

REC'D

NEWCASTLE ON TYNE, No 107110

2 DEC 1949

pt. 4c.

IN D.O.

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No.

12892

Date of writing Report

1946. Nov. 49

When handed in at Local Office

19

Port of

Received at London Office

23 NOV 1949

No. in  
eg. Book.

Survey held at

Kaliundborg -

Date, First Survey

11. September 1949

Last Survey

19

Number of Visits

Single  
Double  
Triple

Screw vessel

NELLY MAERSK

Tons

Gross 8223.08  
Net 4805.36

Built at

Blyth.

By whom built

Blyth Dry Dock &amp; Shipbuilding Co. Ltd.

Yard No. 342

When built 1950

MESSRS AP. MOLLER

Port belonging to

FREDERICIA

Engines made at

Kaliundborg

By whom made

H. Rasmussen &amp; Søn

Contract No.

6411

When made

1949

Generators made at

Manchester

By whom made

Rotherham &amp; 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, &amp;c.

Type of Engines

48160 -

Heavy oil - solid injection  
mixture injection type

2 or 4 stroke cycle

4

Single or double acting

Single

Maximum pressure in cylinders

55 kg/cm<sup>2</sup>

Diameter of cylinders

160 mm

Length of stroke

230 mm

No. of cylinders

4

No. of cranks

4

Mean indicated pressure

6.5 kg/cm<sup>2</sup>

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 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)72 x 10<sup>4</sup>

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

Crank pin dia.

105 mm

Crank Webs

Mid. length breadth

165 mm

Thickness parallel to axis

shrunken

Mid. length thickness

45 mm

Thickness round eyehole

shrunken

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)

shrunken

Are means provided to prevent racing of the engine when declutched

Yes

Means of lubrication

forced

Kind of damper if fitted

shrunken

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.

10 off 1.8 t/h

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size

17 off 4.6 t/h

Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

AIR RECEIVERS:—Have they been made under Survey

State No. of Report or Certificate

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

Can the internal surfaces of the receivers be examined

What means are provided for cleaning their inner surfaces

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

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 by Rules

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

## 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

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 shunt field

Yes

Are all terminals accessible, clearly marked, and furnished with sockets

Yes

Are they so spaced

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

PLANS.—Are approved plans forwarded herewith for Shafting

No. 27/8-49

Receivers

Separate Tanks

Have Torsional Vibration characteristics if applicable been approved

(state date of approval)

Armature shaft Drawing No.

SPARE GEAR

as per Rules

The foregoing is a correct description,

MOTORFABRIKEN BUKH A/S

J. Rasmussen

Manufacturer.



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Lloyd's Register

Foundation

013481-013488-0129



Dates of Survey while building

During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits

1949: 1/9 - 2/11

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

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

Crank shaft Material *Stm. Steel* Tensile strength *79.3-81.5 kg/mm<sup>2</sup>*  
Elongation *18.6%* Identification Marks *N<sup>o</sup> 205-206. 18.1.9.49*  
*EN5 NZ 6411-6412.*

Flywheel shaft, Material *✓* Identification Marks *✓*

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 Lloyds Register 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.

NEWCASTLE-ON-TYNE

These generating sets have been satisfactorily fitted on board the M.V. NELLY MAERSK BLYTH YARD N<sup>o</sup> 342

*Richard S. 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 *S. F. B. maly. opt.*

*C. Potts, Jr. Surveyor to Lloyd's Register of Shipping*



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