

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 30 AUG 1946

Received at London Office.....

Date of writing Report... 31-7-46 When handed in at Local Office.....19..... Port of DARTMOUTHNo. in Survey held at Dartmouth Date, First Survey 13-9-45 Last Survey 24-7-1946  
Reg. Book. (Number of Visits.....5.....)on the M.V. FLINTLOCK Tons {Gross... 187...  
Net.....Built at Dartmouth By whom built Philip & Sons Yard No. 1130 When built 1946.7Owners The Admiralty Port belonging to LondonElectrical Installation fitted by Philip & Sons Contract No. 1130 When fitted 1946.7Is 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 Parallel. Constant pressure Voltage of supply for Lighting 225Heating ~ Power 225 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 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 One only, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive polePositive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing No 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 Engine Room Starboard side, 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 Adjacent to GeneratorAdmiralty pattern with bakelite moulded on square steel baseare 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 Bakelite, if of synthetic insulating material is it an Approved Type ✓, 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 switches100 amp D.P. Admiralty type quick break change over knife switcher(Dynamo to Shore Connection)and for each outgoing circuit Admiralty type quick break dead hinge knife switcherAre compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Oneammeters One voltmeters ~ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection ~ Earth Testing, state means provided Earth lamps & switchesSwitches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Adm Type, are all fuses labelled asper Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested ✓, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection ✓, have they been tested under working conditions, and at what currentdid they operate ✓ 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 Admiralty pattern cables, 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 2 Volts, are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends Yes



with insulating compound Yes 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 Cable carrier tray with brass clips Cables run in conduit on Main deck

Are all lead sheaths, armouring 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 from Emergency Supply, state position Sub box immediately adjacent to Main Board ~ 200 Emergency Supply 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 ✓, 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 ✓, 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 ✓. 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 Steel Mast. 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 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.	Flash Point of Fuel.
MAIN	<u>Gne</u>	<u>20</u>	<u>225</u>	<u>89</u>	<u>1000</u>	<u>Purell Newbery Oil Engine</u>	<u>Heavy Oil</u>	<u>above 150°F</u>
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	<u>20</u>	<u>6</u>	<u>19/052</u>	<u>89</u>	<u>104</u>	<u>12</u>	<u>V.C.</u>	<u>Lead covered.</u>
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

#### MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.			MAXIMUM CURRENT		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 ...								
Port passage Fuse Box	B1.	Gne	7/044	11.5	31 ✓	60	V.I.R.	Lead covered
Accommodation	D1-S1.	"	7/029	5.7	15 ✓	6	"	"
To 'castle	D2-S1	"	"	2.5	"	150	"	"
Navigation Charge Over Main D <sup>2</sup> or S1 - 0	"	"	"	3.3	"	120	"	"
Navigation Box from	S1.	"	"	3.3	"	6	"	"
Wheel House	D3-S1	"	"	1.4	"	6	"	"
Engine Room	D4.	"	"	3.5	"	6	"	"
Store Connection	T	"	19/052	40	64 ✓	60	.	"
				</				

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

WIRELESS	...	...	...	...	...	...	...	...	...
NAVIGATION LIGHTS	...	...	...	...	...	...	...	...	...
LIGHTING AND HEATING	...	...	...	...	...	...	...	...	...

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Cargo Winch	1	14	Gne	19/052	56	64	168	VIR	Lead Covered
Almclan	1	6	"	7/044	25.3	31	195	"	"
F. Water Pump	1	1	"	3/036	5	10	36	"	"
						</			



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.

FOR PHILIP & SON, LIMITED.

*John J. Pautler*  
MANAGING DIRECTOR

Electrical Engineers.

Date *7<sup>th</sup> Aug 1946*

#### COMPASSES.

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

Minimum distance between electric generators or motors and steering compass..... *24 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *0.1* Ampères..... feet from standard compass..... *3* feet from steering compass.

A cable carrying..... Ampères..... 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.....

The maximum deviation due to electric currents was found to be..... degrees on..... course in the case of the

standard compass, and *nil* degrees on *any* course in the case of the steering compass.

FOR PHILIP & SON, LIMITED.

*John J. Pautler*  
MANAGING DIRECTOR

Builder's Signature.

Date *7<sup>th</sup> Aug 1946*

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

Plans. Are approved plans forwarded herewith..... 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.).....

*This Electric installation has been fitted on board under Special Survey in accordance with the approved plans & the Specification.*

*The workmanship & materials are good and when tried under working conditions it was found satisfactory in every respect.*

Total Capacity of Generators..... *20* Kilowatts.

The amount of Fee ... £ *17:10* : When applied for,.....19.....

Travelling Expenses (if any) £ *17:10* : When received,.....19.....

Committee's Minute..... *20 SEP 1946*

Assigned..... *Sr F.E. machy. rpt.*

*D. J. P. Pautler*  
Surveyor to Lloyd's Register of Shipping.



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