

Rpt. 13.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 27739 d

Date of writing Report 16-1-1939 When handed in at Local Office

Received at London Office

JAN 19 1939

No. in Survey held at Schiedam

Port of Rotterdam

Reg. Book.

Date, First Survey 31-3-30 Last Survey 4-1-1939

on the m.s. "ZAANDAM"

(Number of Visits 13)

Built at Schiedam

By whom built Wilton-Feyenoord Yard No. 663

Tons { Gross 10909.08
Net 6364.55

Owners Messrs. Nederl. Amer. Stoomvaart M.v.

Port belonging to Rotterdam

When built 1938/1939

Electric Light Installation fitted by Rott. Electr. M.v. H. Croon & Co.

Contract No.

When fitted 1938/1939

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution two conductor insulated system

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting direct current Power direct current

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes

Generators, do they comply with the requirements regarding temperature rise yes, are they compound wound yes

are they over compounded 5 per cent. yes, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel yes, is an adjustable regulating resistance fitted in series with each shunt field yes

Have certificates of test results for machines under 100 kw. been submitted and approved yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing yes

Have certificates for generators under 100 kw. been supplied and approved 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

Position of Generators in engineroom; 2 at portside, 2 at starboardside of main engines, is the ventilation in way of the generators satisfactory yes, are they clear of all inflammable material yes, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators and

are the generators protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes, are the prime movers and their respective generators in metallic contact yes

Main Switch Boards, where placed in engineroom on special platform

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

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

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards and

are they constructed wholly of durable, non-ignitable non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance yes

is it of an approved type yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

yes, is the non-hygroscopic insulating material of an approved type yes, and is the frame effectively earthed yes

Are the fittings as per Rule regarding:— spacing or shielding of live parts Fuses are mounted on a special frame

yes, accessibility of all parts yes, absence of fuses on back of board behind board, temperature rise of

omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the

"off" position no, are all screws and nuts securing connections effectively locked yes, are any fuses fitted on the live side of

switches no Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Generator circuits: triple pole circuit breakers with overload & reversed current trips, Outgoing circuits: double pole circuit breakers or double pole switches & double pole fuses.

Special centralized starting system behind main switchboard for the majority of the motors in engine room.

Are turbine driven generators fitted with emergency trip switch as per rule

Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes Instruments on main switchboard 7 ammeters 5

volumeters synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

one pair of earth fault indicating lamps Switches, Circuit Breakers and Fusible Cut-outs.

do these comply with the requirements of the Rules. yes, are the fusible cutouts of an approved type yes, have the reversed

