

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-8 JAN 1935

Received at London Office.....

Date of writing Report

19

When handed in at Local Office

7th Jan.

1935

Port of

Belfast

Visits included in 7 & 6 mchy.

No. in Survey held at

Belfast

Date, First Survey

Last Survey

19

Reg. Book.

(Number of Visits.....)

89758

on the

Steel twin screw motor vessel "Imperial Star"

Tons { Gross
Net

Built at

Belfast

By whom built

Harland & Wolff Ltd. Yard No. 933

When built

1934

Owners

Blue Star Line Ltd.

Port belonging to

Belfast

Electric Light Installation fitted by

Harland & Wolff Ltd.

Contract No. 933

When fitted 1934

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Two wire direct current system

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 rating

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, 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

In motor room, held level.

Two starboard side. One 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

and

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

On platform at aft end of Motor 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

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

if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

and is the frame effectively earthed

yes

Are the fittings as per Rule regarding:— 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 reverse

current circuit breaker, with overloads and time limits on two poles, for each generator.
 Double pole overload circuit breaker, with time limits, and double pole quick break knife switch.
 or double pole, quick break knife switch, and, double pole handguard fuses for each outgoing circuit.

Instruments on main switchboard

4

ammeters

2

voltmeters

arranged

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

Earth indicating lamps.

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

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* are the cables insulated and protected as per Tables IV or V of the Rules *yes*
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *11.0 Heaters bridge*
Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 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 *Secured by clips to perforated plating, with sheet-metal covers in tween decks, in steel cable troughs on deck, and in wood casing in public rooms.*
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

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

Joints in Cables, state if any, and how made, insulated, and protected *properly constructed and insulated joint boxes*

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 *All metal portable fittings not fitted to ships steelwork are earthed with connections equivalent to working conductor*, 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 *non fitted*

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 *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

guarded stings pendant.

Hard rubber cables in galvanised iron conduit.

where are the controlling switches situated *locally*

Searchlight Lamps, No. of *connections only*, whether fixed or portable *portable*, 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 axes of rotation fore and aft *yes, except vertical motors.*

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 and fitted as per Rule *yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule

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

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	R.p.m.		Fuel Used.	Flash Point of Fuel.
MAIN	3	330	220	1500	300	Diesel Engines	diesel	150° F
AUXILIARY								
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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	3	1.81	91	.093	1500	1683	170	Varnished Cambric	Lead and braiding
EQUALISER CONNECTIONS	2	.98	61	.103		972	85	do	do
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
MOTOR ROOM LIGHTING	1	0.0104	7	.044	18.9	38	150	Varnished Cambric	Lead and braiding
MOTOR ROOM LIGHTING	1	0.0104	7	.044	17.4	38	150	do	do
MOTOR ROOM LIGHTING	1	0.0104	7	.044	13.9	38	150	do	do
AUXILIARY SWITCHBOARDS									
Masterboard F. Refig.	2	0.98	61	.103	924	972	285	Varnished Cambric	Lead and braiding
Motor Room	1	0.0221	7	.064	56.9	68	96	do	do
Motor Room	1	0.0104	7	.044	31	38	114	do	do
Refig. Fans	1	0.1009	19	.083	42	172	90	do	do
do	1	0.1009	19	.083	134	172	510	do	do
do	1	0.0221	7	.064	67.4	68	103	do	do
do	1	0.1478	37	.072	146.4	152	315	Rubber	Hard rubber.
ACCOMMODATION									
Masterboard A. Lighting	1	0.0221	7	.064	37.15	68	450	Varnished cambric	Lead and braiding
Masterboard B. Lighting	1	0.0396	19	.052	60	94	345	do	do
Masterboard B. Lighting	1	0.0284	19	.044	65.16	78	420	do	do
Masterboard B. Lighting	1	0.3024	37	.103	344	346	420	do	do
WIRELESS	1	0.007	7	.036		25	705	Varnished cambric	Lead and braiding
SEARCHLIGHT	1	0.1964	37	.083		266	366	do	do
MASTHEAD LIGHT	1	0.0029	3	.036	.018	12	660	Rubber	Hard rubber.
SIDE LIGHTS	1	0.0029	3	.036	.018	12	100	do	do
COMPASS LIGHTS	1	0.0019	3	.029	0.09	7.8	25	do	do
STERN LIGHTS	1	0.0029	3	.036	0.18	12	1020	do	do
CARGO LIGHTS	1	0.0221	7	.064	20	68	225	Varnished Cambric	Lead and braiding
ARC LAMPS	1	0.0221	7	.064	20	68	225	do	do
HEATERS	1	0.06	19	.064	110	122	450	do	do
GYRO COMPASS	1	0.0146	7	.052	20	51	390	do	do

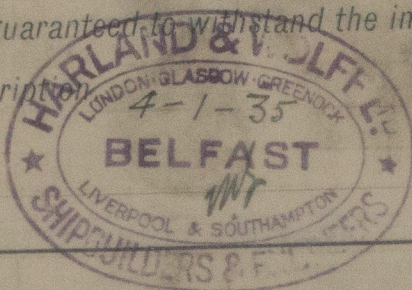
MOTOR CONDUCTORS.

