

Rpt. 13.

No. 32744

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... NOV 27 1939

Date of writing Report... 14/11/1939 When handed in at Local Office... 24 NOV 1939 Port of... Sunderland

No. in Survey held at... Sunderland Date, First Survey... 6th Oct, Last Survey... 17th Nov, 1939
Reg. Book... Supp. (Number of Visits... 13)38279 on the M.V. "BEIGNON" Tons { Gross... 521.8
Net... 300.4

Built at... Sunderland By whom built... Wm. Dwyer & Sons Ltd. Yard No... 653 When built... 1939

Owners... Harland & Wolff Ltd. Port belonging to... London

Electrical Installation fitted by... Campbell & Johnson Ltd. Contract No... 653 When fitted... 1939

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

Have plans been submitted and approved... Yes System of Distribution... Route wire Voltage of supply for Lighting... 110

Heating... Power... 110 Direct or Alternating Current, Lighting... Yes Power... Yes 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... 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... No, are shunt field regulators provided... Yes 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... 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... Main generators - engine room side aft; aux.

iliary generators... engine room centoline aft is the ventilation in way of generators satisfactory... Yes are they clear of inflammable material... Yes

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 side aft

near main generators

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 laminas 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

circuit breaker with overload trips and time lag device

and for each outgoing circuit... Single pole double throw knife switch and fuse on

each pole

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

ammeters... Three 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... 5 lamps coupled to 5 through fuses only

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, Yes, have they been tested under working conditions Yes. 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 Yes, state maximum fall of pressure between bus bars and any point under maximum load 5.3 mts 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 Yes.

with insulating compound Yes or waterproof insulating tape Yes. 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 Yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected V.I.R. cables run in heavy gauge screwed conduit in

timberwork and machinery spaces; L.C. cables clipped to wood grounds on to surface in accommodation.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes. Refrigerated chambers, are the cables and fittings as per Rule Yes. 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 Yes and method of control Yes.

Navigation Lamps, are they separately wired Yes controlled by separate Single 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 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 Yes.

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 Yes.

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 Yes and vertically Yes.

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 Yes.

are they of an approved type Yes. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type 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 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	2	15	110	136	590	Single cylinders steam engines		
AUXILIARY	1	6	110	55	865	cylinders	Fuel oil	above 150° F
EMERGENCY						single engine		
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet 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	2 x 15	1	37/064	136	210	90 x 76	V.I.R.	L.C. & B.
" " EQUALISER								
AUXILIARY GENERATOR	6	1	19/064	55	83	150	V.I.R.	In conduit
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS							
Cargo Htg. Hb. feed -	1	7/064	38	46	120	V.I.R.	In conduit
Supply - Fuel Cargo Htg. D.B.	1	7/064	19	31	400	V.I.R.	In conduit
Aft Cargo Htg. D.B.	1	7/064	19	31	170	V.I.R.	In conduit
Range Htg. 1 Supr. S.B. feed -	1	7/064	14	46	450	V.I.R.	In conduit
Supply - Range Htg. D.B.	1	7/064	6	46	14	V.I.R.	L.C. & B.
Supr. Engine feed	1	7/064	8	46	30	V.I.R.	L.C. & B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	25	46	450	V.I.R.	In conduit
NAVIGATION LIGHTS	1	7/064	6	46	450	V.I.R.	In conduit
LIGHTING AND HEATING							
Aft Accom. Htg. D.B.	1	7/064	15	31	600	V.I.R.	In conduit
Eng'rs' Accom. Htg. D.B.	1	7/064	30	46	120	V.I.R.	In conduit
Offrs' & Capt's Accom. Htg. D.B.	1	7/064	25	46	370	V.I.R.	In conduit
Engine Room Htg. D.B.	1	7/064	25	31	160	V.I.R.	In conduit

Note: An alternative supply to the navigation Htg. D.B. is provided from the Officers' - Captain's Htg. D.B. feeds with suitable C/O switch mounted in wheelhouse.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Oil Separator	2	3	1	7/064	25.1	31	150	V.I.R. In conduit
Priming Pump	1	1.5	1	7/064	13.5	31	150	V.I.R. In conduit
Boiler Fan	1	5	1	7/064	41.5	46	170	V.I.R. In conduit
Refig. Maching	2	3+1	1	7/064	30	31	360	V.I.R. In conduit
Engine Room Crane	1	3	1	7/064	25	31	110	V.I.R. In conduit
Workshop motor	1	2	1	7/064	17.8	31	160	V.I.R. In conduit

Boiler Fan motor and 5 fuses

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.

CAMPBELL & ISHERWOOD, LTIN

Thomas Smith

Electrical Engineers.

Date 18th Nov 1939

COMPASSES.

Minimum distance between electric generators or motors and standard compass 126 feet

Minimum distance between electric generators or motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying 14 Ampères on the feet from standard compass 8 feet from steering compass.

A cable carrying 14 Ampères 8 feet from standard compass on the 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 1/2 degrees on Every course in the case of the standard compass, and 1/2 degrees on Every course in the case of the steering compass.

WALKER DOXFORD & SONS, Limited,

W. A. Macfarlane

Builder's Signature.

Date 23rd Nov 1939

Is this installation a duplicate of a previous case? No

If so, state name of vessel

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 under special survey. The materials used and the workmanship are good. On completion the equipment was run under working conditions, the governing, regulation and compensating of the generating sets were tested, the operation of the circuit breakers checked, the insulation resistance of all circuits measured and the spare gear examined. This equipment is in my opinion suitable for a classed vessel.

Noted

30/11/39

Total Capacity of Generators 36 Kilowatts.

The amount of Fee ... £ 24: -

When applied for,

29th Nov 1939

Travelling Expenses (if any) £

When received.

23rd Nov 1939

S. Anterson

Surveyor to Lloyd's Register of Shipping.

FRI 1 DEC 1939

Committee's Minute

Assigned

See P 12 machy rpt