

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

29 OCT 1946

Received at London Office

Date of writing Report... 25-9-1946 When handed in at Local Office... 25-9-1946 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL Date, First Survey 4/6/46 Last Survey 20-9-1946
Reg. Book. (Number of Visits... 11...)

88001 on the S/S MALMO Tons { Gross 1778.76
Net 734.47

Built at WEST HARTLEPOOL By whom built W. GRAY & CO. LTD. Yard No. 1191 When built 1946

Owners ELLERMAN WILSON LINE LTD. Port belonging to HULL

Electrical Installation fitted by W. GRAY & CO. LTD. Contract No. 1191 When fitted 1946

Is vessel fitted for carrying Petroleum in bulk... Is vessel equipped with D.F. YES E.S.D. YES Gy.C. Sub.Sig.

Have plans been submitted and approved YES System of Distribution TWO WIRE INSULATED Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. 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 a

trip switch as per Rule YES 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 YES, are shunt field regulators provided YES 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 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 ENGINE ROOM, STBD. OUT AND IN BOARD.

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 ON AFT BULKHEAD.

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 EBONY SINDANYO, 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 Q.B.

SWITCH AND DOUBLE POLE FUSE

and for each outgoing circuit DOUBLE POLE, DOUBLE THROW Q.B. SWITCH AND DOUBLE POLE FUSE.

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

ammeters 2 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 EARTH LAMPS CONNECTED TO 'E' THROUGH SWITCHES AND FUSES

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type YES, are all fuses labelled as

per Rule YES, If circuit breakers are provided for the generators, at what overload current did they open when tested, are the reversed current

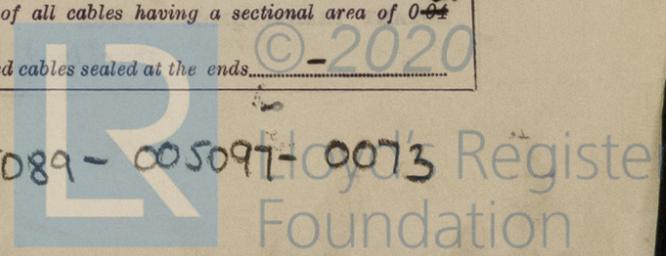
protection devices connected on the pole opposite to the equaliser connection, have they been tested under working conditions, and at what current

did they operate Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

Cables, 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 6V, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends



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with insulating compound or waterproof insulating tape. 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. **YES**, are cables laid under machines or floorplates. **YES**, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered. **YES** or run in conduit. State how the cables are supported and protected. **V.I.R. CABLES IN CONDUIT GALVANISED CONDUIT ON DECK**

LEAD COVERED CABLES CHIPPED TO WOOD GROUNDS IN ACCOMMODATION.

Are all lead sheaths, armoring and conduits effectually 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 effectually bushed. **YES** and with what material. **LEAD** 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.

Navigation Lamps, are they separately wired. **YES** controlled by separate double 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.

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. **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.

and where are the controlling switches fitted. **YES**, are all fittings suitably ventilated. **YES** are all fittings and accessories constructed and installed as per Rule. **YES** Searchlight Lamps, No. of **YES**, 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. **YES**, are heaters in the accommodation of the convection type. Motors, are all motors constructed and installed as per Rule. **YES** and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. **YES**, 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. **YES** Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. **YES** Control Gear and Resistances, are they constructed and fitted as per Rule. **YES** Lightning Conductors, where required are they fitted as per Rule. **YES** 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. **YES**, are all fuses of the cartridge type.

