

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 30 OCT 1929

Date of writing Report 17.10.29 When handed in at Local Office 26.10.29 Port of GLASSGOW.

No. in Survey held at GLASSGOW. Date, First Survey 5.9.29 Last Survey 16.10.1929  
Reg. Book. (Number of Visits 5)

25688 on the S.S. KNIGHT OF ST. MICHAEL Tons { Gross 3807  
Net

Built at PORT GLASSGOW. By whom built MESSRS LITHGOW'S LTD Yard No. 828 When built 1929.

Owners NEWPORT PROVENCE LINE LTD Port belonging to NEWPORT MON.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY Contract No. 828 When fitted 1929.

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating — volts, Power — volts.

Direct or Alternating Current, Lighting Direct Power

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, is an adjustable regulating resistance fitted in series with 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 main Engine room at starting platform. Stbd. 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 Bulkhead near Generating set.

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 slate slab, 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 yes.

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

Generator double pole switch & fuses.  
Search Lt. circuit D.P. switch & fuses other outgoing circuits S.P. switch & D.P. fuses.

Instruments on main switchboard one ammeter one voltmeter — 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

Lamp, Switch & Fuse in series between each busbar & earth

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 Swim 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 5 volts.

**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 conductors 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 Supported by Galv. Iron clips. Protected with Armour & Braiding wh. in holds is further protected with steel Tube.

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 VIII yes.

**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 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 —.

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.

**Secondary Batteries,** are they constructed and fitted as per Rule none.

**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 —, where are the controlling switches situated —.

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

**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 —, are the coils self-contained and readily removable for replacement —, are the brushes, brush holders, terminals and lubricating arrangements as per Rule —, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material —, are they protected from mechanical injury and damage from water, steam or oil —, are their axes of rotation fore and aft —, 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 —.

**RETAIN**

PARTICULARS OF GENERATING PLANT.							
DESCRIPTION OF GENERATOR.	No. of	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.		Revs. per Min.	Fuel used.
MAIN	one	7 1/2	110	68	350	Steam Engine	
AUXILIARY							
EMERGENCY							
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	one	.06	19	.064	68	14	V.I.R.	L.C. in tube.
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	Forward.	one	.0045	7	.029	5	420	V.I.R.	Armd. & Braid
	Midship.		.007	7	.036	18	300		
	Searchlight.		.0225	7	.064	40	580		
	Wireless.		.0045	7	.029	5	280		
	Navigation.		.0045	7	.029	4	290		
	Eng. Rm & Aft.		.0045	7	.029	9	24		L.C. & A.
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	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								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								

**RETAIN**

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.

**TELFORD, GRIER & MACKAY, LTD.** Electrical Engineers.

Date **18-10-29**

**COMPASSES.**

Distance between electric generators or motors and standard compass **100 ft.**

Distance between electric generators or motors and steering compass **100 ft.**

The nearest cables to the compasses are as follows:—

A cable carrying **4** Ampères **8** feet from standard compass **4** feet from steering compass.

A cable carrying **1/2** Ampères **one** feet from standard compass **one** 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.

**LITHGOWS LIMITED.**

*John M. Fuller* Builder's Signature. Date **27/10/29**

Is this installation a duplicate of a previous case **Yes.** If so, state name of vessel **Knight of St. George.**

General Remarks (State quality of workmanship, opinions as to class, &c. **This installation has**

**been fitted on board under specialising  
 conditions. Tested under full working  
 conditions and found satisfactory.  
 The materials and workmanship  
 were found to be good and sound.**

It is submitted that  
 this vessel is eligible for  
**THE RECORD, Elec. Light.**

**(B)**  
**31/10/29**

*A.L.*  
**26/10/29**

Total Capacity of Generators **4.5** Kilowatts.

The amount of Fee ... £ **7.0.0.** When applied for, 19...

Travelling Expenses (if any) £ : : **23 OCT 1929** When received, 19...

*J. S. Rankin.*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 29 OCT 1929**

Assigned **Elec. Light**

Im. 238.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2020

Lloyd's Register Foundation