

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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Date of writing Report 5-4 1951 When handed in at Local Office 17-4 1951 Port of Rotterdam

No. in Survey held at Zaltbommel Date, First Survey 23/8/50 Last Survey 11-4-1951  
Reg. Book. (No. of Visits 10)

71420 on the M.V. "NIGERIA" (EX. ORCA) Tons Gross 499.98 Net 331

Rebuilt at ZALTBOEMEL By whom built K.V. Schepers werf "de Waal" Yard No. When built 4-51

Owners - K.V. "Nieuw" Rotterdam Port belonging to Rotterdam

Installation fitted by MESSRS "VERKAIK" When fitted 4-51

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

Plans, have they been submitted and approved yes System of Distribution two wire insul. Voltage of Lighting 220

Heating Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency

Prime Movers, has the governing been found as per Rule when full load is thrown on and off yes Are turbine emergency governors fitted with a trip switch -

Generators, are they compound wound yes, and level compounded under working conditions yes, if not compound wound state distance between generators. - and from switchboard. - Are the generators arranged to run in parallel no, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

negative 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 see general remarks and the results found as per Rule. -

Position of Generators E.R. from level -

is the ventilation in way of generators satisfactory yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil. yes Switchboards, where are main switchboards placed at the top E.R.

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil. yes, what insulation is used for the panels impregnated paper if of synthetic insulating material is it an Approved Type yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule. - Is the construction as per Rule, including locking of screws and nuts. yes Description of Main Switchgear

for each generator and arrangement of equaliser switches. 2 P. fuses & 2 P. G.T. fuses

and the switch and fuse gear (or circuit breakers) for each outgoing circuit 2 P. switches and 2 P. fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. yes Instruments on main switchboard 3

ammeters 3 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection. - Earth Testing, state means provided earth

indicating lamps connected to 2 P. fuses & 2 P. switch

Switches, Circuit Breakers and Fuses, are they as per Rule. yes, are the fuses an Approved Type. yes (KEMA approved) make of fuses Meker & Siemens Pr., are all fuses labelled. yes If circuit breakers are provided for the generators, at what overload do they operate. - and at what current do the reversed current protective devices operate. -

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule. yes

Cables, are they insulated and protected as per Rule. 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. 66 lbs, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets. yes Are all paper insulated and varnished cambric insulated cables sealed at the ends. - 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 any cables laid under machines or floorplates. no, if so, are they adequately protected. - Are cables in machinery spaces, galleys, laundries, etc., lead covered. yes, or run in conduit. partly yes.

or of the "HR" type. - State how the cables are supported or protected. Machinery spaces: h.l. & h.h. B. cable slipped to perforated plating. Accommodation spaces: either h.l. or h.h. & h.h. B. cable slipped to surface in wood. Galleys to fore-ship: h.l. & h.h. B. cable slipped in aluminium conduit fitted on open deck.

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

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes Emergency Supply, state position 24 volt emergency battery placed on bridge deck supplied lighting fittings near life boats & in E.R.

Navigation Lamps, are they separately wired yes controlled by separate double pole switches 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 Is an alternative supply provided yes

Secondary Batteries, are they constructed and fitted as per Rule yes are they adequately ventilated yes

state battery capacity in ampere hours Emergency battery 24 volts/90amp hours Heating battery 24 volts/100amp hours

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes

Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present no if so, how are they protected no

and where are the controlling switches fitted no Are all fittings suitably ventilated no

Searchlight Lamps, No. of one, whether fixed or portable fixed are they of the carbon arc or of the filament type filament type

Heating and Cooking, is the general construction as per Rule no are the frames effectually earthed no are heaters in the accommodation of the convection type no Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment no Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing no see general remarks

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule no

Control Gear and Resistances, are they constructed and fitted as per Rule yes Lightning Conductors, where required are they fitted as per Rule no 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 no are all fuses of an Approved Cartridge Type no make of fuse no Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships no Are the cables lead covered as per Rule no

