

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19 When handed in at Local Office 14-5-1937 Port of Middlesbrough Received at London Office MAY 18 1937  
 No. in Survey held at South Bank on Tees Date, First Survey 19 Mar Last Survey 29 Apr 1937  
 Reg. Book. " LOCH OSKAIG " (Number of Visits 9)  
 on the LOCH OSKAIG  
 Built at South Bank By whom built Daniel's Dock Co. Ltd. Yard No. 1026 Tons { Gross 534 Net 197  
 Owners The Caledonian Fishing Co. Ltd. Port belonging to Hull When built 1937  
 Electric Light Installation fitted by HARD PICKERSGILL & SONS, LTD. Contract No. \_\_\_\_\_ When fitted 1937  
 Is the Vessel fitted for carrying Petroleum in bulk \_\_\_\_\_

### System of Distribution

Direct Current

Pressure of supply for Lighting 100 volts, Heating \_\_\_\_\_ volts, Power \_\_\_\_\_ volts.

Direct or Alternating Current, Lighting Direct Current 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 temperature rise 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 each shunt field Yes

Have certificates of test results for machines under 100 kw. been submitted and approved Yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing \_\_\_\_\_

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

Position of Generators Starboard Side of Engine room, 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 No Main Switch Boards, where placed Starboard Side Engine 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 \_\_\_\_\_, is all insulation of high dielectric strength and of permanently high insulation resistance Yes

is it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micamite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes, is the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes

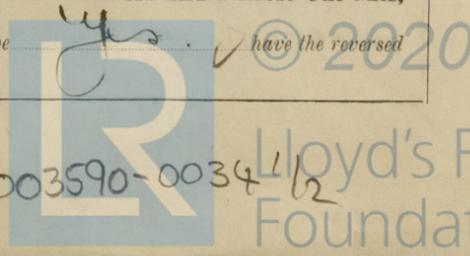
Are the fittings as per Rule regarding: - spacing or shielding of live parts Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars \_\_\_\_\_, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position No, are all screws and nuts securing connections effectively locked Yes, are any fuses fitted on the live side of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Double Pole Main Switch & Double Pole Arcs Switch & Double Pole Arcs Switch & Double Pole Arcs Switch

Are turbine driven generators fitted with emergency trip switch as per rule \_\_\_\_\_ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material \_\_\_\_\_ Instruments on main switchboard One ammeters One voltmeters \_\_\_\_\_

synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection \_\_\_\_\_

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2 Lamps in series across positive & negative to Earth Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules \_\_\_\_\_ are the fusible cutouts of an approved type Yes have the reversed \_\_\_\_\_



current protection devices been tested under working conditions 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 multi-core Single are the cables insulated and protected as per Tables IV, V, X or XI of the Rules

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load Yes **Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes **Paper Insulated and Varnished Cambric Insulated Cables**.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes, or waterproof insulating tape Yes **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 Are cables in machinery spaces, galleys, laundries, bathrooms and storerooms lead covered or run in conduit Lead covered

**Support and Protection of Cables**, state how the cables are supported and protected Lead covered and supported as per Rules

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 Yes

**Refrigerated Chambers**, are the cables and fittings in accordance with the special requirements None

**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 Dynamo Sealing 19/064 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 Yes

**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 Stoke Hold with thick rubber mat & Sacking Glands are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Stoke Hold with Sacking Glands how are the cables led Through Beams where are the controlling switches situated Engine room are all fittings suitably ventilated Yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

**Heating and Cooking Appliances**, are they constructed and fitted as per Rule Yes, are air heaters constructed and fitted as per Rule Yes

**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 —

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing — **Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule — **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 — are all fuses of the filled 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 type approved by the Home Office —

**Spare Gear**, if the vessel is for open sea service have spares been supplied as per Rule —

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	8	100	80	350	Revolving Engine	Coal	
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	2	.0600	19	.064	55	83	23 ft	WR	Lead
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	2	.0090	1	.036	6	24	6 ft	WR	Lead
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	2	.0090	1	.036	8	24	44 ft	WR	Lead
Left Bridge	2	.0070	7	.036	16	24	150 ft	WR	50
Starboard Navigation	2	.0030	3	.036	6	12			
Navigation	2	.0090	1	.036	4	24	160 ft	WR	Lead
WIRELESS	2	.0090	1	.036	15	24	150 ft	WR	50
SEARCHLIGHT									
MASTHEAD LIGHT									
SIDE LIGHTS									
COMPASS LIGHTS									
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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										

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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

The foregoing is a correct description.

**RICHARD PICKERSGILL & SONS, LTD.**

Electrical Engineers.

Date May 4<sup>th</sup> 1937

*A. H. Spence*

**COMPASSES.**

Distance between electric generators or motors and standard compass 60 ft

Distance between electric generators or motors and steering compass 55 ft

The nearest cables to the compasses are as follows:—

A cable carrying 30 Watts Ampères 4 feet from standard compass \_\_\_\_\_ feet from steering compass.

A cable carrying 40 Ampères 130 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 \_\_\_\_\_

The maximum deviation due to electric currents was found to be 1/2 degrees on Starb course in the case of the standard compass, and 1/2 degrees on Starb course in the case of the steering compass.

FOR SMITH'S DOCK CO. LTD.

*J. W. Burns*

Builder's Signature.

Date 6/5/37

Is this installation a duplicate of a previous case yes If so, state name of vessel Canadian Prince

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

*The material and workmanship are good.  
The Electric installation has been fitted on board in accordance with the Requirements of the Rules, all circuits tested, and found satisfactory under full working conditions*

*The vessel is entitled in my opinion to have the Record Electric Light*

*Noted*

*True*

25.5.37

Total Capacity of Generators 8 Kilowatts.

The amount of Fee ... £ 8 : 0 : 14.5 1937

Travelling Expenses (if any) £ : : 1.7 1937

*R. C. Moffitt*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 28 MAY 1937

Assigned

*See No. 26. 15997*

2m. 5. 34. — Transfer.  
The Surveyors are requested not to write on or below the space for Committee's Minute.



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