

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 JUL 1936

Date of writing Report

19

When handed in at Local Office

20 JUL 1936

Port of

Received at London Office

HULL

No. in Survey held at

Goole

Date, First Survey

16<sup>th</sup> June 1936

Last Survey

11<sup>th</sup> July 1936

Reg. Book.

87768 on the

Motor Vessel

CABENDA

(Number of Visits)

Tons

Gross 1534

Net 274

Built at

Goole

By whom built

Goole S. B. &amp; Reps

Yard No.

314

Owners

E. C. Evans &amp; Co

Port belonging to

London

Electric Light Installation fitted by

The Humber Electrical Co

Contract No.

When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk

No

System of Distribution

Parallel. constant pressure - two wire

Pressure of supply for Lighting

220

volts, Heating

volts, Power

220

volts.

Direct or Alternating Current, Lighting

Direct

Power

Direct

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off

Yes

Generators, do they comply with the requirements regarding temperature rise

Yes

are they compound wound

Yes

are they over compounded 5 per cent.

Yes

if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel

No

is an adjustable regulating resistance fitted in

series with each shunt field

Yes

Have certificates of test results for machines under 100 kw. been submitted and

approved

Certificates

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

Are all terminals accessible, clearly marked, and furnished with sockets

Yes

are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

Both. Port Side of Engine Room

in way of the generators satisfactory

Yes

are they clear of all inflammable material

Yes

is the ventilation

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

Yes

and

are the generators protected from mechanical injury and damage from water, steam or oil

Yes

are their axes of rotation fore and aft

Earthing, are the bedplates and frames of the generating plant efficiently earthed

Yes

are the prime movers and their respective generators

in metallic contact

Yes

Main Switch Boards, where placed

Port Side Engine Room

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes

Yes

are they protected from mechanical

injury and damage from water, steam or oil

Yes

if situated near unprotected woodwork or other combustible material, state distance of same

horizontally from or vertically above the switchboards

Yes

and are they constructed wholly of durable, non-ignitable non-absorbent

materials

Yes

is all insulation of high dielectric strength and of permanently high insulation resistance

Yes

is it of an approved type

Insulation

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micamite or other

non-hygroscopic insulating material, and the slab similarly insulated from its framework

Yes

is the non-hygroscopic insulating material of an approved

type

Yes

Are the fittings as per Rule regarding: — spacing or shielding of live parts

accessibility of all parts

Yes

absence of fuses on back of board

Yes

temperature rise of

omnibus bars

Yes

individual fuses to voltmeter, pilot or earth lamp

Yes

Are moving parts of switches alive in the

"off" position

No

are all screws and nuts securing connections effectively locked

Yes

are any fuses fitted on the live side of

switches

No

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

15 K.W. General D.P. Circuit Breakers. 2.5 K.W. Generators &amp; all Outgoing Circuits D.P. Switches &amp; Fuses.

Are turbine driven generators fitted with emergency trip switch as per rule

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

Instruments on main switchboard

2

ammeters

2

voltage

synchronising device for paralleling purposes.

For compound machines is the ammeter connected on the opposite pole to equaliser connection

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

2 Set of Earth lamps

Switches, Circuit Breakers and Fusible Cut-outs,

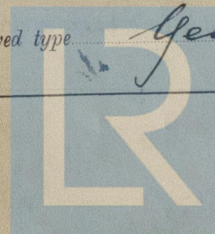
do these comply with the requirements of the Rules

Yes

are the fusible cutouts of an approved type

Yes

have the reversed





current protection devices been tested under working conditions

Joint Boxes, Section and Distribution Boards, is the

construction, protection, insulation, material, and position of these as per rule

Cables: Single, twin, concentric, or multicore *Single twin* are the cables insulated and protected as per Tables IV, V, X or XI of the Rules

If the cables are insulated otherwise than as per Rule, are they of an approved type

any point of the installation under maximum load *2 1/2 lbs. light 5. 10 lbs. power* area of 0.04 square inch and above provided with soldering sockets

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound

not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage

Support and Protection of Cables, state how the cables are supported and protected *Clipped to steel work or perforated sheet metal; or run in conduit*