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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	0.0396	19	.052	90	94	240	Varnished Cambric	Lead and braiding
MAIN BILGE LINE PUMPS	1	1	0.0146	7	.052	48	51	228	do	do
GENERAL SERVICE PUMP	1	1	0.0396	19	.052	90	94	252	do	do
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1	0.0396	19	.052	90	94	276	do	do
CIRC. SEA WATER PUMPS	3	1	0.0284	19	.052	90	94	418	do	do
AUX. CIRC. FRESH WATER PUMPS	2	1	0.0284	7	.044	32	38	330	do	do
AUX. CIRC. FRESH WATER PUMPS	2	1	0.0284	7	.044	60	68	240	do	do
AUX. CIRC. FRESH WATER PUMPS	2	1	0.0284	7	.044	60	68	330	do	do
AIR COMPRESSOR	2	1	0.3024	37	.103	340	346	180	do	do
FRESH WATER PUMP	1	1	0.007	7	.036	23	25	336	do	do
ENGINE TURNING GEAR	2	1	0.0221	7	.064	57	68	144	do	do
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	3	1	0.0759	19	.072	128	141	148	do	do
OIL FUEL TRANSFER PUMP	2	1	0.0221	7	.064	54	68	180	do	do
WINDLASS	1	1	0.1964	37	.083	300	266	345	do	do
WINCHES, FORWARD (MASTERBOARD C)	7	1	0.4985	61	.103	394	486	780	do	do
WINCHES, MID (MASTERBOARD B)	4	1	0.1964	37	.083	200	266	420	do	do
WINCHES, AFT (MASTERBOARD E)	6	1	0.3024	37	.103	317	346	360	do	do
STEERING GEAR—										
(a) MOTOR GENERATOR	2	1	0.1964	37	.083	200	194	50	Rubber	Hard rubber
(b) MAIN MOTOR	2	1	0.1009	19	.083	200	172	450	Varnished Cambric	Lead and braiding
WORKSHOP MOTOR										
VENTILATING FANS										
35" AEROTO FANS	6	1	0.0146	7	.052	32	38	90	Rubber	Hard rubber
CHILLED MEAT FANS	10	1	0.0029	3	.029	4	7.8	150	do	do
HATCH COOLER FANS	3	1	0.0029	3	.029	4	7.8	90	do	do
EXPERIMENTAL CHAMBER FANS	2	1	0.0019	3	.029	1.8	7.8	246	do	do
BLOWER FANS	2	1	0.0019	3	.029	0.4	7.8	90	do	do
MOTOR ROOM FANS	4	1	0.0029	3	.036	7	12	340	do	do
HOLD FAN	1	1	0.0029	3	.036	7	12	336	do	do
REFRIG. MACH. ROOM FANS	2	1	0.0029	3	.036	2	12	96	do	do

MOTOR CONDUCTORS (CONT'D)

Rice Amess & Charles G. Henshaw

The foregoing is a correct description



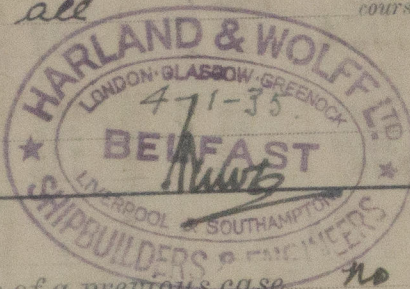
Date _____

Distance between electric generators or motors and steering compass

A cable carrying 4.7 Amperes 8 feet from standard compass 6 feet from steering compass.

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 course in the case of the standard compass, and Nil degrees on all course in the case of the steering compass.



Builder's Signature. Date

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 Electrical Equipment of this vessel is in accordance with the approved plan & with the Rules. The installation has been tried out and tested according to the rules with satisfactory results. In our opinion the vessel is eligible for the Society's classification.

Noted
L.Y.
9/11/35

Total Capacity of Generators ~~790~~ Kilowatts.

The amount of Fee £ 16 : 5 : 4 Jan 1925

Travelling Expenses (if any) £ : : 24. 19. 35

Committee's Minute

FRI. 11 JAN 1935

Assigned

See Bel JE 11436

Am. 9, 30. — Transfer.

Rice Amers + Charles V. Chambers
Surveyor to Lloyd's Register of Shipping.