

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office. - 5 MAR 1942

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

No. in Survey held at Hull Date, First Survey 3.1.42 Last Survey 23.2.1942
 Reg. Book. (Number of Visits.....)

on the Steam Trawler **"DUNCTION"** Tons { Gross 111
 Net 160

Built at Beccles By whom built Cook, Weller & Gurnell & Co Yard No. 684 When built 1942

Owners The Admiralty Port belonging to.....

Electrical Installation fitted by Wm Broady & Son Ltd. Contract No..... When fitted 1942

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 Partial power, Parallel 2 wires Voltage of supply for Lighting 110

Heating 110 Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. 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 thin mounted on frame work not mica strip insulation, 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 Test lamps & test bar

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, 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 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 4 volts, 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 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 Yes, are cables laid under machines or floorplates No, 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 Clipped to trays or bulkheads.

Cable run in solid drawn conduit in bunker & magazine spaces.
D.G. Cable in special steel tube in bunkers with gland & drawing arrangements
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 effectively 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 None 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 No. Secondary Batteries, are they constructed and fitted as per Rule Yes, are they adequately ventilated Yes. 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 ✓.

Special Admiralty type lamps in Magazine etc.
and where are the controlling switches fitted None - above. are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of One 20" Free, whether fixed or portable Portable, are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. 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 ✓. 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 Yes. Lightning Conductors, where required are they fitted as per Rule None. 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 Yes, are they suitably stored in dry situations Yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger 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>One</u>	<u>15</u>	<u>110</u>	<u>136</u>	<u>520</u>	<u>Steam Engine</u>	<u>✓</u>	<u>✓</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>15</u>	<u>One</u>	<u>37/072</u>	<u>136</u>	<u>152</u>	<u>40</u>	<u>V.I.R</u>	<u>L.C.</u>
" " EQUALISER ...								
SHORE CONNECTION	<u>—</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>60</u>	<u>"</u>	<u>"</u>
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...							
D.G.	One	19/044	32	53	50	V.I.R	L.C
4th Reductors	"	19/052	56	64	200	"	"
For 4 engines	"	7/044	31	31	300	"	"
4th do	"	"	25	"	60	"	"
4th do	"	"	—	"	250	"	"
Search light. 20"	"	7/036	10	24	220	"	"
do 6"	"	"	3	"	"	"	"
Evaporator.	"	"	11	"	"	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	<u>One</u>	<u>7/036</u>	<u>—</u>	<u>24</u>	<u>220</u>	<u>V.I.R</u>	<u>L.C.</u>
NAVIGATION LIGHTS	<u>"</u>	<u>1/044</u>	<u>One</u>	<u>5</u>	<u>350</u>	<u>"</u>	<u>L.C.</u>
<u>High pressure lamp</u>	<u>"</u>	<u>70/0076</u>	<u>Max</u>	<u>10</u>	<u>350</u>	<u>"</u>	<u>T.R. Sheathed.</u>
<u>Lighting (sub circuits)</u>	<u>"</u>	<u>1/044</u>	<u>1 max</u>	<u>5</u>	<u>350</u>	<u>"</u>	<u>L.C.</u>
<u>Heating</u>	<u>"</u>	<u>3/036</u>	<u>10 max</u>	<u>10</u>	<u>140</u>	<u>"</u>	<u>L.C.</u>

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
<u>Ventilator Fan 5'</u>	<u>2</u>	<u>1/2</u>	<u>One</u>	<u>3/036</u>	<u>2.5</u>	<u>10</u>	<u>180</u>	<u>V.I.R</u>
<u>" 7 1/2"</u>	<u>1</u>	<u>1/2</u>	<u>"</u>	<u>"</u>	<u>4.5</u>	<u>"</u>	<u>"</u>	<u>"</u>
<u>Refrigerator 3 1/2 hp</u>	<u>1</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>5.2</u>	<u>"</u>	<u>80</u>	<u>"</u>
<u>do 7 1/2"</u>	<u>1</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>80</u>	<u>"</u>

Dunston

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.
ELECTRICAL ENGINEERS
HULL

Electrical Engineers.

Date 12. 2. 42

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 and 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 has 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.....

Yes

If so, state name of vessel

BIRDIP with minor modifications

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

The Installation has been fitted on board in accordance with the approved Admiralty plans & requirements & the Society's Rules.

The Workmanship & materials are good & when tried under working conditions & tested as required by the Admiralty & the Rules the installation was found satisfactory in every respect

Noted

L.P.

9/3/42

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

The amount of Fee £ 30 : 0 :

When applied for

20 FEB 1942

Travelling Expenses (if any) £ : :

When received.

.....19.....

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 10 MAR 1942

Assigned.....

See Sub 7E 51525