

Rpt. 13.

No. 33531 6

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 28 MAY 1951

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. 71420 on the M.V. "NIGERIA" (EX. ORCA) (No. of Visits 10)Rebuilt at ZALTBOOMMEL By whom built K.T. Schepers werf "de Waal" Yard No. 499.98
Owners - K.T. "Nieuw", Rotterdam Port belonging to Rotterdam Tons Net 331

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 yes general remarks and the results found as per Rule -

Position of Generators E.R. floor 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 Br., 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% 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.t. B cable

clipped to perforated plating accommodation spaces: either h.t. or h.l. & h.t. B cable

clipped to surface in wood galleys falls to fore ship: h.l. & h.t. B cable

cable in conduit filled 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

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Lloyd's Register Foundation

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

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/50 amp hours Heating battery 24 volts/100 amp 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	138	1100	Diesel engine	Parker
	1	"	15	220	68	1100	"	"
	1	Esslingen	11.1	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	138	125	40	V.I.R.	L.C. & M.W.B.
" " EQUALISER	15	1	25	60	63	22		
" " II	11.1	1	16	51	49	50		
SHAFT DRIVEN GENERATOR								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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

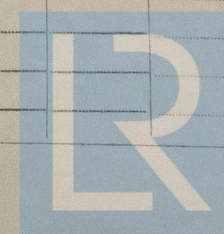
SUPPLIED FROM MAIN SWITCHBOARD								
from one of the diesel driven generators only								
I.B. power forward	1	35	41.5	78	96	V.I.R.	L.C. & M.W.B.	
either from one of the diesel generators or from shaft driven generator								
2.F.B. lighting fwd. & midship and aft	1	4	12	22.5	100	V.I.R.	L.C. & M.W.B.	
2.F.B. navigation lighting	1	6	2	24	50			
2.F.B. lighting aft. ship	1	4	11	22.5	75			

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet). <i>Am</i>	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	95	20	V.I.R.	L.C. & M.W.B.
Charging equipment sec. batteries	1	15	15	95	20		
Charging equipment emerg. battery	1	15	1	95	18		
	1	15	5	95	2		
SUPPLIED FROM D.F.B. NAVIGATION LIGHTING							
headlight forward	1	1	02	63	120	V.I.R.	L.C. & M.W.B.
starboard side light	1	15	02	95	60		
port side light	1	15	02	95	34		
stern light	1	15	02	95	30		
	1	15	02	95	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	16	V.I.R.	L.C. & M.W.B.				
Air compressor	1	11.5	1	10	40	✓ 38	46						
Quick 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	16	V.I.R.	L.C. & M.W.B.				
Winchless	1	10	1	10	✓ 40	38	20						

* - circuit protected by fuses of 35 amperes



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
VERKAIR
de Wetstraat 27 BOLNES

Electrical Contractors.

Date

17-5-51

COMPASSES.

Have the compasses been adjusted under working conditions.

SCHEEPSWERF „DE WAAL“ N.V.

ZALTBOMMEL

Builder's Signature.

Date

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

Is this installation a duplicate of a previous case.

If so, state name of vessel.

Plans. Are approved plans forwarded herewith.

If not, state date of approval.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith.

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 motors, generators, fuel oil 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 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.

Surveyor to Lloyd's Register of Shipping.

TUES. 24 JUL 1951

Committee's Minute

Assigned

See F.E. mchly Rpt



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Foundation