

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 28 NOV 1942

Date of writing Report 9th Nov 42 When handed in at Local Office 16th Nov 42 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 22nd Sept Last Survey 10th Nov 1942  
Reg. Book. Suppt. (Number of Visits 3)

87613 on the S.S. "MIDDLESEX TRADER" Tons (Gross Net)

Built at Sunderland By whom built J. L. Thompson & Co. Yard No. 621 When built 1942

Owners Tracer Navigation Co., Ltd. Port belonging to London

Electrical Installation fitted by The Sunderland Eng. Co., Ltd. Contract No. 621 When fitted 1942

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 Two wire insulated Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting No Power No 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 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 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

Negative 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 Engine room starboard side aft

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 on

aft bulkhead

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 "Ewony Lindamp" 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

quick break knife switch and double pole fuse

and for each outgoing circuit Double pole double throw quick break knife

switch and double pole fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Instruments on main switchboard 2wv

ammeters 2wv 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 E lamp coupled to E through two fuses

Switches, Circuit Breakers and Fuses, are they as per Rule No, are the fuses an approved type No, are all fuses labelled as

per Rule No If circuit breakers are provided for the generators, at what overload current did they open when tested, are the reversed current

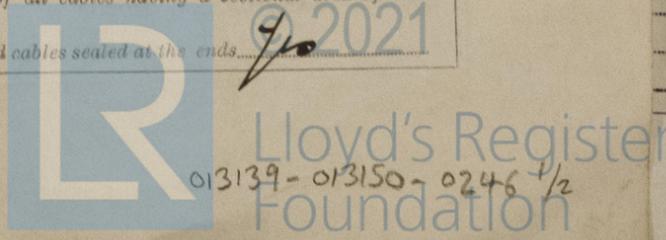
protection devices connected on the pole opposite to the equaliser connection, have they been tested under working conditions, and at what current

did they operate Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule No

Cables, are they insulated and protected as per the appropriate Tables of the Rules No, 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 4.55, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets No Are paper insulated and varnished cambric insulated cables sealed at the ends No



with insulating compound \_\_\_\_\_ or waterproof insulating tape 7/10. 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 7/10, are cables laid under machines or floorplates 7/10, if so, are they adequately protected \_\_\_\_\_ Are cables in machinery spaces, galleys, laundries, etc., lead covered 7/10 or run in conduit 7/10. State how the cables are supported and protected V.I.R. cables run in heavy galvanized pipe or conduit in 'tween-deck and in machinery spaces; lead covered cables clipped to wood grounds or to surface in accommodation.

Are all lead sheaths, armouring and conduits effectually bonded and earthed 7/10. 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 7/10, where unarmoured cables pass through beams, etc., are the holes effectively bushed 7/10 and with what material Lead or fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 7/10. Emergency Supply, state position \_\_\_\_\_ and method of control \_\_\_\_\_

Navigation Lamps, are they separately wired 7/10 controlled by separate double pole switches 7/10 and fuses 7/10. Are the switches and fuses in a position accessible only to the officers on watch 7/10, is an automatic indicator fitted 7/10. Secondary Batteries, are they constructed and fitted as per Rule \_\_\_\_\_, are they adequately ventilated \_\_\_\_\_ what is the battery capacity in ampere hours \_\_\_\_\_

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof 7/10. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present 7/10, if so, how are they protected \_\_\_\_\_ and where are the controlling switches fitted \_\_\_\_\_, are all fittings suitably ventilated 7/10, are all fittings and accessories constructed and installed as per Rule 7/10. 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 7/10 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil 7/10, if situated near unprotected combustible material state minimum distance from same horizontally \_\_\_\_\_ and vertically \_\_\_\_\_ Are 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 pump compartment \_\_\_\_\_ Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing \_\_\_\_\_ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule \_\_\_\_\_ Control Gear and Resistances, are they constructed and fitted as per Rule 7/10. Lightning Conductors, where required are they fitted as per Rule \_\_\_\_\_ 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 \_\_\_\_\_, are all fuses of the cartridge type \_\_\_\_\_ are they of an approved type \_\_\_\_\_ Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships \_\_\_\_\_ Are the cables lead covered as per Rule \_\_\_\_\_ Spare Gear, if the vessel is for open sea service have spares been provided as per Rule 7/10, are they suitably stored in dry situations 7/10. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory 7/10.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	15	110	136.5	850	Single cylinder steam engine		
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 GENERATORS	2 x 15	1	19/083	136.5	191	6080	V.C.	L.C.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Saloon Section Board	1	19/083	40	118	320	V.I.R.	In pipe
Engine Room Section Board	1	19/083	54	118	100	do.	do.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	15	46	380	V.I.R.	In pipe & L.C.
NAVIGATION LIGHTS (Off Saloon H.B.)	1	7/086	6	24	60	do.	L.C.
LIGHTING AND HEATING							
Att. Main Log. Cab. (Lead)	1	7/086	6	24	60	V.I.R.	L.C.
Fore. Cargo Log. Cab. } off Saloon H.B.	1	7/044	20	31	240	do.	In pipe
Saloon Log. Cab. }	1	7/044	14	31	70	do.	L.C.
Engin. Log. Cab. }	1	7/044	23	31	51	do.	do.
Mid. Cargo Log. Cab. } off Engin. H.B.	1	7/044	8	31	6	do.	do.
Aft. Cargo Log. Cab. }	1	7/044	23	31	191	do.	In pipe
Att. Log. Cab.	1	7/044	20	31	320	do.	do.
Engin. Rm. Log. Cab.	1	7/044	20	31	30	do.	do.

Note: - W.E. cable. She lead covered cable. Circuit wiring in the new accommodation aft has W.E. insulation

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Repair. Mfr.	1	2	1	7/044	17	31	360	V.I.R. In 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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO., LTD.

*[Signature]*

Electrical Engineers.

Date 10-11-1942

COMPASSES.

Minimum distance between electric generators or motors and standard compass 100 feet

Minimum distance between electric generators or motors and steering compass 96 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 degrees on course in the case of the steering compass.

*[Signature]*  
Managing Director

Builder's Signature Date 12/11/1942

Is this installation a duplicate of a previous case Yes If so, state name of vessel Elmwood

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 11/5/42 & 9/6/42

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 installed under special survey. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results and the insulation resistances of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted  
*[Signature]*  
19/11/42

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 22 : 10 : 1 When applied for, 3 NOV 1942

Travelling Expenses (if any) £ : : 1 When received, 7 NOV 1942

*[Signature]*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 27 NOV 1942

Assigned See Id. J.C. 33531

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

