

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

- 5 NOV 1941

Received at London Office.....

Date of writing Report. 16.10.1941 When handed in at Local Office. 26/10/41 Port of LiverpoolNo. in Survey held at Lydham - Preston Date, First Survey 26/3/41 Last Survey 13/10/1941  
Reg. Book. (Number of Visits.....) 537607 on the S.S. 'LARCHFIELD' Tons { Gross 493  
Net 214Built at Lydham By whom built Lydham S.B. & E. Co. Yard No. 865 When built 1941Owners Zillah Shipping Carrying Co. Ltd Port belonging to LiverpoolElectrical Installation fitted by Lydham S.B. & E. Co. Contract No. 865 When fitted 1941Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. no E.S.D. no Gy.C. no Sub.Sig. noHave plans been submitted and approved Yes System of Distribution Two. 4 wire Voltage of supply for Lighting 110Heating — Power — Direct or Alternating Current, Lighting DC Power — 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 atrip 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 theyarranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive polenegative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing — Have certificates oftest for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the constructionof the generators as per rule Yes Position of Generators In Engine Room—, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situatednear unprotected combustible material state distance from same horizontally — and vertically — are the generators protected from mechanicalinjury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metalliccontact Yes Switchboards, where are main switchboards placed In Engine Room adjacent to generators—are they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steamand oil Yes, if situated near unprotected combustible material state distance from same horizontally — and vertically — what insulationmaterial is used for the panels Sindanyo, if of synthetic insulating material is it an Approved Type Yes, if ofsemi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule — Is the frame effectually earthed YesIs the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fusesto 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 Triple pole circuitbreakers (one pole equaliser) fitted with R/C. 0/2 trips—and for each outgoing circuit D.P. switches & fuses.——Are compartments containing switchboards composed of fire-resisting material or lined as per Rule — Instruments on main switchboard 3ammeters 2 voltmeters — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection Yes Earth Testing, state means provided Earth LampsSwitches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled asper Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested 100%, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what currentdid they operate 100% etc. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YesCables, 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 1.31 m/s are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets all in 24 in. 0.04" Are paper insulated and varnished cambric insulated cables sealed at the ends —



Are all lead sheaths, armouring and conduits effectively 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 effectively bushed. Yes and with what material Lead or brass. 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, —

**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. —

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 \_\_\_\_\_ and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water

steam and oil \_\_\_\_\_, if situated near unprotected combustible material state minimum distance from same horizontally \_\_\_\_\_ and vertically \_\_\_\_\_

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 main engine compartment.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing

100 BHP intended for essential services been supplied and the results found to be satisfactory.

fitted as per Rule 740 Lightning Conductors, where required

less than 150° F. Have all the special requirements of the Polystyrene 5000 Series.

are they of an approved type — Are the fittings for running — *operation*

ships..... Are the cables lead covered as per Rule ..... Space Given if the .....

Rule.....Yes....., are they suitably stored in dry situations Yes.....

and found satisfactory.....

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	44	110	36.4	1000.	Steam Engines.		
EMERGENCY ...								
ROTARY TRANSFORMER								

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 ... ..	44	1	7/064	36.4	46	40	Rubber	V.I.R. braided in conduit
" " EQUALISER ... ..	-	1	7/064	-	46	20	"	
EMERGENCY GENERATOR ... ..								
POTATORY TRANSFORMER: MOTOR ... ..								
" " GENERATOR ... ..								

[illegible]

WIRELESS	1	7/029	2.8	15	✓	40	Rubber.	Part L.C.A.B. <del>max</del>
NAVIGATION LIGHTS	1	7/029	13.5	15	✓	40	"	part L.C.B.
LIGHTING <del>AND HEATING</del> ACCOMMODATION D.B.'B'	1	7/029	2.4	15	✓	200	"	" "
CARGO	1	7/029	8	15	✓	12	"	L.C.A.B.
ENGINE ROOM D.B.'C'	1	3/029	'36	5	✓	280	"	"
MASTHEAD LIGHT.	1	3/029	'36	5	✓	40	"	"
PORT	1	3/029	'36	5	✓	35	"	L.C.B
STARBOARD	1	3/029	'36	5	✓	120	"	"
STERN	1	3/029	'36	5	✓	-	"	"
DECAUSSING CABLES FITTED	-	7/1044	22	31	✓	-	"	on taking on shell casing.

[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.

THE LYTHAM SHIPBUILDING and  
ENGINEERING COMPANY, LIMITED  
R. Friedenthal

Electrical Engineers.

Date 17<sup>th</sup> Oct 1941

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass

26 feet

Minimum distance between electric generators or motors and steering compass

35 feet

The nearest cables to the compasses are as follows:—

A cable carrying 15 Ampères 10 feet from standard compass 10 feet from steering compass.

A cable carrying 2.8 Ampères 3 feet from standard compass 5 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 10 degrees on Any course in the case of the

standard compass, and 10 degrees on Any course in the case of the steering compass.

THE LYTHAM SHIPBUILDING and  
ENGINEERING COMPANY  
R. Friedenthal

Builder's Signature.

Date 25<sup>th</sup> Oct 1941

Is this installation a duplicate of a previous case? Yes, except that generator are two If so, state name of vessel SS. MAPLEFIELD

Plans. Are approved plans forwarded herewith? Yes If not, state date of approval

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith? Yes

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 fitted on board under special survey, tested under full load and working conditions and found satisfactory. The materials and workmanship are good.

Noted  
7/11/41

Total Capacity of Generators 8 Kilowatts.

The amount of Fee ... £ 8 : 0 : 0 When applied for, 30 OCT 1941

Travelling Expenses (if any) £ 3 : 0 : 4 When received.

A. Haffner  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Minute on Machinery I.E. Report.