

25 AUG 1928

Rpt. 13.

No. 13407

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 24. 8. 1928 When handed in at Local Office 24. 8. 1928 Port of Middlesbrough

No. in Survey held at Haverton Hill on Ties Date, First Survey 3 May Last Survey 13-8-1928
Reg. Book. 72333 on the M. F. Gulphawk (Number of Visits 13)Tons { Gross 10843
Net 6360

Built at Haverton Hill on Ties By whom built Furness Shipbuilding Co. Ltd. Yard No. 123 When built 1928

Owners Gulf Refining Co. Port belonging to Pittsburgh P. A.

Electric Light Installation fitted by Furness Shipbuilding Co. Ltd. Contract No. 123 When fitted 1928

System of Distribution

Pressure of supply for Lighting 110 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 overload 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 yes, is an adjustable regulating resistance fitted in series with each shunt field yes

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Forward end of Machinery Space, 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 - and -, are the generators protected from mechanical injury and damage from water, steam or oil

are their axis 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 Forward end of Machinery Space
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, incombustible non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance yes, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework yes, and is the frame effectively earthed yes Are the following fittings as per Rule, viz.: - spacing or shielding of live parts

yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

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

for each Generator, Double pole switch & fuses for each outgoing circuit: cartridge type fuses

Instruments on main switchboard 9 ammeters 4 voltmeters - synchronising device for paralleling purposes.

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

2-10 watt lamps in series middle point earthed

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes

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Foundation

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Insulation of Cables, state type of cables, single or twin Both are the cables insulated and protected as per Tables III or IV of the Rules. III

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4 V.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound

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

Support and Protection of Cables, state how the cables are supported and protected Lead covered armoured cables are supported on perforated steel flating by galv iron clips

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. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected Porcelain junction boxes in brass cases

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 Positions, 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 All 220 volt circuits are fitted with earthing connections 50% in area of main cables

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

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, are separate screens provided for the use of oil and electric side lights yes

are separate oil lanterns provided for the mast head lights and side lights 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

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

In pump rooms, special gas light fittings through galv conduit tubes, how are the cables led

where are the controlling switches situated Outside pump room entrance

Searchlight Lamps, No. of 1, whether fixed or portable Fixed, are their fittings as per Rule yes

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 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 axis 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

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

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed 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 yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office 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	90	220	409	300	3 CYL. 45 C.S.A. M.A.N. Oil Engine	Diesel Oil	Above 150°F.
AUXILIARY ...	1	35	220	159	420	Indolosa Type Engine		
EMERGENCY ...						(Sundstrand type)		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
2	MAIN GENERATOR	2	3000	61	.103	409	35'	Varnished	Lead covered.
1	AUXILIARY GENERATOR	2	1000	19	.083	159	50'	Cambric	armoured & braided.
	SAVING CONNECTIONS	1	2500	37	.093	-	35'		
	SAVING CONNECTIONS	1	2500	37	.093	-	35'		
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	SAVING CONNECTIONS	1	2500	37	.093	-	35'		
	ENGINE ROOM MOTOR	2	.0225	7	.064	44.3	25'		
	BOILER ROOM ROOM	2	.0225	7	.064	44.3	25'		
	NAVIGATION INST	2	.0225	7	.064	44.3	25'		
	MIDSHIP ACCOMMODATION	2	.0400	19	.052	30.0	620'	V.I.R.	Lead covered.
	ENG. ROOM & PUMP ROOM	2	.0400	19	.052	30.0	800'		armoured & braided
	CREW ACCOMMODATION	2	.0225	7	.064	27.5	230'		
	ENGINEERS ACCOMM.	2	.0400	19	.052	29.5	200'		
	WIRELESS	2	.0100	7	.044	6.0	620'		Lead covered.
	SEARCHLIGHT	2	.0100	7	.044	5.0	750'		armoured & braided
	MASTHEAD LIGHT	2	.0030	3	.036	.9	400'	V.I.R.	
	SIDE LIGHTS	2	.0020	3	.029	.9	100'		Lead covered.
	COMPASS LIGHTS	2	.0020	3	.029	.9	30'		and braided
	DECK LIGHTS	2	.0030	3	.036	.9	750'		Lead covered.
	CARGO LIGHTS	2	.0020	3	.029	27.2	300'		armoured & braided
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.0100	7	.044	18.0	200'		
	MAIN BILGE LINE PUMPS	1	.0100	7	.044	18.0	200'		
	GENERAL SERVICE PUMP	1	.0100	7	.044	18.0	200'		
	EMERGENCY BILGE PUMP	1	.0100	7	.044	18.0	200'		
	SANITARY PUMP	1	.0100	7	.044	18.0	200'		
	CIRC. SEA WATER PUMPS	1	.0100	7	.044	18.0	200'		
	CIRC. FRESH WATER PUMPS	2	.0100	7	.044	18.0	200'		
	AIR COMPRESSOR	1	.0100	7	.044	18.0	200'		
	FRESH WATER PUMP	1	.0100	7	.044	18.0	200'		
	ENGINE TURNING GEAR	1	.0225	7	.064	44.3	25'		
	ENGINE REVERSING GEAR	1	.0225	7	.064	44.3	25'		
	LUBRICATING OIL PUMPS	1	.0100	7	.044	18.0	200'		
	OIL FUEL TRANSFER PUMP	1	.0100	7	.044	18.0	200'		
	WINDLASS	1	.0100	7	.044	18.0	200'		
	WINCHES, FORWARD	1	.0100	7	.044	18.0	200'		
	WINCHES, AFT	1	.0100	7	.044	18.0	200'		
	STEERING GEAR	2	.0600	19	.064	45.0	430'		
	WORKSHOP MOTOR	1	.0100	7	.044	18.0	200'		
	VENTILATING FANS	1	.0100	7	.044	18.0	200'		
	AUX. OIL FUEL PUMP	1	.0100	7	.044	18.0	200'		
	REFRIG	1	.0100	7	.044	18.0	200'		
	6 TON. CRANE	1	.0100	7	.044	18.0	200'		
	CENTRIFUGE	1	.0100	7	.044	18.0	200'		
	OIL PRIMING PUMP	1	.0230	7	.036	5.0	100'		

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

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

The foregoing is a correct description.

FOR FURNESS SHIPBUILDING Co. LIMITED

P. S. G. Pown.

Electrical Engineer.

Date 22nd Aug 1928

COMPASSES.

Distance between electric generators or motors and standard compass 250'

Distance between electric generators or motors and steering compass 240'

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères 4 feet from standard compass 4 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 nil degrees on all courses in the case of the standard compass, and nil degrees on all courses in the case of the steering compass.

FOR FURNESS SHIPBUILDING Co. LTD

J. M. Gower

Builder's Signature.

Date 22nd Aug 1928

Is this installation a duplicate of a previous case. Yes. If so, state name of vessel "Gulfbird"

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

The materials and workmanship are good.
This electric installation has been fitted aboard under special survey in accordance with the Rules and is, in my opinion, suitable for a classed vessel.
It has been tested under working conditions with satisfactory results.

It is submitted that
this vessel is eligible for
THE RECORD.

Elec. Light

J. M. G.

28/8/28

Total Capacity of Generators 215 Kilowatts

The amount of Fee ... £ 36-17-6

When applied for,
15/8/1928

Travelling Expenses (if any): £

When received,
17/8/1928

M. J. Man

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Light