

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

AUG 10 1939

Received at London Office.....

Date of writing Report 4 August 1939 When handed in at Local Office.....19... Port of Amsterdam

No. in Survey held at Amsterdam Date, First Survey 8 May Last Survey 21 July 1939
Reg. Book. (Number of Visits.....14.....)

30936 on the m.s. "ONDINA" Tons { Gross 6341.....
Net 3606.....

Built at Amsterdam By whom built Ned. Dok. Mij. Yard No. 71 When built 1939

Owners N.V. Petroleum M'da Carona Port belonging to 's Gravenhage

Electrical Installation fitted by Groeneveld, van der Poll & Co Contract No..... When fitted 1939

Is vessel fitted for carrying Petroleum in bulk yes Is vessel equipped with D.F. yes E.S.D. yes Gy.C. no Sub.Sig. no

Have plans been submitted and approved yes System of Distribution two conductor insulated Voltage of supply for Lighting 110

Heating ✓ Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state frequency ✓ Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off yes Are turbine emergency governors fitted with a

trip switch as per Rule ✓ Generators, are they compound wound yes, are they level compounded under working conditions yes

if not compound wound state distance between generators ✓ and from switchboard ✓ Where more than one generator is fitted are they

arranged to run in parallel no, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

positive pole Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓ Have certificates of

test for machines under 100 kw. been supplied yes and the results found as per rule yes Are the lubricating arrangements and the construction

of the generators as per rule yes Position of Generators in engine room on starboardside

is the ventilation in way of generators satisfactory yes are they clear of inflammable material yes, if situated

near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, are the generators protected from mechanical

injury and damage from water, steam and oil yes, are the bedplates and frames earthed yes and the prime movers and generators in metallic

contact yes Switchboards, where are main switchboards placed in engine room on starboardside

are they in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steam

and oil yes, if situated near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, what insulation

material is used for the panels marble with mica bushings, if of synthetic insulating material is it an Approved Type ✓, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule yes Is the frame effectually earthed yes

Is the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fuses

to pilot and earth lamps, voltmeters, etc. yes locking of screws and nuts yes, labelling of apparatus and fuses yes, fuses on the "dead"

side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches steam driven generator:

a double pole change over switch & double pole fuses - Diesel driven generator: a

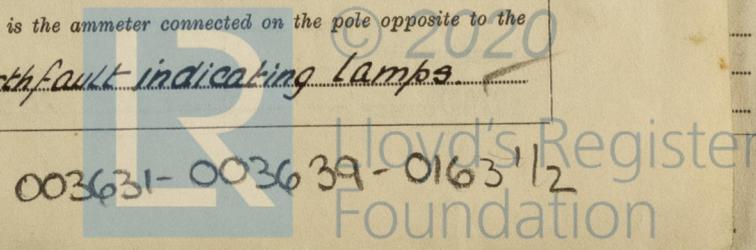
double pole switch & double pole fuses

and for each outgoing circuit a double pole change over switch & double pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 2

ammeters 2 voltmeters ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection ✓ Earth Testing, state means provided two pairs of earth fault indicating lamps



Switches, Circuit Breakers and Fuses, are they as per Rule... yes are the fuses an approved type... yes are all fuses labelled as per Rule... yes are the reversed current protection devices connected on the pole opposite to the equaliser connection... ✓ have they been tested under working conditions... ✓ Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... yes

Cables, are they insulated and protected as per the appropriate Tables of the Rules... yes if otherwise than as per Rule are they of an approved type... ✓

state maximum fall of pressure between bus bars and any point under maximum load... 5 Volts are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets... yes Are paper insulated and varnished cambric insulated cables sealed at the exposed ends... ✓

with insulating compound... ✓ or waterproof insulating tape... ✓ Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage... yes are cables laid under machines or floorplates... yes if so, are they adequately

protected... no Are cables in machinery spaces, galleys, laundries, etc., lead covered... yes or run in conduit... ✓ State how the cables are supported and protected... In accommodation, quarters, on bridge & poop and in engine room all cables are clipped to metal trays or direct to steelwork and woodwork of vessel - cables running from aft to midship and foreship and cables in fore-castle & centre-castle space are drawn in gastight conduit

Cables in officers and engineers accommodation (final subcircuits for lighting) are lead covered, all other cables are lead covered & steelwire braided.