E.S.D., if fitted state maker no location of transmitter no and receiver no

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

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR.    | No. of | MAKER.    | RATED AT                 |        |          | PRIME MOVER.   |               |        |
|------------------------------|--------|-----------|--------------------------|--------|----------|----------------|---------------|--------|
|                              |        |           | Kilowatts per Generator. | Volts. | Ampères. | Revs. per Min. | TYPE.         | MAKER. |
| MAIN                         | 1      | Mawdsley  | 30                       | 225    | 128      | 1100           | Diesel engine | Parker |
|                              | 1      | "         | 15                       | 220    | 68       | 1100           | "             | "      |
|                              | 1      | Esslingen | 11                       | 220    | 51       | 1480           | Main shaft    |        |
| EMERGENCY ROTARY TRANSFORMER |        |           |                          |        |          |                |               |        |

GENERATOR CABLES.

| DESCRIPTION.              | KILOWATTS. | CONDUCTORS.               |  | MAXIMUM CURRENT IN AMPERES. |       | APPROX. LENGTH (lead plus return) in ft. | INSULATION. | PROTECTIVE COVERING. |
|---------------------------|------------|---------------------------|--|-----------------------------|-------|--|-------------|----------------------|
|                           |            | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit.             | Rule. |  |             |                      |
| MAIN GENERATOR I          | 30         | 1                         | 70   | 128                         | 125   | 40                                       | V.I.R.      | L.C. & M.W.B.        |
| " " EQUALISER             | 15         | 1                         | 25   | 60                          | 63    | 22                                       |             |                      |
| SHAFT DRIVEN GENERATOR    | 11         | 1                         | 16   | 51                          | 49    | 50                                       |             |                      |
| EMERGENCY GENERATOR       |            |                           |  |                             |       |  |             |                      |
| ROTARY TRANSFORMER: MOTOR |            |                           |  |                             |       |  |             |                      |
| " " GENERATOR             |            |                           |  |                             |       |  |             |                      |

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

| DESCRIPTION   | KILOWATTS. | CONDUCTORS.               | MAXIMUM CURRENT IN AMPERES.                                    | APPROX. LENGTH (lead plus return) in ft. | INSULATION. | PROTECTIVE COVERING.    |
|---|------------|---------------------------|--|--|-------------|-------------------------|
|   |            | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit.                          | Rule.       |                         |
| SUPPLIED FROM MAIN SWITCHBOARD  |            |                           |  |  |             |                         |
| from one of the diesel driven generators only                           |            |                           |  |  |             |                         |
| A.B. power forward  |            | 1                         | 35   | 41.5                                     | 78          | 96 V.I.R. L.C. & M.W.B. |
| either from one of the diesel generators or from shaft driven generator |            |                           |  |  |             |                         |
| D.F.B. lighting fore & midship and aft                                  |            | 1                         | 4  | 12                                       | 22.5        | 100                     |
| supply navigation lighting  |            | 1                         | 6  | 2  | 24          | 50 V.I.R. L.C. & M.W.B. |
| D.F.B. navigation lighting  |            | 1                         | 4  | 11                                       | 25.5        | 75                      |
| D.F.B. lighting aft. ship   |            |                           |  |  |             |                         |