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| Outgoing cables from main switchboard (continued) | | | | | | | | | |
|---|--------------------------------|----------------------------|--|---------------------------------------|-----------------------|------------|------------|--|---|
| Description | Conductors No. per cable | Total No. of conductors | Composition of conductors no. diameter | Total Maximum Current Circuit Rule | Approximate Length | Insulation | Protection | | |
| Heating Dist. B. | 2 | 240 sq. m. m. | 37 2.03 m. m. | 340 A. | 350 A. | 130 ft. | rubber | lead-sheath-rubbersheath- steelwirebr. cottonbraided. | |
| Hotel service (ovens) | 1 | 240 " | 61 2.24 " | 265 " | 275 " | 300 " | " | " | " |
| " " (motors) | 1 | 95 " | 19 2.53 " | 150 " | 150 " | 290 " | " | " | " |
| Workshop mot. D. B. | 7 | 6 " | 7 1.05 " | 20 " | 29 " | 70 " | " | " | " |
| Ship's ventilation | 1 | 50 " | 19 1.83 " | 93 " | 99 " | 200 " | " | " | " |
| Eng. rm. | 1 | 120 " | 37 2.03 " | 153 " | 175 " | 240 " | " | " | " |
| Twendeck | 1 | 70 " | 19 2.17 " | 86 " | 125 " | 225 " | " | " | " |
| Emergency Br. | 1 | 70 " | 19 2.17 " | 125 " | 125 " | 240 " | " | " | " |
| Low Voltage Br. | 1 | 6 " | 7 1.05 " | 10 " | 29 " | 240 " | " | " | " |
| Twendeck Lighting | 1 | 4 " | 7 .86 " | 13 " | 22.5 " | 400 " | " | " | " |
| Motor conductors (cont.) | | | | | | | | | |
| 1 Swimming bath p. | 1 | 1.5 " | 1 1.39 " | 6.2 " | 9.5 " | 120 " | " | " | " |
| 1 Lub. oil transf. p. | 1 | 1.5 " | 1 1.39 " | 8.6 " | 9.5 " | 45 " | " | " | " |
| 2 Fuel oil pumps | 1 | 1.5 " | 1 1.39 " | 4.7 " | 9.5 " | 60 " | " | " | " |
| 1 Fuel oil transf. p. | 1 | 1.5 " | 1 1.39 " | 8.7 " | 9.5 " | 60 " | " | " | " |
| 3 Fuel oil separator | 1 | 4 " | 7 .86 " | 20 " | 22.5 " | 60 " | " | " | " |
| 2 Lub. oil separators | 1 | 2.5 " | 1 1.79 " | 12 " | 15.5 " | 65 " | " | " | " |
| 2 Sewage pumps | 1 | 16 " | 7 1.71 " | 47 " | 49 " | 75 " | " | " | " |
| 2 Fuel atomizer Boiler inst. Compor. | 1 | 4 " | 7 .86 " | 22.5 " | 22.5 " | 45 " | " | " | " |
| 2 Forced dr. fans | 1 | 1.5 " | 1 1.39 " | 4.5 " | 9.5 " | 45 " | " | " | " |
| 2 Hot water circ. p. | 1 | 1.5 " | 1 1.39 " | 3 " | 9.5 " | 60 " | " | " | " |
| 1 Sprinkler pump | 1 | 95 " | 19 2.53 " | 148 " | 150 " | 110 " | " | " | " |
| 1 " compor. | 1 | 1.5 " | 1 1.39 " | 9 " | 9.5 " | 70 " | " | " | " |
| Refrig. motors | | | | | | | | | |
| 3 Compressors | 1 | 70 " | 19 2.71 " | 114 " | 125 " | 100 " | " | " | " |
| 1 cooling w. pump | 1 | 4 " | 7 .86 " | 16 " | 22.5 " | 75 " | " | " | " |
| 4 brine pumps | 1 | 1.5 " | 1 1.39 " | 4.5 " | 9.5 " | 45 " | " | " | " |
| 2 ice water pump | 1 | 1.5 " | 1 1.39 " | 5 " | 9.5 " | 60 " | " | " | " |
| 3 Cooling r. m. fans | 1 | 2.5 " | 1 1.79 " | 10.5 " | 15.5 " | 120 " | " | " | " |
| 3 " " | 1 | 1.5 " | 1 1.39 " | 6.7 " | 9.5 " | 120 " | " | " | " |
| Vegetable oil p. | 1 | 70 " | 19 2.17 " | 98 " | 125 " | 60 " | " | " | " |
| 108 K.W. Galley- range | 2 | 480 " | 61 2.24 " | 490 " | 550 " | 300 " | " | " | " |
| 51 K.W. | 1 | 185 " | 37 2.53 " | 230 " | 235 " | 350 " | " | " | " |
| Bakers oven | 1 | 95 " | 19 2.53 " | 136 " | 150 " | 60 " | " | " | " |
| Pastry oven | 1 | 25 " | 7 2.13 " | 47 " | 63 " | 35 " | " | " | " |
| Grill | 1 | 16 " | 7 1.71 " | 45 " | 49 " | 65 " | " | " | " |
| Film projector | 1 | 16 " | 7 1.71 " | 35 " | 49 " | 90 " | " | " | " |
| Deck machinery Dist. Brd. cables | | | | | | | | | |
| Holds 1 & 2 | 1 | 310 " | 61 2.55 " | 240 " | 325 " | 505 " | " | " | " |
| " 3 | 1 | 240 " | 61 2.24 " | 200 " | 275 " | 410 " | " | " | " |
| " 4 | 1 | 240 " | 61 2.24 " | 200 " | 275 " | 300 " | " | " | " |
| " 5 & 6 | 2 | 300 " | 37 2.37 " | 280 " | 410 " | 360 " | " | " | " |

current protection devices been tested under working conditions yes are all fuses labelled as per rule yes

Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes

Cables: Single, twin, concentric, or multicore all types are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load lighting: 3.6 V. - power: 6 V. **Cable Sockets,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes **Paper Insulated and Varnished Cambric Insulated Cables,** If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with by special oil-tight socket connections insulating compound yes **Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage yes are cables laid under machines or floorplates yes if so, are they adequately protected yes