Are all lead sheaths, armouring and conduits effectually bonded and earthed... yes Refrigerated chambers, are the cables and fittings as per Rule... yes

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands... yes where unarmoured cables pass through beams, etc., are the holes effectually bushed... yes and with what material... Lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... yes Emergency Supply, state position... ✓

and method of control... ✓ Navigation Lamps, are they separately wired... yes controlled by separate double pole switches... yes and fuses... yes Are the switches and fuses in a position, accessible only to the officers on watch... yes is an automatic indicator fitted... yes Secondary Batteries, are they constructed and fitted as per Rule... yes are they adequately ventilated... yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... yes Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... yes if so, how are they protected... fittings in pumproom entrances are housed in gastight steel boxes with stout glass discs in portholes - In fore-castle & centre-castle space gastight Wigan fittings are mounted - All wiring is drawn in gastight conduit in Chartroom (pumproom lighting), in Mate's office (centre-castle lighting) and where are the controlling switches fitted and in a special gastight recess outside fore-castle are all fittings suitably ventilated... yes

are all fittings and accessories constructed and installed as per Rule... yes Searchlight Lamps, No. of... one whether fixed or portable... portable (searchlight is not on board) are their fittings as per Rule... ✓ Heating and Cooking, is the general construction as per Rule... ✓

are the frames effectually earthed... ✓ are heaters in the accommodation of the convection type... ✓ Motors, are all motors constructed and installed as per Rule... yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil... yes if situated near unprotected combustible material state minimum distance from same horizontally... ✓ and vertically... ✓

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... ✓ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule... yes Control Gear and Resistances, are they constructed and fitted as per Rule... yes Lightning Conductors, where required are they fitted as per Rule... yes Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with... yes are all fuses of the cartridge type... yes

are they of an approved type... yes If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type... yes Spare Gear, if the vessel is for open sea service have spares been provided as per Rule... yes are they suitably stored in dry situations... yes Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory... yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|--------------|--|----------------------|
| | | Kilowatts. | Volts. | Ampères. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 1 | 20 | 110 | 182 | 400 | steam engine | ✓ | ✓ |
| | 1 | 20 | 110 | 182 | 400 | oil engine | diesel oil | above 160°F |
| EMERGENCY | | | | | | | | |
| ROTARY TRANSFORMER | 1 | 1.5 | 28-32 | 53-5/47 | 3000 | electromotor | | |

GENERATOR CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|---------------------------|------------|---------------------------|---|-----------------------------|-------|---|-----------------|----------------------------------|
| | | No. in Parallel Per Pole. | Sectional Area or Nominal Diameter of Conductor, in mm. | In Use Circuit. | Rule. | | | |
| MAIN GENERATOR | 20 | 1 | 120 | 182 | 175 | 50 | rubber | lead sheath & steelwire braiding |
| " " EQUALISER | | | | | | | | |
| Auxiliary generator | 20 | 1 | 120 | 182 | 175 | 66 | " | " " |
| Shore connection | | 1 | 120 | | 175 | 170 | " | " " |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | 2.65 h.p. | 1 | 6 | 22 | 29 | 20 | " | " " |
| " " GENERATOR | 1.5 k.W. | 1 | 16 | 53-5/47 | 49 | 20 | " | " " |

MAIN DISTRIBUTION CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. | | |
|--------------------------------------|------------|-------------|-----------------------------|---|-----------------|----------------|---|-----|
| AUX. SWITCHBOARDS AND SECTION BOARDS | | | | | | | | |
| Workshop motors Dist. board | | 1 | 70 | 108 | 125 | 220 | " | " " |
| Portable connect. Dist. board | | 1 | 10 | 36 | 38 | 210 | " | " " |

