

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

79 APR 1943

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....19..... Port of NEWCASTLE-ON-TYNE

No. in Survey held at WALKER-ON-TYNE Date, First Survey 4th NOV. 1942 Last Survey 8th April 1943
Reg. Book. (Number of Visits.....10.....)

..... on the BRITISH RESPECT Tons {Gross.....
Net.....

Built at WALKER-ON-TYNE By whom built SWAN HUNTER & Wigham Richardson Ltd No. 1424 When built 1943

Owners BRITISH TANKER CO LTD. Port belonging to.....

Electrical Installation fitted by CAMPBELL & ISHERWOOD Contract No. 1424 When fitted 1943

Is vessel fitted for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. —

Have plans been submitted and approved YES System of Distribution Two WIRE Voltage of supply for Lighting 110

Heating..... Power 110 Direct or Alternating Current, Lighting D.C Power D.C 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..... 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. STBD. ON GALLERY.

SUB MAIN SWITCHBOARD IN MIDSHIP ACCOMMODATION.

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 EBONY SINDANYO, 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 400 AMPERE D.P.

CIRCUIT BREAKER WITH OVERLOAD AND NO VOLT RELEASE.

and for each outgoing circuit SINGLE POLE DOUBLETHROW QUICK BREAK SWITCH AND DOUBLE POLE FUSE.

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 EARTH LAMPS CONNECTED TO E THROUGH D.P SWITCH AND FUSE

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 45%, are the reversed current

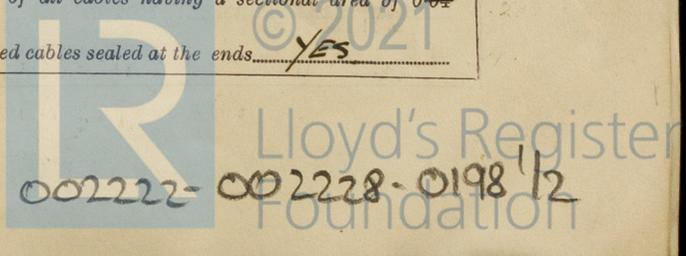
protection devices connected on the pole opposite to the equaliser connection....., have they been tested under working conditions, and at what current

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.....

state maximum fall of pressure between bus bars and any point under maximum load 4.4%, are the ends of all cables having a sectional area of 0.8

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 — 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. NO, if so, are they adequately protected. —. Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES or run in conduit. —. State how the cables are supported and protected. MAIN CABLES, L.C.A. + B CLEATED IN STEEL TROUGHING UNDER FORE AND AFT GANGWAY, ON STEEL TRAYPLATES IN MACHINERY SPACES. L.C.B CABLES IN ACCOMMODATION.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. YES. Refrigerated chambers, are the cables and fittings as per Rule. —. 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. —, are they adequately ventilated. —. what is the battery capacity in ampere hours. —. Fittings, are all fittings on weather decks, in stowholds and engine rooms and where exposed to drip or condensed moisture, weatherproof. YES. Are fittings installed where readily combustible materials or inflammable or explosive dust or fumes are likely to be present. —, 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 —, whether fixed or portable. — 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. —. 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. —. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. —. Control Gear and Resistances, are they constructed and fitted as per Rule. YES. Lightning Conductors, are they required are they fitted as per Rule. —. 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. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. YES. Are the cables lead covered as per Rule. 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 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 | 30 | 110 | 273 | 600 | Steam Engine | | |
| EMERGENCY | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | |

GENERATOR CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (load 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 | 2 x 30 | 1 | 34/023 | 273 | 296 | 36/40 | V.C. | L.C.A. + B. |
| " " EQUALISER | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | | | | | | | | |
| " " GENERATOR | | | | | | | | |

MAIN DISTRIBUTION CABLES.

| DESCRIPTION. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (load 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 | | | | | | | |
| SUB MAIN SWITCH BOARD | 1 | 34/023 | 190 | 296 | 360 | V.C. | L.C.A. + B. |
| ENGINE ROOM SECTION BOARD | 1 | 4/044 | 25 | | 126 | V.I.R. | L.C.A. + B. |
| AFT HOLD ROOM | 1 | 4/024 | 40 | 45 | 80.78 | V.C. | L.C.A. + B. |

LIGHTING AND HEATING, ETC., CABLES.

