel dia. 700 mm Weight 255 kg Means of ignition compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals 94 mm as per Rule 115 Crank pin dia. 105 mm Crank Webs shrunk Mid. length breadth 165 mm Thickness parallel to axis shrunk

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m² or Kg.-cm.²) as fitted

Are means provided to prevent racing of the engine when declutched Yes Means of lubrication forced Kind of damper if fitted Yes

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. 1 off 1.8 t/h Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 off cog wheel 4.6 t/h

Air Compressors, No. 1 off 1.8 t/h No. of stages 1 Diameters 100 mm Stroke 100 mm Driven by Electric

Scavenging Air Pumps, No. 1 off 1.8 t/h Diameter 100 mm Stroke 100 mm Driven by Electric

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate 27/8-49

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Yes

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

High Pressure Air Receivers, No. 1 Cubic capacity of each 1.8 m³ Internal diameter 100 mm thickness 10 mm

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 40-50 kg/cm² Working pressure by Rules 10 kg/cm²

Starting Air Receivers, No. 1 Total cubic capacity 1.8 m³ Internal diameter 100 mm thickness 10 mm

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 40-50 kg/cm² Working pressure by Rules 10 kg/cm²

ELECTRIC GENERATORS:—Type Totally enclosed, water cooled, compound wound

Pressure of supply 110 volts. Full Load Current 408 Amperes. Direct or Alternating Current Direct

If alternating current system, state the periodicity 50 Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off Yes

Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with no shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced Yes

or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

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

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

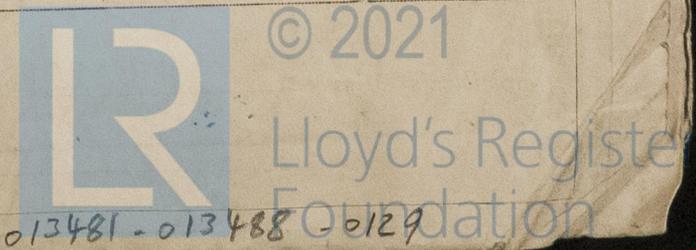
Details of driven machinery other than generator None

PLANS.—Are approved plans forwarded herewith for Shafting Yes No. 27/8-49 Receivers Yes Separate Tanks Yes

Have Torsional Vibration characteristics if applicable been approved Yes Armature shaft Drawing No. Yes

SPARE GEAR as per Rules

The foregoing is a correct description,
MOTORFABRIKEN BUKH A/S
J. Møller Manufacturer.



Dates of Survey while building

During progress of work in shops - - 1949: 1/9 - 2/11 -
 During erection on board vessel - -
 Total No. of visits

Dates of Examination of principal parts—Cylinders *and* Covers *and* Pistons 1/9-49 Piston rods ✓

Connecting rods 1/9-49 Crank ~~and~~ Flywheel shafts 1/9-49 Intermediate shafts ✓

Crank shaft Material *SM. Steel* Tensile strength 79.3-81.5 kg/mm²
 Elongation 18.6%

Flywheel shaft, Material ✓ Identification Marks *No 205-206. 18.1.49*
EN5 NZ 6411-6412.

Identification marks on Air Receivers

Is this machinery duplicate of a previous case *No.* If so, state name of vessel ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The generating sets have been constructed under Special Survey in accordance with the Rules and the plans approved by the Surveyor's letter E dated London 27.8.49. Binell tests have been carried out to the crank shafts and the results found to comply with the certificates produced. The material used is of good description and the workmanship is good.

The units have been tested at makers works and found to work satisfactory.

The generating sets have now been dispatched to the yard for installation.

SURVEY OF MACHINERY.

These generating sets have been satisfactorily fitted on board the M.V. NELLY MAERSK BLYTH YARD NO 342

Thomas D. Potts
 SURVEYOR TO LLOYD'S REGISTER.
 NEWCASTLE-ON-TYNE

The amount of Fee ... *£ 400.-* : When applied for *28/11* 19 *49*
 Travelling Expenses (if any) *£ 50.-* : When received 19

Committee's Minute *FRI. 21 APR 1950*

Assigned *See F.B. mchly. opt.*

511. P. 10. 11. (MADE AND PRINTED IN ENGLAND)

The Surveyors are requested not to write on or below the space for Committee Minute.

