

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JAN 23 1941

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office..... 21 JAN 1941..... Port of..... **HULL**.....

No. in Survey held at..... **Goole**..... Date, First Survey..... 8.11.40..... Last Survey..... 18.12.1940.....
 Reg. Book..... (Number of Visits..... 8.....)

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

Built at..... **Goole**..... By whom built..... **Goole S. B. & R. Co. Ltd.**..... Yard No..... 357..... When built..... 1940.12.....

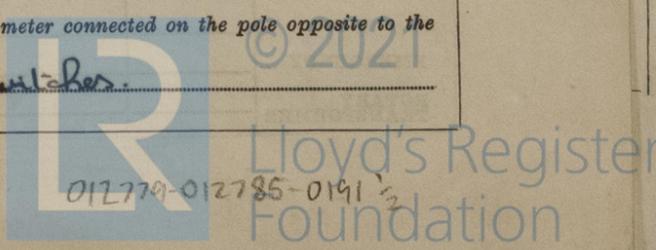
Owners..... **The Ministry of Shipping**..... Port belonging to..... **Goole**.....

Electrical Installation fitted by..... **The Humber Electrical Engineering Co. Ltd.**..... Contract No..... /..... 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**.....
 Heating..... /..... 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..... **Simdango**....., 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 overboard 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.**



12010

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. 3 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 tinned 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 floor plates. No, 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. Blipped to steel + woodwork. In conduit through Rolds + 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 effectually 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. Yes. 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. 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. No, 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 None, whether fixed or portable. Yes, are their fittings as per Rule. Yes. Heating and Cooking, is the general construction as per Rule. None, 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 Yes, if situated near unprotected combustible material state minimum distances 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	One	25	220	114	1000	40 HP Diesel Engine	Heavy Oil	150° F
	"	12	"	54	1000	"	"	"
EMERGENCY	One	25	220	114	1000	40 HP Diesel Engine	"	150° F
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return loss).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	25	One	37/064	114	130	18	V.I.R.	In conduit
"	12	"	19/052	54	64	24	do.	do.
"	25	"	37/064	114	130			
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
"								
"								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return loss).	INSULATED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS						
Navigation	One	7/036	4	24	75	V.I.R. h.c. in conduit
Accommodation	One	7/036	14	24	125	" h.c.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return loss).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	One	3/036	10	70	70	V.I.R. h.c.
NAVIGATION LIGHTS	One	3/036	3	10	100	V.I.R. (h.c. or in conduit)
ALL lighting sub circuits	One	1/044	5	120	120	V.I.R. h.c.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return loss).	INSULATED WITH.	HOW PROTECTED.
Steering Engine	1	4 1/4	One 7/044	20	31	110	V.I.R. In conduit
Winches	1	17	" 19/052	68.5	64	370	do
Winches	2	11	" 19/052	48	64	330	do
Bilge pumps	1	5	" 7/044	21	31	70	do
Ballast pump	1	7 1/2	" 7/044	31	21	60	do
Papators	1	14	" 19/052	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. Shuttleworth

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.

Builder's Signature. Date _____

W.E. Shuttleworth

Is this installation a duplicate of a previous case. *Similar to* If so, state name of vessel *M.V. SEQUACITY.*

with minor differences.

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

This electric 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.

Notes
20/1/41

549 Amperes to 62 KW. H.P.
Total Capacity of Generators *37* Kilowatts.

The amount of Fee £	:	:	When applied for,
		19.....
Travelling Expenses (if any) £	:	:	When received,
		19.....

Dicky Shuttleworth
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 25 FEB 1941*
Assigned *See minute on meby lpt.*

2m. 10. 38.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