| | | | | | | | |
|------------------------------|---|--------|-----|-----|-----|--------|-------------|
| WIRELESS | 1 | 4/064 | 15 | 46 | 564 | V.I.R. | L.C. |
| NAVIGATION LIGHTS | 1 | 4/026 | 1.5 | 24 | 450 | V.I.R. | L.C.A. + B. |
| LIGHTING AND HEATING | ALTERNATE SUPPLY FROM NAVIGATING BRIDGE DISTRIBUTION BOARD. | | | | | | |
| SEARCHLIGHT CIRCUIT. | 1 | 19/052 | 50 | 64 | 580 | V.I.R. | L.C. |
| SHORE CONNECTION BOX | 1 | 34/023 | | 296 | 342 | V.C. | L.C.A. + B. |
| BRIDGE DECK DIS. FUSE BOARD | 1 | 4/044 | 16 | 31 | 24 | V.I.R. | L.C. |
| UPPER Bd. DE | 1 | 4/036 | 14 | 24 | 134 | V.I.R. | L.C. |
| FORD CARGO PLUGS | 1 | 4/036 | 4 | 24 | 24 | V.I.R. | L.C. |
| AFT | 1 | 4/036 | 3 | 24 | 132 | V.I.R. | L.C.A. + B. |
| BRIDGE SPACE DIS. FUSE BOARD | 1 | 4/044 | 20 | 31 | 24 | V.I.R. | L.C. |
| ECHOMETER | 1 | 4/036 | 18 | 24 | 180 | V.I.R. | L.C. |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | | | | | | |
|--|-----|--------|---|-------|------|----|-----|--------------------|
| WORKSHOP MOTOR | 1 | 5 | 1 | 4/064 | 42 | 46 | 144 | V.I.R. L.C.A. + B. |
| CRANE | 1 | 3 | 1 | 4/036 | 22 | 24 | 26 | " " |
| FUEL OIL PUMP | 1 | 2 | 1 | 4/036 | 14.2 | 24 | 120 | " " |
| LUB. | 1 | 2 | 1 | 4/036 | 17.2 | 24 | 292 | " " |
| THERMOTANK | 1 | 4 | 1 | 4/064 | 33 | 46 | 342 | " " |
| ENG. ROOM VENT. FAN | 1 | 1.5 | 1 | 4/036 | 12.4 | 24 | 342 | " " |
| PRIMING PUMP MOTOR | 1 | 1.5 | 1 | 4/036 | 15.5 | 24 | 36 | " " |

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.

CARDELL & ISHERWOOD, LTD.
Thomas heads Electrical Engineers. Date 21 April 1943

COMPASSES.

Minimum distance between electric generators ~~or motors~~ and standard compass 210'
 Minimum distance between electric generators ~~or motors~~ and steering compass 200'
 The nearest cables to the compasses are as follows:—
 A cable carrying .14 Ampères INSIDE feet from standard compass feet from steering compass.
 A cable carrying .14 Ampères feet from standard compass INSIDE feet from steering compass.
 A cable carrying Ampères feet from standard compass 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 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.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.
John White Builder's Signature. Date 23rd April 1943
 DIRECTOR.

Is this installation a duplicate of a previous case YES. If so, state name of vessel BRITISH HARMONY.
 Plans. Are approved plans forwarded herewith NO. If not, state date of approval 30/6/41.
 Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith FOLLOWING *Rec. 2/4*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) THE ELECTRICAL
INSTALLATION OF THIS VESSEL WAS INSTALLED UNDER SPECIAL SURVEY.
THE WORKMANSHIP AND MATERIALS USED ARE GOOD
GOVERNING AND REGULATION OF THE GENERATORS, OVERLOAD TRIPS OF THE
CIRCUIT BREAKERS AND THE INSULATION RESISTANCE, WERE TESTED AND FOUND
SATISFACTORY.
IN MY OPINION, THE INSTALLATION OF THIS VESSEL IS SUITABLE
FOR CLASSIFICATION.

Noted
J.Y.
4/5/43.

Total Capacity of Generators 17 30 Kilowatts.

The amount of Fee ... £ 28 : 10 : 28 APR 1943
 Travelling Expenses (if any) £ : :
 When received.19.....

A. J. Owens
 Surveyor to Lloyd's Register of Shipping.

TUES. 11 MAY 1943
 Committee's Minute
 Assigned See P.E. machy etc.

5m.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