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit yes **Support and Protection of Cables,** state how the cables are supported and protected cables are clipped to special metal trays or direct to steelwork or woodwork of vessel, or run in conduit or in wood casing If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves yes If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected none

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes **Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes state the material of which the bushes are made hard wood

Earthing Connections, state what earthing connections are fitted and their respective sectional areas lead covering & steel wire braiding of cables and all apparatus earthed where necessary to Rule requirements, are their connections made as per Rule yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule yes **Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven oil engine driven generator in a special compartment on the boat deck, controlled by a double pole change over switch & double pole fuses

Navigation Lamps, are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes are the switches and fuses grouped in a position accessible only to the officers on watch yes has each navigation lamp an automatic indicator as per Rule yes **Secondary Batteries,** are they constructed and fitted as per Rule yes are they ventilated as per Rule yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected lighting fittings in the holds are protected by cast on guards are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected yes how are the cables led yes

where are the controlling switches situated yes

are all fittings suitably ventilated yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes are air heaters constructed and fitted as per Rule yes

Searchlight Lamps, No. of one whether fixed or portable portable are their fittings as per Rule yes

Motors, are their working parts readily accessible yes are the coils self-contained and readily removable for replacement yes are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes are they protected from mechanical injury and damage from water, steam or oil yes are their axes of rotation fore and aft yes if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type yes if not of this type, state distance of the combustible material horizontally or vertically above the motors yes and yes

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing yes have certificates for all motors for essential services been supplied and approved yes **Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes **Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule steel masts Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings yes are all fuses of the fitted 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 approved for use in dangerous spaces yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule yes are they suitably stored in dry situations yes

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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 ... | 4 | 240 | 220 | 1090 | 360 | Oil engine | diesel oil | above 150°F. |
| AUXILIARY ... | | | | | | | | |
| EMERGENCY ... | 1 | 485 | 220 | 205 | 1500 | Oil engine protected by 125 Amp. fuses. | diesel oil | above 150°F. |
| ROTARY TRANSFORMER | | | | | | | | |

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

| DESCRIPTION. | CONDUCTORS. | | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|--|---------------|--|------------------------|---------------|---------------------------------|--------|--|----------------|--|
| | No. per Pole. | Total Nominal Area per Pole Sq. ins. mm. | No. | Diameter. mm. | Circuit. | Rule. | | | |
| MAIN GENERATOR ... | 3 | 930 | 61 | 2.55 | 1090 | 1575 ✓ | 110 | paper | Lead sheath - bandarmouring - Cotton braiding. |
| EQUALISER CONNECTIONS ... | 2 | 480 | 61 | 2.24 | | 880 ✓ | 55 | " | " |
| AUXILIARY GENERATOR ... | | | | | | | | | |
| EMERGENCY GENERATOR ... | 1 | 70 | 19 | 2.17 | 125 (fuses) | 125 ✓ | 30 | rubber | Lead sheath - rubber sheath - Steel wire braiding - Cotton braiding. |
| ROTARY TRANSFORMER MOTOR GENERATOR ... | | | | | | | | | |
| ENGINE ROOM (2 circuits) ... | 1 | 6 | 7 | 1.05 | 22 | 29 ✓ | 210 | " | " |
| Eng. room contr. circuits ... | 1 | 4 | 7 | .86 | 5 | 22.5 ✓ | 240 | " | " |
| AUXILIARY SWITCHBOARDS ... | 1 | 16 | 7 | 1.71 | 24 | 49 ✓ | 360 | " | " |
| Refriger. Installation ... | 1 | 310 | 61 | 2.55 | 276 | 325 ✓ | 200 | " | " |
| Eng. room motors D.B. nos. ... | 1 | 50 | 19 | 1.83 | 84 | 99 ✓ | 90 | " | " |
| " " " D.B. no. 6 ... | 1 | 16 | 7 | 1.71 | 39 | 49 ✓ | 150 | " | " |
| " " " D.B. no. 8 ... | 1 | 50 | 19 | 1.83 | 82 | 99 ✓ | 240 | " | " |
| " " " D.B. no. 9 ... | 1 | 50 | 19 | 1.83 | 96 | 99 ✓ | 180 | " | " |
| ACCOMMODATION Lightg. Aft ... | 1 | 6 | 7 | 1.05 | 13 | 29 ✓ | 500 | " | " |
| Lightg. Dist. Bri. Boat deck ... | 1 | 16 | 7 | 1.71 | 31 | 49 ✓ | 300 | " | " |
| " " " Prom. deck ... | 1 | 50 | 19 | 1.83 | 53 | 99 ✓ | 360 | " | " |
| " " " A. deck ... | 1 | 35 | 19 | 1.53 | 75 | 78 ✓ | 240 | " | " |
| " " " B. deck ... | 1 | 35 | 19 | 1.53 | 75 | 78 ✓ | 180 | " | " |
| " " " C. deck ... | 1 | 4 | 7 | .86 | 11 | 22.5 ✓ | 240 | " | " |
| WIRELESS ... | 1 | 10 | 7 | 1.35 | 30 | 38 ✓ | 225 | " | " |
| SEARCHLIGHT ... | 1 | 1.5 | 1 | 1.39 | 5 | 9.5 ✓ | 60 | " | " |
| MASTHEAD LIGHT ... | 1 | 1.5 | 1 | 1.39 | .2 | 9.5 ✓ | 700 | " | " |
| SIDE LIGHTS ... | 1 | 1.5 | 1 | 1.39 | .2 | 9.5 ✓ | 90 | " | " |
| COMPASS LIGHTS ... | 1 | 1.5 | 1 | 1.39 | .08 | 9.5 ✓ | 70 | " | " |
| POOP LIGHTS ... | 1 | 1.5 | 1 | 1.39 | .2 | 9.5 ✓ | 780 | " | " |
| CARGO LIGHTS ... | 1 | 1.5 | 1 | 1.39 | 2.5 | 9.5 ✓ | 760 | " | " |
| HEATERS ... | 1 | 1.5 | 1 | 1.39 | 2 | 9.5 ✓ | 60 | " | " |