If cables are run in wood casings, are the casings and caps secured by screws, are the cap screws of brass, are the cables run in separate grooves

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements

Joints in Cables, state if any, and how made, insulated, and protected

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed

Earthing Connections, state what earthing connections are fitted and their respective sectional areas

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule

Navigation Lamps, are these separately wired, controlled by separate switch and separate fuses, are the fuses double pole

has each navigation lamp an automatic indicator as per Rule

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected

where are the controlling switches situated

are all fittings suitably ventilated

Heating and Cooking Appliances, are they constructed and fitted as per Rule

Searchlight Lamps, No. of, whether fixed or portable, are their fittings as per Rule

Arc Lamps, other than searchlight lamps, No. of, are their live parts insulated from the frame or case, are their fittings as per Rule

Motors, are their working parts readily accessible, are the coils self-contained and readily removable for replacement

are the brushes, brush holders, terminals and lubricating arrangements as per Rule

inflammable gases cannot accumulate and clear of all inflammable material

water, steam or oil

material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type

if not of this type, state distance of the combustible material horizontally or vertically above the motors

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing

field and motor speed regulators, starters and controllers constructed and fitted as per Rule

are required, are these fitted as per Rule

the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule

## 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	220	68	1000	Ind. Diesel Engine	Heavy oil	above 150°F
AUXILIARY	One	2.5	"	11.4	1050	do	do	do
EMERGENCY	None							
ROTARY TRANSFORMER	None							

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1.	0.06.	19.	.064	68	83	20.	V.I.R.	L.C. + Conn.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1.	0.007	7.	.036	11.4	33	12.	do	do
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1.	0.003	3	.036	2	12	28	do	do
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION S.P.B.	1	0.01	7	.044	6	31	48	V.I.R.	L.C.
FINAL CIRCUITS	1	0.002	3	.029	1	7.8	50	do	do
NAVIGATION SUB BP	1	0.003	3	.036	1	12	40	do	do
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.002	3	.029	0.4	7.8	200	V.I.R.	L.C. + Conn.
SIDE LIGHTS	1	0.0015	1	.044	0.4	6.1	20	"	"
COMPASS LIGHTS	1	"	"	"	0.2	"	15	"	"
POOP LIGHTS	1	"	"	"	0.4	"	50	"	"
CARGO LIGHTS	1.	0.002	3	.029	1.0	7.8	50	"	"
ARC LAMPS									
HEATERS									

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP	One	1	0.0225	7	.064	45	46	360	V.I.R.	In conduit
WINDLASS										
WINCHES, FORWARD	One	1	0.0145	7	.052	32	37	200	"	"
WINCHES, AFT	One	1	"	"	"	"	"	"	"	"
WINCHES, SLOPE	One	1	"	"	"	"	"	"	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

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Lloyd's Register  
W368-0162 2/2  
Foundation



All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

For THE HUNTER ELECTRICAL ENGINEERING CO.

W.B. Plummer

Electrical Engineers.

Date

16/7/36

#### COMPASSES.

Distance between electric generators or motors and standard compass

25 feet

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères 5 feet from standard compass. ✓ feet from steering compass.

A cable carrying 2 Ampères 10 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 was found to be Nil degrees on any course in the case of the standard compass, and ✓ course in the case of the steering compass.

THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

Chas. Hunt

Builder's Signature.

Date

17/7/36

Is this installation a duplicate of a previous case. ✓ If so, state name of vessel ASHANTI. Hull No. 46845.

General Remarks (State quality of workmanship, opinions as to class, &c.)

This Electric installation has been fitted on board under Special Survey. The workmanship & materials are good & when subjected to the tests prescribed by the Rules was found satisfactory in every respect.

This Vessel, in so far as the Electrical installation is concerned, is eligible in my opinion to be classed.

Noted

Am

10.8.36

Total Capacity of Generators 17.5 Kilowatts.

The amount of Fee ... £ 16 : 10 : 20 JUL 1936

Travelling Expenses (if any) £ : : Sep 10 1936

Committee's Minute

TUE. 11 AUG 1936

Assigned

See Hull G.E. 47025

Dyke & Co. and C. Moffatt.  
Surveyor to Lloyd's Register of Shipping.