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

| DESCRIPTION.   | CONDUCTORS.               |  | MAXIMUM CURRENT IN AMPERES. |       | APPROX. LENGTH (lead plus return) in ft. | INSULATION. | PROTECTIVE COVERING. |
|--|---------------------------|--|-----------------------------|-------|--|-------------|----------------------|
|  | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit.             | Rule. |  |             |                      |
| SUPPLIED FROM MAIN SWITCHBOARD   |                           |  |                             |       |  |             |                      |
| either from one of the diesel driven generators or from shaft driven generator |                           |  |                             |       |  |             |                      |
| lighting E.R.  | 1                         | 15   | 2                           | 9.5   | 20                                       | V.I.R.      | L.C. & M.W.B.        |
| Charging equipment sec. batteries  | 1                         | 15   | 1                           | 9.5   | 18                                       |             |                      |
| Charging equipment emerg. battery  | 1                         | 15   | 5                           | 9.5   | 2  |             |                      |
| SUPPLIED FROM D.F.B. NAVIGATION LIGHTING                                       |                           |  |                             |       |  |             |                      |
| headlight forward  | 1                         | 1  | 0.2                         | 6.3   | 120                                      |             |                      |
| head side light aft  | 1                         | 15   | 0.2                         | 9.5   | 60                                       | V.I.R.      | L.C. & M.W.B.        |
| port side light  | 1                         | 15   | 0.2                         | 9.5   | 30                                       |             |                      |
| stern light  | 1                         | 15   | 0.2                         | 9.5   | 50                                       |             |                      |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED.   | No. | B.H.P. | CONDUCTORS.               | MAXIMUM CURRENT IN AMPERES.                                    | APPROX. LENGTH (lead plus return) in ft. | INSULATION. | PROTECTIVE COVERING.    |
|--|-----|--------|---------------------------|--|--|-------------|-------------------------|
|  |     |        | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit.                          | Rule.       |                         |
| SUPPLIED FROM MAIN SWITCHBOARD   |     |        |                           |  |  |             |                         |
| either from one of the diesel driven generators or from the shaft driven generator |     |        |                           |  |  |             |                         |
| Motor for driving ballast pump & air compressor                                    | 1   | 10     | 1                         | 10   | 45                                       | 38          | 36 V.I.R. L.C. & M.W.B. |
| Motor bridge pump  | 1   | 4      | 1                         | 10   | 18                                       | 38          | 38                      |
| from one of the diesel generators only   |     |        |                           |  |  |             |                         |
| Large pump aft   | 1   | 10     | 1                         | 10   | 41.5                                     | 38          | 46 V.I.R. L.C. & M.W.B. |
| Air compressor   | 1   | 11.5   | 1                         | 10   | 40                                       | 38          | 46                      |
| fresh water hydropneum pump  | 1   | 1      | 1                         | 15   | 4  | 9.5         | 30 V.I.R. L.C. & M.W.B. |
| SUPPLIED FROM POWER S.B. FORWARD   |     |        |                           |  |  |             |                         |
| Large pump   | 1   | 10     | 1                         | 10   | 41.5                                     | 38          | 46 V.I.R. L.C. & M.W.B. |
| Windlass   | 1   | 10     | 1                         | 10   | 40                                       | 38          | 20                      |

\* circuit protected by fuses of 35 amps

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.

Electrotechnisch Bureau  
VERKAIK  
de Wetstraat 27 BOLNES

Electrical Contractors.

Date 17-5-51

COMPASSES.

Have the compasses been adjusted under working conditions. yes

SCHEEPSWERF "DE WAAVON" V.

ZALTBOMMEL

Builder's Signature.

Date

Have the foregoing descriptions and schedules been verified and found correct. yes

Is this installation a duplicate of a previous case. no

If so, state name of vessel. —

Plans. Are approved plans forwarded herewith. no

If not, state date of approval. 29-11-50

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. no

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

After striking a mine last year the vessel concerned has been repaired and partly rebuilt for service in the tropical belt. The electric motor, generators, fuel gear and main switchboard have been thoroughly overhauled and the remaining part of the equipment has been renewed in accordance with the approved plans.

The overhaul and the fitting on board of the equipment have been carried out under special survey in conformity with the Society's Rules and Regulations. The materials used are of a good quality and the design and workmanship are good.

On completion the equipment has been tried out under full working conditions and found satisfactory.

This equipment is in my opinion suitable for a classed vessel.

Notes sub 20/7/51

Total Capacity of Generators 56. Kilowatts.

The amount of Fee ... £ 644. =

When applied for, 19.57

Travelling Expenses (if any) £ 113. =

When received, 19

Shall (H. D. SLUIS)  
Surveyor to Lloyd's Register of Shipping.

TUES. 24 JUL 1951

Committee's Minute

Assigned

See F.E. mchly Rpt