LIGHTING AND HEATING, ETC., CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. | | |
|--|------------|-------------|-----------------------------|---|-----------------|----------------|---|-----|
| WIRELESS | | 1 | 16 | 35 | 49 | 600 | " | " " |
| NAVIGATION LIGHTS Dist. board | | 1 | 10 | 7 | 38 | 520 | " | " " |
| LIGHTING AND HEATING | | | | | | | | |
| Engine room Lighting Dist. board | | 1 | 10 | 29 | 38 | 80 | " | " " |
| Lighting Dist. board crew's quarters | | 1 | 10 | 30 | 38 | 120 | " | " " |
| Lighting Dist. board aft accommodation | | 1 | 4 | 12 | 22.5 | 200 | " | " " |
| Lighting Dist. board midship accommodation | | 1 | 35 | 50 | 78 | 490 | " | " " |
| Lighting Dist. board foreship (from midship) | | 1 | 4 | 5 | 22.5 | 360 | " | " " |
| Searchlight | | 1 | 35 | - | 70 | 920 | " | " " |
| Searchlight | | 1 | 1.5 | 4 | 9.5 | 100-150 | " | " " |
| Searchlight | | 1 | 1.5 | 12 | 9.5 | 400 | " | " " |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. | | |
|--|-----|--------|-------------|-----------------------------|---|-----------------|----------------|---|-----|
| Engine turning gear | 1 | 7.5 | 1 | 50 | 61 | 99 | 120 | " | " " |
| Oil fuel transfer pump | 1 | 2 | 1 | 4 | 17 | 22.5 | 90 | " | " " |
| Oil purifier | 1 | 2 | 1 | 6 | 17.7 | 20 | 120 | " | " " |
| Engine room ventilator | 1 | 2.5 | 1 | 10 | 22 | 38 | 90 | " | " " |
| Midship ventilator | 1 | 3.5 | 1 | 10 | 28 | 38 | 580 | " | " " |
| Lathe | 1 | 1.75 | 1 | 2.5 | 13.7 | 16.5 | 60 | " | " " |
| Grindstone | 1 | 3 | 1 | 6 | 24.5 | 29 | 90 | " | " " |
| Drill | 1 | 2 | 1 | 4 | 17.5 | 22.5 | 80 | " | " " |

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

N.V. Groeneveld, Van der Poll & Co's

[Signature]

Electrical Engineers. Date 9-8-39

COMPASSES.

Minimum distance between electric generators or motors and standard compass 40ft (converter of wireless station)

Minimum distance between electric generators or motors and steering compass 30ft (converter of wireless station & midship ventilator)

The nearest cables to the compasses are as follows:—

A cable carrying .10 Ampères 1 feet from standard compass 1 feet from steering compass. Compass Lighting

A cable carrying .7 Ampères 6.5 feet from standard compass 3 feet from steering compass. electr. telegraph

A cable carrying .15 Ampères 10 feet from standard compass 6.5 feet from steering compass. Wheelhouse Lighting

Have the compasses been adjusted with and without the electric installation at work at full power yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted yes

The maximum deviation due to electric currents was found to be nil degrees on every course in the case of the standard compass, and nil degrees on every course in the case of the steering compass.

Builder's Signature. Date

Is this installation a duplicate of a previous case no If so, state name of vessel ✓

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of this vessel has been fitted on board under special survey, tested under full working conditions and found in order. The material and workmanship are good and the installation merits in my opinion the Committee's approval

[Handwritten notes: Noted, OR, 11/8/39]

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £300.00 : When applied for, 8-8-1939

Travelling Expenses (if any) £ 7:70 : When received, 4-9-39

[Signature]
 Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE 15 AUG 1939

Assigned See FE machy rpl.

2m.10.38.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

