

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

AUG 12 1939

Date of writing Report 28-7-1939 When handed in at Local Office 8/8/39 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle Reg. Book. Date, First Survey 31 March Last Survey 25 July 1939 (Number of Visits 10)

35327 on the M.V. 'TORINIA' Tons Gross 10330 Net

Built at Newcastle (Wallsend) By whom built Swan Hunter & Wigham R. Yard No. 1561 When built 1939

Owners Anglo-Saxon Petroleum Co Port belonging to LONDON

Electrical Installation fitted by Sunderland Forge & Eng'g Co. Contract No. When fitted 1939

Is vessel fitted for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. - 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 Direct Power Direct If Alternating Current state frequency - Prime Movers,

has the governing been tested and found efficient when the whole 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

Positive 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 starboard side

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 starboard side

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 Double pole

changeover Knife switches and double pole fuses

and for each outgoing circuit Double pole changeover Knife switch & double pole

fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - 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 earth via D.P. switches & fuses

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, are the reversed current protection devices connected on the pole opposite to the equaliser connection -, have they been tested under working conditions -. 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 4.7V, 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 exposed 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 YES, if so, are they adequately protected YES. Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit -. State how the cables are supported and protected L.C. & A, cleated on to perforated metal trays.

Are all lead sheaths, armouring and conduits effectually bonded and earthed YES. Refrigerated chambers, are the cables and fittings as per Rule 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 and with what material Fibre tubing. 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 -. 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 YES, if so, how are they protected Gaslight fittings in welded steel enclosures with glazed apertures and where are the controlling switches fitted on outside of spaces, 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 -. 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, where 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. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type -. 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 megger 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 ...	1	20	110	182	Steam engine			
	1	20	110	182	Diesel		Above 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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR + ...	20	1	19/083	182	191	80	V.C	L.C. A
" " EQUALISER ...								
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Engine & boiler room	1	7/064	60	75	50	V.C		L.C. A
Navigation	1	7/026	3	24	570	V.I.R		"
Crew's accommodation - aft	1	7/064	29	75	120	V.C		"
Accommodation - midships	1	19/072	67	157	570	V.C		L.C
Wireless	1	7/064	13	75	570	V.C		L.C. A
Searchlight	1	19/064	60	135	496	V.C		"
Cargo	1	7/036	10	24	130	V.I.R		"
Vent fans	1	19/052	60	104	130	V.C		"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...								
NAVIGATION LIGHTS ...								
LIGHTING AND HEATING ...								

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Oil pump	1	2	1	7/029	16	182	126	V.I.R L.C. A
Oil fuel pump	1	1 1/2	1	7/029	14	182	158	V.I.R "
Turning gear motor	1	2	1	19/052	60	104	130	V.C "
Drill	1	2	1	7/029	16	182	30	V.I.R "
Lathe	1	1 1/2	1	7/029	14	182	60	V.I.R "
Grinder	1	3	1	7/026	24	24	50	V.I.R "

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.

Messrs Scudder and Loring Ltd
H. V. Currier

Electrical Engineers.

Date 29 July 1934

COMPASSES.

Minimum distance between electric generators or motors and standard compass 200'

Minimum distance between electric generators or motors and steering compass 200'

The nearest cables to the compasses are as follows:—

A cable carrying .25 Ampères inside feet from standard compass inside feet from steering compass.

A cable carrying _____ Ampères _____ feet from standard compass _____ 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 any course in the case of the

standard compass, and Nil degrees on any course in the case of the steering compass.

FOR SHIP HUNTER WIGHAM RICHARDSON, LTD.

Wm Brodie

Builder's Signature.

Date Aug. 1st 1934

Is this installation a duplicate of a previous case No If so, state name of vessel _____

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

The installation has been fitted under special survey.
The workmanship and the materials used were good.
On completion the installation was tested under working conditions, the insulation resistances of all circuits measured, the general test for arcing and gassing and found satisfactory.
The installation is, in my opinion, suitable for a diesel vessel.

Noted
15/8/34

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ...	<u>£ 25</u> :-	When applied for,	<u>4.8.19.34</u>
Travelling Expenses (if any) £	:	When received,	<u>11.8.19.34</u>

H. S. Bowen

Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 15 AUG 1934

Assigned See KE make rpt

2m.10.33.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)