

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 14 MAY 1941

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office 13 MAY 1941 Port of HULL

No. in Survey held at Hull Date, First Survey 25.2.41 Last Survey 23.4.19.41  
Reg. Book. (Number of Visits.....11.....)

on the H.M.T. "COPINSAY" Tons {Gross.....  
Net.....

Built at Selly By whom built Cochrane & Lush Yard No. 1224 When built 1941-44

Owners The Admiralty Port belonging to ✓

Electrical Installation fitted by Wm. Broady & Son Ltd. Contract No. ✓ When fitted 1941-44

Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. ✓ E.S.D. ✓ Gy.C. ✓ Sub.Sig. ✓

Have plans been submitted and approved ✓ System of Distribution Parallel-constant current two wires Voltage of supply for Lighting 110

Heating 110 Power ✓ Direct or Alternating Current, Lighting ✓ Power ✓ 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 ✓ Are turbine emergency governors fitted with a

trip switch as per Rule ✓ Generators, are they compound wound ✓, are they level compounded under working conditions ✓,

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 ✓, are shunt field regulators provided ✓ 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 ✓ and the results found as per rule ✓ Are the lubricating arrangements and the construction

of the generators as per rule ✓ Position of Generators Engine room

is the ventilation in way of generators satisfactory ✓ are they clear of inflammable material ✓, 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 ✓, are the bedplates and frames earthed ✓ and the prime movers and generators in metallic

contact ✓ Switchboards, where are main switchboards placed Engine room adjacent to generator

are they in accessible positions, free from inflammable gases and acid fumes ✓, are they protected from mechanical injury and damage from water, steam

and oil ✓, if situated near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, what insulation

material is used for the panels Units mounted on frameworks insulated with mica strips, 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 ✓ Is the frame effectually earthed ✓

Is the construction as per Rule ✓, including accessibility of parts ✓, absence of fuses on the back of the board ✓, individual fuses

to pilot and earth lamps, voltmeters, etc. ✓ locking of screws and nuts ✓, labelling of apparatus and fuses ✓, fuses on the "dead"

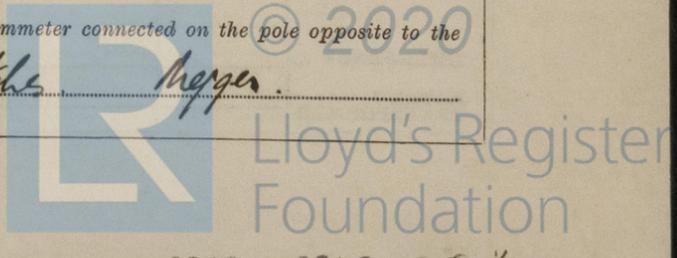
side of switches ✓ Description of Main Switchgear for each generator and arrangement of equaliser switches D.P. switches fuses

and for each outgoing circuit D.P. switches fuses

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

ammeters one 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 and switches



Switches, Circuit Breakers and Fuses, are they as per Rule Ys, are the fuses an approved type Ys, are all fuses labelled as per Rule Ys, are the reversed current protection devices connected on the pole opposite to the equaliser connection ✓, have they been tested under working conditions ✓. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Ys.

Cables, are they insulated and protected as per the appropriate Tables of the Rules Ys, if otherwise than as per Rule are they of an approved type Ys, state maximum fall of pressure between bus bars and any point under maximum load 4 mlli, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Ys. Are paper insulated and varnished cambric insulated cables sealed at the exposed 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 Ys, are cables laid under machines or floorplates no, if so, are they adequately protected ✓. Are cables in machinery spaces, galleys, laundries, etc., lead covered Ys or run in conduit ✓. State how the cables are supported and protected clipped to trays or bulkheads. cables run in solid drawn conduit through bulkheads and in magazine spaces.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Ys. 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 Ys, where unarmoured cables pass through beams, etc., are the holes effectually bushed Ys and with what material lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Ys. Emergency Supply, state position none and method of control ✓.

