

Rpt. 13.

No. 32866

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

MAY - 3 1940

Date of writing Report 29th Apr. 1940 When handed in at Local Office 7 MAY 1940 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 4th Mar. Last Survey 1st May 1940
Reg. Book Supp. (Number of Visits 7)39237 on the S.S. "GRAIGLAS" Tons { Gross 431.2
Net 254.9

Built at Sunderland By whom built J. L. Thompson & Co. Ltd. Yard No. 598 When built 1940

Owners Craig Shipping Co. Ltd. Port belonging to Cardiff

Electrical Installation fitted by The Sunderland Eng. & Elec. Co. Ltd. Contract No. 598 When fitted 1940

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. No 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 Power 110 Direct or Alternating Current, Lighting Yes Power Yes 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 Main: E.R. side aft Auxiliary: E.R. side

in two main rooms, 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 on aft

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

and oil Yes, if situated near unprotected combustible material state distance from same horizontally and vertically, what insulation

material is used for the panels Linoleum, 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

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 Yes Instruments on main switchboard One

ammeters One 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 2 lamps connected to 2. through two fuses

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Navigation Lamps, are they separately wired Yes controlled by separate single 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 Yes if so, how are they protected 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	12.5	110	112.5	850	Single cylinder steam engine		
Emergency	1	6.9	110	53.5	1000	Two cylinder diesel engine	Fuel Oil	260°C/500°F
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 Core.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	12.5	1	19/1072	113.5	157	36	V.C.	L.C. to in pipe
" " EQUALISER	5.9	1	19/1052	53.5	64	150	V.I.R.	In galv. pipe
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

AUX. SWITCHBOARDS AND SECTION BOARDS ...		MAIN DISTRIBUTION CABLES.					
Cargo Htg. & B. feed:-	1	19/052	31.8	64	150	V.I.R.	In galv. pipe
Supply: Off Cargo D.B.	1	7/044	14.5	31	120	V.I.R.	L.C.
Feed. Cargo D.B.	1	7/044	17.3	31	120	V.I.R.	L.C.
Room Htg. & B. feed:-	1	19/052	34.8	64	150	V.I.R.	In galv. pipe
Supply: Off Htg. D.B.	1	7/044	11.1	31	500	V.I.R.	In galv. pipe
Room Htg. Port D.B.	1	7/036	12.7	24	20	V.I.R.	L.C.
Room Htg. Star D.B.	1	7/036	10.6	24	60	V.I.R.	L.C.

[illegible][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. J. Sunderland & Sons, Ltd. Electrical Engineers.
H. J. Gurney

Date *3rd May 1940*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *68 feet*

Minimum distance between electric generators or motors and steering compass *64 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 *1/2* degrees on *Every* course in the case of the standard compass, and *1/2* degrees on *Every* course in the case of the steering compass.

H. J. Gurney Builder's Signature. Date

Is this installation a duplicate of a previous case *Yes* 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 regulation, compensating and governing of the generating sets were tested, the insulation resistance of all circuits was measured and the space gear was examined. This equipment is in my opinion suitable for a classed vessel.

Notes

14/5/40

Total Capacity of Generators *18.4* Kilowatts.

The amount of Fee ... £ *17* : - : When applied for, *7 MAY 1940*

Travelling Expenses (if any) £ : : When received, *15/5/40*

Sullivan

Surveyor to Lloyd's Register of Shipping.

TUE 14 MAY 1940

Committee's Minute

Assigned

See Std. No 32866



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Foundation