

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 MAY 1954

Date of writing Report 3rd May 1954 When handed in at Local Office 3rd May 1954 Port of SOUTHAMPTON

No. in Survey held at COWES Date, First Survey 2nd Nov '53 Last Survey 9th April 1954
(Number of Visits 10)

Reg. Book. SURVEY VESSEL "PATHFINDER" Tons { Gross 543.85
Net 197.68

Built at COWES By whom built J. SAMUEL WHITE & CO LTD Yard No. 1975 When built 1954

Owners GOVERNMENT OF NIGERIA Port belonging to LAGOS

Electrical Installation fitted by J. SAMUEL WHITE & CO LTD. Contract No. — When fitted 1954

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

Have plans been submitted and approved YES System of Distribution D.C. 2 WIRE Voltage of supply for Lighting 110

Heating — Power 110 Direct or Alternating Current, Lighting D.C. Power DC If Alternating Current state periodicity — Prime Movers,

has the governing been tested and found as per Rule when full 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

NEGATIVE Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing NONE 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 ENGINE ROOM STBD.

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 ENGINE ROOM CASING

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 INTEROHM, 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 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 DOUBLE POLE

SWITCHES AND REWIRABLE FUSES

and for each outgoing circuit DOUBLE POLE SWITCHES & REWIRABLE FUSES

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

ammeters 2 voltmeters 0 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 LAMPS & SWITCHES

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 If circuit breakers are provided for the generators, at what overload current did they open when tested —, are the reversed current

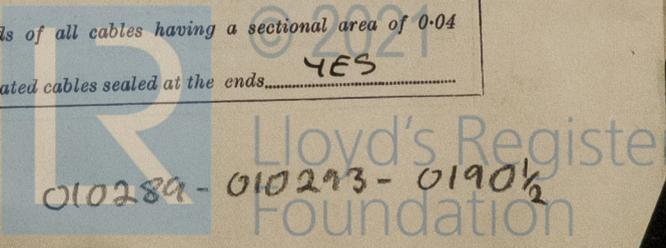
protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current

did they operate — 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 YES,

state maximum fall of pressure between bus bars and any point under maximum load 5 V, 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 ends YES



with insulating compound NO or waterproof insulating tape YES. 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 YES. Are cables in machinery spaces, galleys, laundries, etc., lead covered NO or run in conduit NO. State how the cables are supported and protected CLIPPED WITH BRASS CLIPS TO GALVANISED STEEL CABLE TRAYS OR STRUCTURE OR RUN IN CONDUIT.

Are all lead sheaths, armouring and conduits effectually bonded and earthed NONE. Refrigerated chambers, are the cables and fittings as per Rule NONE.

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 OR P.V.C.. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES. Emergency Supply, state position NONE FITTED 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.

what is the battery capacity in ampere hours 144 (FOR RADIO ONLY)

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 NO, if so, how are they protected _____.

and where are the controlling switches fitted _____, are all fittings suitably ventilated YES.

are all fittings and accessories constructed and installed as per Rule YES. Searchlight Lamps, No. of 2, whether fixed or portable PORTABLE.

BUT ON FIXED MOUNTINGS are their fittings as per Rule _____. Heating and Cooking, is the general construction as per Rule NONE.

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 _____.

Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment YES.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing NONE. 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 _____, are all fuses of the cartridge type _____.

are they of an approved type _____. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships _____.

Are the cables lead covered as per Rule _____. 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 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 | 2 | 20 | 110 | 182 | 650 | STEAM ENGINE | | |
| | 1 | 10 | 110 | 91 | 1100 | DIESEL ENGINE | GAS OIL | OVER 150° F |
| EMERGENCY | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | |

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 No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR S | 20 | 1 | 0.2 in ² | 182 | 246 | 100 | V.C. | P.C.P. & BRAID |
| " " EQUALISER | | | | | | | | |
| DIESEL GENERATOR | 10 | 1 | 0.1 in ² | 91 | 161 | 95 | V.C. | P.C.P. & BRAID |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | | | | | | | | |
| " " GENERATOR | | | | | | | | |

MAIN DISTRIBUTION CABLES.

