

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

1940

Date of writing Report 25th June 1940, When handed in at Local Office 2. III 1940 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 7th May Last Survey 25th June 1940
Reg. Book. Suppt. (Number of Visits 7)

4/2461 on the S.S. "THISTLEGORM" Tons { Gross 4857.2
Net 2750

Built at Sunderland By whom built J. L. Thompson & Co. Ltd. Yard No. 599 When built 1940

Owners Albion Line, Ltd. Port belonging to Sunderland

Electrical Installation fitted by The Sunderland Frigor. Eng. Co. Ltd. Contract No. 599 When fitted 1940

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

Have plans been submitted and approved Yes System of Distribution Double wire Voltage of supply for Lighting 110

Heating No Power 110 Direct or Alternating Current, Lighting Yes Power Yes If Alternating Current state frequency No Prime Movers, No

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 No

trip switch as per Rule No Generators, are they compound wound Yes, are they level compounded under working conditions Yes, No

if not compound wound state distance between generators No and from switchboard No Where more than one generator is fitted are they No

arranged to run in parallel No, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole No

Positive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing No Have certificates of No

test for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the construction No

of the generators as per rule Yes Position of Generators Main - E.S. side aft. Auxiliary - E.S. side.

in forward hold, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situated No

near unprotected combustible material state distance from same horizontally No and vertically No, are the generators protected from mechanical No

injury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metallic No

contact Yes Switchboards, where are main switchboards placed Engine room starboard side on

after bulkhead near main generator

are they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam No

and oil Yes, if situated near unprotected combustible material state distance from same horizontally No and vertically No, what insulation No

material is used for the panels Siemens, if of synthetic insulating material is it an Approved Type Yes, if of No

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule No 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 No

to pilot and earth lamps, voltmeters, etc., Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead" No

side of switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches Double pole

double throw knife switch and double pole fuse.

and for each outgoing circuit Single pole knife switch and double pole fuse.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule No Instruments on main switchboard One

ammeters One voltmeters No synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the No

equaliser connection No Earth Testing, state means provided 2. Camps coupled to 2. through two 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 Yes, have they been tested under working conditions Yes. 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 less than 1.5 volts, 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 Yes 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 Yes. State how the cables are supported and protected. V.I.R. cables run in galvanised pipe in machinery spaces and in timbers: cables capped to surface or on wood grounds in accommodation.

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 effectually bushed Yes and with what material Lead and fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position Yes and method of control Yes.

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.

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 Yes and where are the controlling switches fitted Yes, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of Yes, whether fixed or portable Yes, are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. 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 Yes and vertically Yes. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yes. 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 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 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 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	15	110	136.5	550	Single cylinder steam engine		
Assisting	1	10	110	91	1000	Two cylinder diesel engine	Fuel Oil	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 Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	15	1	19/072	137	157	42	V.C.	L.C. to
" " EQUALISER								
Auxiliary Generator	10	1	19/083	91	118	60+24	V.L.R.	In galv. pipe
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
Accom. Hg. Section Board feed:-	1	19/052	42.3	64	60	60	V.L.R.	In galv. pipe
Supply - Engineers Hg. O.B.	1	7/044	13.8	31	28	28	V.L.R.	In galv. pipe
Midship Hg. O.B.	1	7/044	19.8	31	240	240	V.L.R.	In galv. pipe
Aft Hg. O.B.	1	7/044	8.7	31	240	240	V.L.R.	In galv. pipe
Chips Hg. Section Board feed:-	1	19/052	18.6	64	60	60	V.L.R.	In galv. pipe
Supply - Midship + Fore. S. O.B.	1	7/044	11.3	31	240+100	240+100	V.L.R.	In galv. pipe
Aft O.B.	1	7/044	7.3	31	250	250	V.L.R.	In galv. pipe

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/044	15	31	240	240	V.L.R.	In galv. pipe
NAVIGATION LIGHTS	1	7/044	6	31	240	240	V.L.R.	In galv. pipe
LIGHTING AND HEATING								
Engine + Boiler Room Hg. O.B.	1	7/044	20	31	40	40	V.L.R.	In galv. pipe

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Refrig. Mfr.	1	2	1	7/044	19	31	270	V.L.R.	In galv. pipe
Lift	1	1	1	3/036	9.7	12	40	V.L.R.	In galv. pipe



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.

H. and S. Sunderland Forge Long Street Electrical Engineers. Date *26-6-1940*
H. Sweeney

COMPASSES.

Minimum distance between electric generators or motors and standard compass *115 feet*

Minimum distance between electric generators or motors and steering compass *109 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *14* Ampères *on the* feet from standard compass *7* feet from steering compass.

A cable carrying *14* Ampères *7* feet from standard compass *on the* 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.

Builder's Signature. *R. N. Thompson* Date _____
Chairman

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 electrical*

equipment of this vessel has been installed under special survey. The materials used and the workmanship are good. On completion the equipment was run under working conditions, the governing, regulation and compounding of the generator sets were tested, the insulation resistance of all circuits was measured and the spare gear was examined. This equipment is in my opinion suitable for a classed vessel.

Notes
R. N.
8/7/40.

Total Capacity of Generators *25* Kilowatts.

The amount of Fee ... £ *20* : — : When applied for, *2.11.11.1940*

Travelling Expenses (if any) £ : : When received, *5th July 1940*

S. Antusson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 9 JUL 1940*
Assigned *See Std. J.C. 32912*

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