

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 10 When handed in at Local Office 14-5-1937 Port of Middlesbrough
 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 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

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 Yes, 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 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

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 Yes

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 Yes

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 Yes

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

is it of an approved type Yes, 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

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 Yes

individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position Yes

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 & fuses & Double pole branch switch & fuses

Are turbine driven generators fitted with emergency trip switch as per rule Yes Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes

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 Yes 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.

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 Immovable Boarded.

Support and Protection of Cables, state how the cables are supported and protected 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 Seablate to Dynamos Seating 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 Shut down with thick rubber mat & Bakelite, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Shut down with thick rubber mat & Bakelite, 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 fitted 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			RPM. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.			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	.0010	1	.036	6	24	6 ft	WR	Lead
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS ...									
ACCOMMODATION ...	2	.0040	1	.036	8	24	44 ft	WR	Lead
Bridge	2	.0070	7	.036	16	24	150 ft	WR	50
Forward	2	.0030	3	.036	6	12		WR	Lead
Navigation	2	.0040	1	.036	4	24	160 ft	WR	Lead
WIRELESS ...	2	.0070	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 PICKERGILL & SONS, LTD.

Electrical Engineers.

Date *May 4th 1937*

A. H. Spencer

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 1/2* degrees on *Starb* course in the case of the standard compass, and *1 1/2* degrees on *Starb* course in the case of the steering compass.

FOR SMITH'S DOCK CO. LTD.

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* : *14.5.37*

Travelling Expenses (if any) £ : : *1.7.37*

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

Committee's Minute *FRI 28 MAY 1937*

Assigned

See No. 26 15997



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Foundation