MOTOR CONDUCTORS.

| DESCRIPTION. | No. of Motors. | CONDUCTORS. | | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|--------------------------------|----------------|---------------|--|------------------------|---------------|---------------------------------|-----------------|--|----------------|---|
| | | No. Per Pole. | Total Nominal Area per Pole Sq. ins. mm. | No. | Diameter. mm. | In Circuit. | Rule. | | | |
| BALLAST PUMP ... | 2 | 1 | 50 | 19 | 1.83 | 83 | 99 ✓ | 75 | rubber | Lead sheath - rubber sheath - Steel wire braid - Cotton braiding. |
| MAIN BILGE LINE PUMPS ... | 2 | 1 | 50 | 19 | 1.83 | 83 | 99 ✓ | 60 | " | " |
| GENERAL SERVICE PUMP ... | | | | | | | | | | |
| EMERGENCY BILGE PUMP ... | 1 | 1 | 50 | 19 | 1.83 | 93 | 99 ✓ | 360 | " | " |
| SANITARY PUMP ... | 3 | 1 | 35 | 19 | 1.53 | 68 | 78 ✓ | 150 | " | " |
| CIRC. SEA WATER PUMPS ... | 3 | 1 | 150 | 37 | 2.37 | 200 | 205 ✓ | 210 | " | " |
| CIRC. FRESH WATER PUMPS ... | 3 | 1 | 310 | 61 | 2.55 | 320 | 325 ✓ | 200 | " | " |
| AIR COMPRESSOR ... | 2 | 2 | 240 | 37 | 2.03 | 350 | 350 ✓ | 60 | " | " |
| FRESH WATER PUMP ... | 2 | 1 | 10 | 7 | 1.35 | 27 | 38 ✓ | 60 | " | " |
| ENGINE TURNING GEAR ... | 2 | 1 | 35 | 19 | 1.53 | 80 | 85 (1/2 hr.) ✓ | 60 | " | " |
| Aux. Cooling w. pump | 1 | 1 | 10 | 7 | 1.35 | 36 | 38 ✓ | 45 | " | " |
| ENGINE REVERSING GEAR ... | | | | | | | | | | |
| LUBRICATING OIL PUMPS ... | 3 | 1 | 35 | 19 | 1.53 | 78 | 78 ✓ | 180 | " | " |
| OIL FUEL TRANSFER PUMP ... | 1 | 1 | 25 | 7 | 2.13 | 62 | 63 ✓ | 100 | " | " |
| WINDLASS ... | 1 | 1 | 240 | 61 | 2.24 | 332 | 410 (1/2 hr.) ✓ | 200 | " | " |
| WINCHES, FORWARD ... | 5 | 1 | 70 | 19 | 2.17 | 140 | 150 (1/2 hr.) ✓ | 75 | " | " |
| " " " " ... | 6 | 1 | 50 | 19 | 1.83 | 100 | 115 (1/2 hr.) ✓ | 75 | " | " |
| WINCHES, AFT ... | 6 | 1 | 70 | 19 | 2.17 | 140 | 150 (1/2 hr.) ✓ | 75 | " | " |
| " " " " ... | 6 | 1 | 50 | 19 | 1.83 | 100 | 115 (1/2 hr.) ✓ | 75 | " | " |
| Boat winches STEERING GEAR ... | 3 | 1 | 10 | 7 | 1.35 | 32 | 38 ✓ | 75 | " | " |
| (a) MOTOR GENERATOR ... | 2 | 1 | 240 | 61 | 2.24 | 400 | 410 (1/2 hr.) ✓ | 500 | " | " |
| (b) MAIN MOTOR ... | 2 | 1 | 240 | 61 | 2.24 | 390 | 410 (1/2 hr.) ✓ | 30 | " | " |
| WORKSHOP MOTORS ... | 3 | 1 | 15 | 1 | 1.39 | 8 | 9.5 ✓ | 30 | " | " |
| VENTILATING FANS Eng. rm. ... | 4 | 1 | 16 | 7 | 1.71 | 40 | 49 ✓ | 30 | " | " |
| " " " Accom. ... | 12 | 1 | 1.6 | 1 | 1.39 | 8.2 | 9.5 ✓ | 45 | " | " |
