

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

MAR 18 1938

Date of writing Report

19

When handed in at Local Office

15 MAR 1938

Port of

HULL

No. in Survey held at

Goole

Date, First Survey

26<sup>th</sup> Jan 1938

Last Survey

7<sup>th</sup> March 1938

Reg. Book.

(Number of Visits.....)

37664 on the Motor Vessel

"COXWOLD"

Tons { Gross 1124  
Net 629

Built at

Goole

By whom built

Goole S.B. &amp; Rep. Co. Yard No. 330

When built 1938

Owners

Atkinson &amp; Prickett &amp; Co.

Port belonging to

Electric Light Installation fitted by

The Humber Electrical Eng. Co.

Contract No.

When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Parallel - with constant pressure - Two wire

Pressure of supply for Lighting

220

volts, Heating

220

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 2 - 25 K.W. only, 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 here with

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

Have certificates for generators under 100 kw. been supplied and approved

Certificates here with

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 Engine Room. 25 K.W. - One port &amp; One Star. 12 K.W. - Port Side, is the ventilation in way of the generators satisfactory

Yes

are they clear of all inflammable material

Yes

if situated near unprotected

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

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

Yes

, are their axes of rotation fore and aft

Yes

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

Engine Room. Port side

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

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

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

, 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

25 K.W. - D.P.C.B. with OL &amp; R.C. trip. Also T.P. switch with one pole connected to equalising connection &amp; arranged to make &amp; break first.

12 K.W. - D.P.C.B. with OL &amp; R.C. trip.

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

3

ammeters

3

voltage meters

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

Earth lamps + switches

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

FUSIBLE CUT OUTS:- M.E.M. Porcelain Type H.N.8 &amp; 9. - L.WEEKER Admiralty pattern 593A. G.E.C. 5 amp. Fibre fuses No 231.

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current protection devices been tested under working conditions Yes are all fuses labelled as per rule Yes

**Joint Boxes, Section and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per rule Yes

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

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load Lights 3 volts Power - 6 volts **Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes **Paper Insulated and Varnished Cambric Insulated Cables**, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes or waterproof insulating tape Yes **Cable Runs**, are the cables fixed as far as possible in accessible positions 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 Yes are cables laid under machines or floorplates Yes if so, are they adequately protected Conduit

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Yes

**Support and Protection of Cables**, state how the cables are supported and protected Clipped to steel or wood work or run in Conduit

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

**Refrigerated Chambers**, are the cables and fittings in accordance with the special requirements None

**Joints in Cables**, state if any, and how made, insulated, and protected None

**Watertight Glands and Deck Tubes**, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes **Bushes in Beams and Non-watertight Partitions**, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made lead

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas Yes are their connections made as per Rule Yes

**Alternative Lighting**, are the groups of lights in the propelling machinery space arranged as per Rule Yes **Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven Yes

**Navigation Lamps**, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes are the switches and fuses grouped in a position accessible only to the officers on watch Yes has each navigation lamp an automatic indicator as per Rule Yes **Secondary Batteries**, are they constructed and fitted as per Rule None are they ventilated as per Rule Yes

**Fittings**, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected None are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected None how are the cables led Yes

where are the controlling switches situated Yes are all fittings suitably ventilated Yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

**Heating and Cooking Appliances**, are they constructed and fitted as per Rule Yes are air heaters constructed and fitted as per Rule Yes

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

**Motors**, are their working parts readily accessible Yes are the coils self-contained and readily removable for replacement Yes are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes are they protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type Yes if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing Yes have certificates for all motors for essential services been supplied and approved Certificates Referred **Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes **Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule Yes **Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of 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 does not apply are all fuses of the fitted 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 approved for use in dangerous spaces Yes **Spare Gear**, if the vessel is for open sea service have spares been supplied as per Rule Yes are they suitably stored in dry situations Yes

## PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	25	220	114	1200	Fraser Heavy Oil Engine	Heavy Oil	Above 150° F.
AUXILIARY	One	12	220	55	1000	auto.	do	do
EMERGENCY								
ROTARY TRANSFORMER								

## 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	2	0.12	19	.064	114	166	120	V.I.R.	Conduit
EQUALISER CONNECTIONS	1	0.06	19	.064	-	83	60	do	do
AUXILIARY GENERATOR	1	0.04	19	.052	55	64	30	do	do
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
MOTOR GENERATOR									
ENGINE ROOM	1	0.0015	1	.044	2.5	6.1	150	do	L.C. & Arm.
BOILER ROOM									
AUXILIARY SWITCHBOARDS	1	0.007	7	.036	2.5	24	250	do	Conduit
Navigation									
ACCOMMODATION									
Armchairs	1	0.007	7	.036	6	24	240	do	do
Aft	1	0.007	7	.036	6	24	80	do	do
WIRELESS									
SEARCHLIGHT	1	0.002	3	.029	0.3	7.8	220	do	L.C. & Arm.
MASTHEAD LIGHT	1	0.002	3	.029	0.3	7.8	70	do	do
SIDE LIGHTS	1	0.002	3	.029	0.25	7.8	25	do	do
COMPASS LIGHTS	1	0.002	3	.029	0.4	7.8	70	do	do
POOP LIGHTS	1	0.0015	1	.044	0.25	6.1	60	do	L.C. & in Conduit
CARGO LIGHTS	1	0.0015	1	.044	0.25	6.1	60	do	Conduit
HEATERS	1	0.007	7	.036	10	24	200	do	

## 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	One	1	0.01	7	.044	30	31	65	V.I.R.	Conduit
MAIN BILGE LINE PUMPS	One	1	0.007	7	.036	22	24	70	do	do
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	0.002	3	.029	3.2	7.8	40	do	do
WINDLASS	One	1	0.075	19	.07	26	97	400	do	do
WINCHES, FORWARD	One	1	0.04	19	.052	64	68	300	do	do
WINCHES, AFT	One	1	0.04	19	.052	64	68	100	do	do
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	One	1	0.01	7	.044	21	31	150	do	do
WORKSHOP MOTOR										
VENTILATING FANS										
Capetan	One	1	0.03	19	.044	50	53	170	do	do

The Electrical Equipment is installed in accordance with the approved plans.

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

The foregoing is a correct description.

THE HUNTER ELECTRICAL ENGINEERING CO.

*W. E. Hunter*

Electrical Engineers.

Date

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 65 feet

Minimum distance between electric generators or motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying 07 Ampères 6 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 Yes

The maximum deviation due to electric currents was found to be 1/2 degrees on Any course in the case of the standard compass, and 1/2 degrees on any course in the case of the steering compass.

THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

Builder's Signature.

Date

*J. F. Crisp*  
SECRETARY

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

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

The Electric Installation of this Vessel has been carried out under Special Survey & is in accordance with the Rules & the approved plans. The workmanship & materials are good. And when the installation was tried under working conditions & subjected to the tests prescribed in the Rules it was found satisfactory in every respect.

Noted  
Hru  
31.3.38

Total Capacity of Generators 62 Kilowatts.

The amount of Fee ... £ 28 : 14 :

When applied for,

17 MAR 1938

When received,

11.5.1938

Travelling Expenses (if any) £ :

Committee's Minute

FRI. 8 APR 1938

Assigned

See Incl F.E. 48713

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



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Foundation