

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

-3 1940

Date of writing Report 25th June 1940, When handed in at Local Office 2. July 1940 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 7th May Last Survey 25th June 1940
 Reg. Book. Supp. (Number of Visits 7)
41241 on the S.S. "THISTLE GORM" Tons { Gross 485.2
 Net 275.0
 Built at Sunderland By whom built J. L. Thompson & Sons, Ltd. Yard No. 599 When built 1940
 Owners Albion Line, Ltd. Port belonging to Sunderland
 Electrical Installation fitted by The Sunderland Frigate Eng. Co. Ltd. Contract No. 599 When fitted 1940
 Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. No E.S.D. No Gy.C. No Sub.Sig. No

Have plans been submitted and approved No System of Distribution Double wire Voltage of supply for Lighting 110

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

has the governing been tested and found efficient when the whole load is suddenly thrown on and off No Are turbine emergency governors fitted with a

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

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

arranged to run in parallel No, are shunt field regulators provided No 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 No Have certificates of

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

of the generators as per rule No Position of Generators Main - E.L. side aft. Auxiliary - E.L. side.

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

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

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

contact No 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 No, are they protected from mechanical injury and damage from water, steam

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

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

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule No Is the frame effectually earthed No

Is the construction as per Rule No, including accessibility of parts No, absence of fuses on the back of the board No, individual fuses

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

side of switches No 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

equaliser connection No Earth Testing, state means provided 2. Lamp coupled to 2. through two fuses.



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Switches, Circuit Breakers and Fuses, are they as per Rule Yp, are the fuses an approved type Yp, are all fuses labelled as per Rule Yp, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yp, have they been tested under working conditions Yp. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yp. Cables, are they insulated and protected as per the appropriate Tables of the Rules Yp, if otherwise than as per Rule are they of an approved type Yp, state maximum fall of pressure between bus bars and any point under maximum load 5.5 volts, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yp. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends Yp with insulating compound Yp or waterproof insulating tape Yp. 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 Yp, are cables laid under machines or floorplates Yp, if so, are they adequately protected Yp. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yp or run in conduit Yp. State how the cables are supported and protected V.I.R. cables run in galvanised pipe in machinery spaces and in timberwork: cables carried to surface or on wood grounds in accommodation. Are all lead sheaths, armouring and conduits effectually bonded and earthed Yp. Refrigerated chambers, are the cables and fittings as per Rule Yp. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yp, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yp and with what material Lead and fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yp. Emergency Supply, state position Yp and method of control Yp. Navigation Lamps, are they separately wired Yp controlled by separate double pole switches Yp and fuses Yp. Are the switches and fuses in a position accessible only to the officers on watch Yp, is an automatic indicator fitted Yp. Secondary Batteries, are they constructed and fitted as per Rule Yp, are they adequately ventilated Yp. Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yp. 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 Yp and where are the controlling switches fitted Yp, are all fittings suitably ventilated Yp. are all fittings and accessories constructed and installed as per Rule Yp. Searchlight Lamps, No. of Yp, whether fixed or portable Yp, are their fittings as per Rule Yp. Heating and Cooking, is the general construction as per Rule Yp, are the frames effectually earthed Yp, are heaters in the accommodation of the convection type Yp. Motors, are all motors constructed and installed as per Rule Yp and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil Yp, if situated near unprotected combustible material state minimum distance from same horizontally Yp and vertically Yp. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yp. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule Yp. Control Gear and Resistances, are they constructed and fitted as per Rule Yp. Lightning Conductors, where required are they fitted as per Rule Yp. 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 Yp, are all fuses of the cartridge type Yp are they of an approved type Yp. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type Yp. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule Yp, are they suitably stored in dry situations Yp. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory Yp.

PARTICULARS OF GENERATING PLANT.

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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
Auxiliary	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).	INSULA- TED 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.B.
" " 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 ...							
Assem. Htg. Section Board fed:-	1	19/052	42.3	64	60	V.I.R.	In galv. pipe
supply:- Engineers Htg. S.B.	1	7/044	13.8	31	28	V.I.R.	In galv. pipe
Missile Htg. S.B.	1	7/044	19.8	31	240	V.I.R.	In galv. pipe
Aft Htg. S.B.	1	7/044	8.7	31	200	V.I.R.	In galv. pipe
Carg. Htg. Section Board fed:-	1	19/052	18.6	64	60	V.I.R.	In galv. pipe
supply:- Missile + Ford. S.Bs.	1	7/044	11.3	31	240/100	V.I.R.	In galv. pipe
Aft S.B.	1	7/044	7.3	31	250	V.I.R.	In galv. pipe

LIGHTING AND HEATING, ETC., CABLES.

[illegible]

MOTOR CABLES.

[illegible]

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 J. Sunderland George Longbottom Electrical Engineers. Date *26-6-1940*
H. Burney

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.

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

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.*

Noted

L. J.

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. Santusson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 9 JUL 1940*

Assigned *See Std. J.C. 32912*