

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office. DEC. 18. 1939

Date of writing Report. 9th Dec '39 When handed in at Local Office. 16/12/1939 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 8th Sept, Last Survey 9th Dec, 1939  
Reg. Book. Suppl. (Number of Visits. 2)

38923 on the S.S. 'ELMDENE' Tons { Gross. 4,853.20  
Net. 2,875.07

Built at West Hartlepool By whom built Tom Gray & Co. Ltd Yard No. 1095 When built 1939

Owners Elmdene Shipping Co. Ltd Port belonging to London

Electrical Installation fitted by Tom Gray & Co. Ltd Contract No. 1095 When fitted 1939

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 110 Power 110 Direct or Alternating Current, Lighting No Power No 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 No Are turbine emergency governors fitted with a

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

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 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. 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 Engine room starboard side

forward, 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. and vertically. 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

forward on raised platform near generators

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. and vertically. what insulation

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

semi-insulating material (state or marble) are all conducting parts insulated therefrom as per Rule. 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

knives switch and fuse on each pole

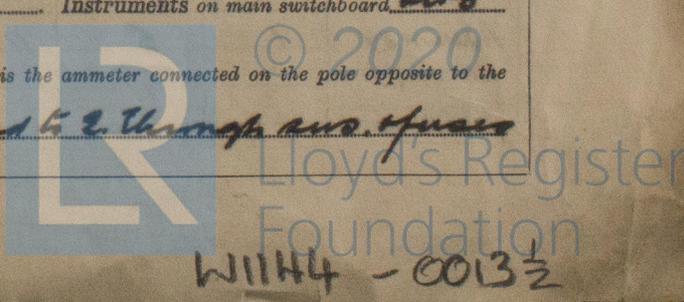
and for each outgoing circuit Single pole double throw knives switch and

fuse on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Instruments on main switchboard Two

ammeters Two 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 bus. fuses



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

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	114	592	Single cylinder steam engine		
AUXILIARY	1	5	110	45.5	800	Single cylinder diesel engine	Fuel Oil Above 150° F	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (less than 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	12.5	1	19/083	114	118	36	V.I.R.	In conduit
" EQUALISER								
AUXILIARY GENERATOR	5	1	7/064	45.5	46	30	V.I.R.	In conduit
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (less than return feet).	INSULATED WITH.	HOW PROTECTED.	
AUX. SWITCHBOARDS AND SECTION BOARDS							
Machinery Section Board feed:		1	7/064	39.8	46	250	V.I.R. In conduit
Supply: Machinery Room. Lig. D.B.		1	7/064	10.9	31	4	V.I.R. L.C.
Eng'g. D.B. & Fuel. Comp. D.B.		1	7/064	18.9	31	60+20	V.I.R. L.C. & in conduit
Navigation D.B.		1	7/064	10	31	110	V.I.R. L.C.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (less than return feet).	INSULATED WITH.	HOW PROTECTED.	
WIRELESS		1	7/029	15	18.2	330	V.I.R. In conduit & L.C.
NAVIGATION LIGHTS							
LIGHTING AND HEATING							
Engine & Boiler Room Lig. D.B.		1	7/064	25	31	12	V.I.R. In conduit
Crew Accom., Cargo & aft Lig. D.B.'s		1	7/064	12.4	46	116	V.I.R. In conduit
				+132		+200	
				+18.0		+180	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (less than return feet).	INSULATED WITH.	HOW PROTECTED.	
Repairing machinery.	2	1/4	1	7/036	12+5	24	270	V.I.R. In conduit

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.

*Ho. S. Simpson*

Electrical Engineers.

Date *13th Dec 1939*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *98 feet*

Minimum distance between electric generators or motors and steering compass *102 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.

*Ho. S. Simpson*

Builder's Signature.

Date *13th Dec 1939*

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 compensating of the governing sets were tested, the insulation resistance of all circuits was measured and the spare gear was checked. This equipment is in my opinion suitable for a cross vessel.*

*Wood*  
*19/12/39*

Total Capacity of Generators *17.5* Kilowatts.

The amount of Fee ... £ *16 : 10* : { When applied for, *16/12/1939*

Travelling Expenses (if any) £ : : { When received, *13/1/1940*

*Santison*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 29 DEC 1939*

Assigned *See Hpl. FE 17991*

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



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