

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 JUL 1949

Date of writing Report.....19..... When handed in at Local Office.....19..... Port of.....

No. in Survey held at Hamburg Date, First Survey 27/4/48 Last Survey 14/7 19 49  
Reg. Book. (Number of Vols.....)

on the Empire Dene (ex. Hermes) Tons { Gross 2503  
Net ✓

Built at Bolnes By whom built Scheepsbouwerij Yard No. .... When built 1940/1

Owners M.O.W.T. Port belonging to London

Electrical Installation fitted by Algemein Elektrizitäts Ges Contract No. .... When fitted 1949

Is vessel fitted for carrying Petroleum in bulk no 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 Single wire Voltage of supply for Lighting 220

Heating 220 Power 220 Direct or Alternating Current, Lighting DC Power DC 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 ✓ 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 ✓ and the results found as per rule ✓ Are the lubricating arrangements and the construction

of the generators as per rule yes Position of Generators Engine Room, Bottom platform, Port side

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, Bottom platform

Port side

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 Marble, if of synthetic insulating material is it an Approved Type ✓, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule yes 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 Single pole

circuit breakers with overload & reverse current trips & equaliser

switch interlocked

and for each outgoing circuit Line & single pole switch on the insulated

pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 4

ammeters 4 voltmeters ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection yes Earth Testing, state means provided ✓

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 520A, are the reversed current

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

did they operate 45A 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 ✓, 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 10 ✓, 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 ✓



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. ☒ Are cables laid under machines or floorplates. ☒ if so, are they adequately protected. ☒ Are cables in machinery spaces, galleys, laundries, etc., lead covered. ☒ or run in conduit. ☒ State how the cables are supported and protected. Metal clips, conduit

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

Battery in front deck and method of control. Switchboard in main deck Navigation Lamps, are they separately wired. ☒ controlled by separate double pole switches. ☒ and fuses. ☒ Are the switches and fuses in a position accessible only to the officers on watch. ☒ is an automatic indicator fitted. ☒ Secondary Batteries, are they constructed and fitted as per Rule. ☒ are they adequately ventilated. ☒ what is the battery capacity in ampere hours. 78 AH

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. ☒ Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. ☒ if so, how are they protected. ☒

and where are the controlling switches fitted. ☒ are all fittings suitably ventilated. ☒

are all fittings and accessories constructed and installed as per Rule. ☒ 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. ☒ 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. ☒ 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. ☒ are they suitably stored in dry situations. ☒ Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. ☒

#### 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	Nº1	80	230	346	400	Diesel Engine	Distill oil	above 150°
	Nº2	80	230	346	400	"	"	"
	Nº3	80	230	346	600	"	"	"
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 GENERATOR	80	2	288	346	350	17	Rubber	Lead covered & armoured
" EQUALISER		1	"	173	175	"	"	"
" main generator II	80	2	288	346	350	23	"	"
" Equaliser		1	"	173	175	"	"	"
" main generator III	80	2	288	346	350	26	"	"
" Equaliser		1	"	173	175	"	"	"
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							
III Larder aft	1	234	164	204	142	Rubber	Lead covered & armoured
IV Kitchen	1	225	40	48	140	"	"
VI Heating app. machinery	1	238	51	63	125	"	"
VII Larder forward	1	288	204	234	210	"	"
VIII Larder	1	186	190	193	80	"	"
IX Heating app. aft	1	25	36	48	225	"	"
X Auxiliary machine	1	278	87	98	125	"	"

#### LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	255	35	38	112	Rubber	Lead covered & armoured
NAVIGATION LIGHTS	1	204	1	13	8	"	"
LIGHTING AND HEATING							
Light distribution board I	1	2093	24	30	27	"	"
" " " II	1	2093	20	30	27	"	"
" " " III	1	2064	14	21	146	"	"
" " " IV	1	2078	95	98	86	"	"
" " " V	1	2093	25	30	66	"	"
" " " VI	1	2064	9	21	188	"	"
" " " VII	1	2064	5	21	80	"	"
" " " VIII	1	2064	10	21	290	"	"

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Cooling water pump	1	34.6	1	148	132	150	96	Rubber Lead covered & armoured
Cooling water pump	1	34.6	1	148	132	150	93	"
Cooling water pump	1	34.6	1	148	132	150	102	"
Lub. oil pump	1	12.2	1	225	48	48	119	"
Fuel oil pump	1	12.2	1	225	48	48	109	"
Ballast pump	1	12.2	1	225	48	48	109	"
Bilge pump	1	12.2	1	225	48	48	115	"
G.S. pump	1	12.2	1	225	48	48	40	"
Sew. pump	1	3	1	2064	13	21	280	"
Wash water pump	1	3	1	2064	13	21	33	"
Drain water pump	1	3	1	2064	13	21	43	"
Hot water pump	1	1	1	2064	13	21	60	"
Hot water pump	1	1	1	2064	13	21	60	"
Hot water pump	1	5	1	2023	28	7	76	"
Hot water pump	1	5	1	2023	28	7	80	"
Fuel oil separator	1	3	1	2064	13	21	40	"
Lub. oil separator	1	3	1	2064	13	21	36	"
Workshop motor	1	5	1	2064	21	21	96	"
Ref. motor	1	3	1	2064	13	21	88	"
Ref. room fan	1	5	1	2023	28	7	88	"
Assum. vent.	1	1.7	1	204	8.5	13	88	"
Assum. vent.	1	1.7	1	204	8.5	13	88	"
Turning engine	1	10	1	225	40	48	70	"
Stowing gear	1	10.8	1	225	43	48	255	"



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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules. *of G.L.*  
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.

Electrical Engineers.

Date

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass

*approx 25 feet*

Minimum distance between electric generators or motors and steering compass

*" 20 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *10* Ampères *9* feet from standard compass *3* feet from steering compass.

A cable carrying *.5* Ampères *9* feet from standard compass *2* 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 *will*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *✓*

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

Builder's Signature.

Date

Is this installation a duplicate of a previous case *no* If so, state name of vessel

Plans. Are approved plans forwarded herewith *✓* If not, state date of approval *15/10/48*

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

*Noted 28/7/49*

Total Capacity of Generators *240* Kilowatts.

The amount of Fee ... £ *24* : — : When applied for,

Travelling Expenses (if any) £ : : When received.

*Thomas D. Pitts*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*FRI. 29 JUL 1949*

Assigned

*see minute on J.C. Rpt*



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