| " " " Tweendeck ... | 2 | 1 | 4 | 7 | .86 | 11 | 22.5 ✓ | 540 | " | " |
| " " " " " ... | 2 | 1 | 2.5 | 1 | 1.79 | 11 | 15.5 ✓ | 480 | " | " |
| " " " " " ... | 7 | 1 | 1.6 | 1 | 1.39 | 6 | 9.5 ✓ | 200 | " | " |
| Streamline filter heater ... | 2 | 1 | 70 | 19 | 2.17 | 109 | 125 ✓ | 140 | " | " |
| Fuel oil heater ... | 3 | 1 | 50 | 19 | 1.83 | 82 | 99 ✓ | 180 | " | " |
| Lub. oil heater ... | 2 | 1 | 35 | 19 | 1.53 | 68 | 70 ✓ | 150 | " | " |

The Electrical Equipment is installed in accordance with the approved plans.
All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
The foregoing is a correct description.

N.V. Rotterdamsche Electriciteits Mij.
V/H H. CROON & CO.
DIR.

W. Ruyter Managing Director

Electrical Engineers.

Date Jan 18th 1939.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 8 ft. (clear view screen motor - 1 Amp.)
10 ft. (Smoke detector ventilator - 10 Amp.)
Minimum distance between electric generators or motors and steering compass 6 ft. (clear view screen motor - 1 Amp.)
10 ft. (Smoke detector ventilator - 1 Amp.)

The nearest cables to the compasses are as follows:—

| | | | | | | |
|------------------|------|---------|----|----------------------------|---|---|
| A cable carrying | 0.00 | Ampères | 1 | feet from standard compass | 1 | feet from steering compass. (compass lighting) |
| A cable carrying | 1 | Ampères | 10 | feet from standard compass | 3 | feet from steering compass. (steering gear control) |
| A cable carrying | 3 | Ampères | 3 | feet from standard compass | 3 | feet from steering compass. (morse lamp) |

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 nihil degrees on every course in the case of the standard compass, and nihil degrees on every course in the case of the steering compass.

WILTON-FUENOORD.
(N.V. WILTON) Scheepswerf
(WILTON) Scheepswerf
Maatschappij Scheeps en Werktuigbouw

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, 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 satisfactory. The material and workmanship are good and the installation merits in my opinion the Committee's approval.

Noted
23/1/39

Total Capacity of Generators 1005 Kilowatts.

The amount of Fee ... £ 841,50 : When applied for, 18.1.39

Travelling Expenses (if any) £ 13,00 : When received, 7.2.39

H. van der Wyk.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 24 JAN 1939

Assigned

See Rot. JE 27739



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