

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office 6 MAR 1941 Port of HULL

No. in Survey held at Goole Date, First Survey 8.1.41 Last Survey 4.3.41
Reg. Book. (Number of Visits.....10.....)

on the Single Screw Motor Vessel "EMPIRE FORELAND" Tons {Gross.....873.....
Net.....459.....

Built at Goole By whom built Goole S.B. & R. Co. Ltd. Yard No. 358 When built 1940.12

Owners The Ministry of Shipping Port belonging to Goole

Electrical Installation fitted by The Humber Electrical Eng. Co. Ltd. Contract No. 1 When fitted 1940.12

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

Have plans been submitted and approved Yes System of Distribution Parallel Constant Pressure Voltage of supply for Lighting 220
P. wire

Heating L Power 220 Direct or Alternating Current, Lighting Direct Power Direct 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

Negative 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 Engine Room, Starboard Side 25 K.W Forward

12 K.W. aft, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, 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 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, adjacent to Generator

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 Sindanga, 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.....

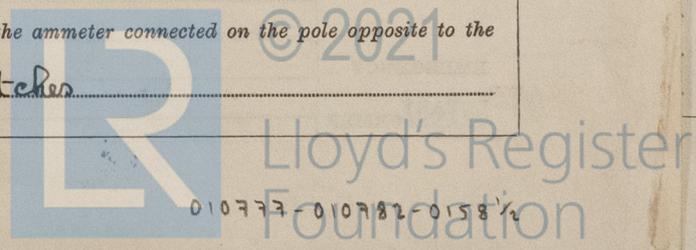
Double pole overload contact breaker to each generator

and for each outgoing circuit D.P. linked change-over switches + fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule ✓ Instruments on main switchboard 2

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 Earth lamps + switches



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. 6 volts power ✓ 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 steel + woodwork - in conduit through holds + Engine Room

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Yes Refrigerated chambers, are the cables and fittings as per Rule. None 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. Yes Secondary Batteries, are they constructed and fitted as per Rule. None, are they adequately ventilated. ✓

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. No, if so, how are they protected. ✓

and where are the controlling switches fitted. ✓, are all fittings suitably ventilated. Yes, are all fittings and accessories constructed and installed as per Rule. Yes Searchlight Lamps, No. of None, whether fixed or portable. ✓, are their fittings as per Rule. ✓ Heating and Cooking, is the general construction as per Rule. None, are the frames effectually earthed. ✓, are heaters in the accommodation of the convection type. ✓ 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. Yes Control Gear and Resistances, are they constructed and fitted as per Rule. Yes Lightning Conductors, where required are they fitted as per Rule. ✓ 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	One	25	220	114	1000	40 H.P. Diesel Engine	Heavy Oil Above 150° F	
"	"	12	"	54	1000	"	"	
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 ...	25	One	37/0.64	114	130	18	V.I.R.	In conduit
" " ...	12	"	19/0.52	54	64	24	do.	do.
EMERGENCY GENERATOR ...	✓							
ROTARY TRANSFORMER: MOTOR ...	✓							
" " GENERATOR ...	✓							

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS ...						
Navigation	One	7/0.36	H	24	75	V.I.R. h.c. + in conduit
Accommodation	One	7/0.36	H	24	125	" h.c.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS ...	One	2/0.36	10	70	V.I.R.	h.c.
NAVIGATION LIGHTS ...	One	3/0.36	10	400	V.I.R.	h.c. in conduit
h.c. lighting sub circuits	One	1/0.44	5	120	V.I.R.	rough h.c. in conduit

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Steering Engine	1	4 1/4	One 7/0.44	20	31	110	V.I.R. In conduit
Windlass	1	17	19/0.52	68.5	64	370	" do.
Wincher	2	11	19/0.52	48	64	339	" do.
Bilge pump	1	5	7/0.44	21	31	70	" do.
Ballast pump	1	7 1/2	7/0.44	31	31	60	" do.
Capstan	1	14	19/0.52	56	64	90	" do.

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.

W.E. Sturrock

Electrical Engineers.

Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass..... 40

Minimum distance between electric generators or motors and steering compass..... 30

The nearest cables to the compasses are as follows:—

A cable carrying 20 Ampères 10 feet from standard compass 5 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 any course in the case of the standard compass, and Nil degrees on any course in the case of the steering compass.

L.F. Bragg

Builder's Signature.

Date

Is this installation a duplicate of a previous case..... Yes

If so, state name of vessel EMPIRE CLIFF

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

This electric light and power installation has been fitted on board under Special Survey in accordance with the Rules & the approved plans. The workmanship & materials are good & when tested as prescribed by the Rules it was found satisfactory in every respect.

*Noted
L.F.
10/3/41*

Total Capacity of Generators..... 37 Kilowatts.

The amount of Fee ... £ 30 : 6/3 :

When applied for, 16 MAR 1941

Travelling Expenses (if any) £ : :

When received. 19

D. J. H. ...

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

MAR 14 MAR 1941

Assigned

See Inv. JE 5112a

2m.10.38.—Transfer. (MADE IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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