are they of an approved type. **YES** Are the fittings for pump rooms, 'twcen deck spaces, etc., in accordance with the special requirements for such ships. **YES** Are the cables lead covered as per Rule. **YES** Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. **YES**, are they suitably stored in dry situations. **YES** Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. **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.
MAIN	1	10	110	91	600	STEAM ENGINE	
	1	10	110	136	550		
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (Lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. Parallel For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	15	1	2-19.064	136	166	38	V.I.R.	CONDUIT
" " EQUALIZER	10	1	19.083	91	118	20	V.I.R.	"
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 For 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	2	7.064	60	92	120	V.I.R.	CONDUIT
ENGINEERS ACCOM. SECTION BOARD	1	7.064	30	46	114	V.I.R.	"
AFT. ACCOM. SECTION BOARD	1	7.064	25	46	240	V.I.R.	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION	No.	CONDUCTORS	MAXIMUM CURRENT	APPROX. LENGTH	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	7.064	25	46	225	V.I.R. CONDUIT
NAVIGATION LIGHTS	1	7.064	14.6	31	240	V.I.R. "
LIGHTING AND HEATING						ALTERNATE SUPPLY FROM SALOON LIGHTING DIS. FUSE BOARD.
SALOON LIGHTING DIS. FUSE BOARD	1	7.036	11.5	24	72	V.I.R. L.C.
BOAT DECK	1	7.029	10.5	19	45	V.I.R. "
BOAT DECK	1	7.029	10	19	21	V.I.R. "
ENGINEERS ACCOM.	1	7.036	13	24	60	V.I.R. "
ENGINEERS ACCOM.	1	7.036	11.5	24	3	V.I.R. "
AFT. ACCOM.	1	7.029	9	19	33	V.I.R. "
AFT. ACCOM.	1	7.029	10	19	3	V.I.R. "
ENGINE AND BOILER ROOM DIS. FUSE BOARD	1	19.044	45	53	27	V.I.R. L.C.A+B.
FOREMAST CARGO	1	7.044	12	31	84	V.I.R. CONDUIT
MAINMAST CARGO	1	7.044	23	31	108	V.I.R. "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS	MAXIMUM CURRENT	APPROX. LENGTH	INSULATED WITH.	HOW PROTECTED.
SALOON THERMOTANK	1	3/4	7.036	9	24	145	V.I.R. CONDUIT
BOAT DECK	1	3/4	7.036	8	24	75	V.I.R. "
BOAT DECK	1	3/4	7.036	8	24	51	V.I.R. "
ENGINEERS ACCOM. THERMOTANK	1	3/4	7.036	9	24	144	V.I.R. "
REFRIGERATOR	1	1 1/2	7.064	11.25	46	120	V.I.R. "
AFT. ACCOM. THERMOTANK	1	3/4	7.036	8	24	90	V.I.R. "
GRINDING MACHINE MOTOR	1	3/4	7.029	7.4	18	42	V.I.R. S.W.A.
DRILLING MACHINE MOTOR	1	3/4	7.029	7.4	18	42	V.I.R. "
OIL SEPARATOR	1	1/2	3.036	4	10	120	V.I.R. "

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 of the electrical equipment installed on the vessel.

J.W. Scott
Chief Draughtsman

Electrical Engineers.

Date 24/9/46

COMPASSES.

Minimum distance between electric generators or motors and standard compass... 20 FEET

Minimum distance between electric generators or motors and steering compass... 15 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Ampères... INSIDE feet from standard compass... feet from steering compass.

A cable carrying 1/4 Ampères... INSIDE feet from standard compass... 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.

J.W. Scott
Chief Draughtsman

Builder's Signature.

Date 24/9/46

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

Plans. Are approved plans forwarded herewith... If not, state date of approval. 1-4-46

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

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 in conformity with the Society Rules and Regulations, and the arrangements are in accordance with, or equivalent to those shown on the approved plans.

Materials used are of good quality and the workmanship is satisfactory. On completion, the insulation resistance of all circuits was shown the requirements, and the Generators operated on load and Governor tests with satisfactory results.

The equipment as installed is, in my opinion, suitable for a classed vessel.

Notes Run 19.10.46

Total Capacity of Generators... 25 Kilowatts.

The amount of Fee ... £ 20 : 0 : : When applied for, 7-10-1946
Travelling Expenses (if any) £ : : : When received, 19.....

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

Committee's Minute... FRI. 8 NOV 1946

Assigned... See F.E. mch. rpt.

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minutes.)

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