Navigation Lamps, are they separately wired Ys controlled by separate double pole switches Ys and fuses Ys. Are the switches and fuses in a position accessible only to the officers on watch Ys, is an automatic indicator fitted no. Secondary Batteries, are they constructed and fitted as per Rule none, are they adequately ventilated ✓.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Ys. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present Ys, if so, how are they protected Special Admiralty pattern lamps in magazine with cables in conduit and where are the controlling switches fitted. Stokers Mess Deck adjacent. are all fittings suitably ventilated Ys, are all fittings and accessories constructed and installed as per Rule Ys. Searchlight Lamps, No. of one, whether fixed or portable portable, are their fittings as per Rule Ys. Heating and Cooking, is the general construction as per Rule Ys, are the frames effectually earthed Ys, are heaters in the accommodation of the convection type Ys. Motors, are all motors constructed and installed as per Rule none 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 ✓. 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 Ys. 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 ✓. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type ✓. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule Ys, are they suitably stored in dry situations Ys. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory Ys.

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 ...	One	15	110	136	500	Steam, Turbine	✓	
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 ...	15	One	37/072	136	152	18	VIR	LC.
" " EQUALISER ...								
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS	D.G.	No. in Parallel	Sectional Area	Max. Current	Rule	Approx. Length	Insulated With	How Protected
Navigation	One	7/044	30	31	-	VIR	LC.	
Shore connection		7/036	15	24	150	"	"	
Shore lighting		37/072	25	"	135	"	"	
Aft		7/044	136	152	70	"	"	
Star radiators		"	23	31	150	"	"	
Aft		"	29	"	120	"	"	
Aft		"	18	"	150	"	"	
Astern		"	27	"	120	"	"	

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION	No.	Sectional Area	Max. Current	Rule	Approx. Length	Insulated With	How Protected
NAVIGATION LIGHTS	One	1/044	1.5 max	5	240 max	VIR	LC.
LIGHTING AND HEATING	One	7/036	"	10	90 max	"	Tough rubber sheathing in same case as the bronze braiding
All lighting radiators and deck signalling projector (direct from main board)	One	1/044	3 max	5	140 max	"	LC.
		3/036	9	10	20 max	"	"
		7/036	19	24	140	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.
Table furnished only		

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.

**WM BROADY & SON LTD.**  
 ENGINEERS,  
 11, LITTLE STREET,  
 LONDON, E.C. 4.

Electrical Engineers.

Date 3rd May 1941.

**COMPASSES.**

Minimum distance between electric generators or motors and standard compass.....  
 Minimum distance between electric generators or motors and steering compass.....  
 The nearest cables to the compasses are as follows:—  
 A cable carrying ..... Ampères ..... feet from standard compass ..... 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 or without the electric installation at work at full power.....  
 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.

*Handwritten notes:*  
 Numerous cables in vicinity of compasses for lighting, of both wireless and other apparatus not available.  
 Particulars of deviation available.

**W. COCHRANE & SONS LTD.**  
 DIRECTOR.

Builder's Signature. Date 6 - MAY 1941

Is this installation a duplicate of a previous case..... No. If so, state name of vessel H.M.T. "ASH"

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)  
This installation has been fitted on board in accordance with the approved Admiralty plans & requirements and the Society's Rules. The workmanship and materials are good and when subjected to the tests required by the Admiralty and prescribed in the Rules and also when tried under full working conditions this installation was found satisfactory in every respect.

*Noted*  
24  
15/5/41

Total Capacity of Generators..... 15 Kilowatts.

The amount of Fee ... .. £ 15 : : { When applied for  
15 MAY 1941 .....19.....  
 Travelling Expenses (if any) £ : : { When received.  
 .....19.....

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

Committee's Minute ..... FRI. 16 MAY 1941  
 Assigned..... See Ind. J.C. 51198

2m, 10, 38.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)