| DESCRIPTION. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|--------------------------------------|---------------------------|--|-----------------------------|-------|---|-----------------|----------------|
| | No. in Parallel Per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| AUX. SWITCHBOARDS AND SECTION BOARDS | 1 | 0.045 in ² | 160 | 48 | 80 | V.C. | P.C.P. & BRAID |
| POWER ENGINE ROOM | 1 | " | 26.5 | 48 | 80 | " | " |
| LIGHTING " " | 1 | " | 26.5 | 48 | 80 | " | " |
| POWER FORWARD | 1 | 0.225 in ² | 36.1 | 61 | 150 | " | " |
| LIGHTING " " | 1 | " | 36.2 | 61 | 150 | " | " |
| POWER AFT | 1 | " | 26.3 | 61 | 100 | " | " |
| LIGHTING " " | 1 | " | 41.3 | 61 | 100 | " | " |
| " WEATHER DECKS | 1 | " | 32.0 | 61 | 200 | " | " |
| BRIDGE EQUIPMENT | 1 | 0.045 in ² | 23.5 | 48 | 200 | " | " |
| NAVIGATION & SIGNALING LIGHTS | 1 | " | 24.2 | 48 | 200 | " | " |

LIGHTING AND HEATING, ETC., CABLES.

| DESCRIPTION. | No. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|----------------------|-----|--|-----------------------------|-------|---|-----------------|----------------|
| | | | In the Circuit. | Rule. | | | |
| WIRELESS | 1 | 7.029" | 10 | 15 | 70 | V.R. | P.C.P. & BRAID |
| NAVIGATION LIGHTS | 1 | 7.029" | 4 | 15 | 20 | " | " |
| LIGHTING AND HEATING | 1 | 3.029" | 5 | 5 | - | " | " |

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 RM. SUPPLY FAN | 1 | 2.75 | 1 0.045 in ² | 23.0 | 48 | 90 | V.C. P.C.P. & BRAID |
| FWD. ACCOM. " " | 1 | 2x31 | 1 7.029" | 6.4 | 15 | 60 | V.R. " " |
| AFT " " EXHAUST | 1 | 2x33 | 1 7.036" | 10.6 | 24 | 80 | " " " " |
| " " EXHAUST | 1 | 0.21 | 1 3.036" | 1.65 | 10 | 70 | " " " " |
| OIL FUEL PUMP (LIGHTING-UP) | 1 | 0.5 | 1 3.036" | 4.0 | 10 | 60 | " " " " |

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.

FOR J. SAMUEL WHITE & CO LTD

A. H. Cameron

ELECTRICAL MANAGER



Electrical Engineers.

Date APRIL 7TH 1954

COMPASSES.

Minimum distance between electric generators or motors and standard compass 10 FT.

Minimum distance between electric generators or motors and steering compass 14 FT

The nearest cables to the compasses are as follows:—

A cable carrying .4 Ampères 1 feet from standard compass — feet from steering compass.

A cable carrying 1.2 Ampères 4 feet from standard compass — feet from steering compass.

A cable carrying .4 Ampères — feet from standard compass 1 feet from steering compass.

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 NEGLIGIBLE degrees on — course in the case of the standard compass, and NEGLIGIBLE degrees on — course in the case of the steering compass.

FOR J. SAMUEL WHITE & CO LTD.



A. H. Cameron

Builder's Signature.

Date APRIL 7TH 1954

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 25TH AUGUST 1954

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

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 installed under special survey in accordance with the approved plans and Rule requirements.

The installation has been tested under working conditions. Insulation resistance tests have been carried out.

The materials and workmanship are good.

This electrical installation is, in my opinion, such as can be accepted for classification.

*Noted 98
4/6/54*

Total Capacity of Generators 50 ✓ Kilowatts.

The amount of Fee ... £ 42 : 10 : When applied for, 4/5/19.54

Travelling Expenses (if any) £ : : When received, .19.....

J. B. Rogers

Surveyor to Lloyd's Register of Shipping.

Committee's Minute THURSDAY 17 JUN 1954

Assigned See Rpt. 4.

501.4.30.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

x. 22.5.54



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