

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 10 JUN 1929

Date of writing Report 7-6-1929 When handed in at Local Office 10 Port of Dundee

No. in Survey held at Dundee Date, First Survey 22-3-29 Last Survey 28-6-1929
Reg. Book. (Number of Visits... FIVE...)

on the Ferry Paddle Steamer "B. L. NAIRN" Tons { Gross 395 Net 171

Built at Dundee By whom built Caledon S. & E. Co. Yard No. 330 When built 1929

Owners Dundee Harbour Trust Port belonging to Dundee

Electric Light Installation fitted by Caledon S. & E. Co. Contract No. 330 When fitted 1929

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution

Two Wire System

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 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 Bottom Platform 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 Yes

Main Switch Board, where placed Control Platform 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 switchboard ~~20" HORIZONTALLY~~ 20" HORIZONTALLY

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 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

1.50 Amp. D.P. Q.B. Switch, 2-50 Amp Fuses. 20-5 Amp Q.B. S.P. Switches. 40-5 Amp Fuses.

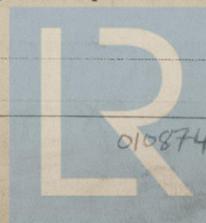
Instruments on main switchboard _____ ammeters _____ voltmeters _____ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2.30 watt

M.F. Lamps in Parallel with centre Point Earthed.

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



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Cables: Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV or V of the Rules IV

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2.5 V.P.

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 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.

Support and Protection of Cables, state how the cables are supported and protected L.C. clipped to wood bulkheads, L.C. clipped to perforated metal Tray in Engine & Boiler Rooms all with brass clips.
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, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected Yes

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 Yes
Yes, 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 Guarded, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Yes, how are the cables led Yes, where are the controlling switches situated Yes

Searchlight Lamps, No. of 1, whether fixed or portable Yes, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

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, 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 Yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

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 Yes

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

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	7.	110.	64.	350	5" x 6" C. Chapman Steam Engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		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	1	.039	19	.052"	30	64.	40	Rubber	L.C.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	.002	3	.029	2.2	7.8	50	Rubber	L.C.
BOILER ROOM	1	.002	3	.029	1.8	7.8	60	"	"
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	1	.002	3	.029	3.6	7.8	60.	Rubber	L.C.
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT									
SIDE LIGHTS	1	.002	3	.029	0.4	7.8	60	Rubber	L.C.
COMPASS LIGHTS	1	.002	3	.029	0.2	7.8	30	"	"
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

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 Effective 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.
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

THE CALEDON SHIPBUILDING & ENGINEERING CO LTD

W. W. Gillanders

Electrical Engineers.

Date *5th June 1929*

COMPASSES.

Distance between electric generators or motors and standard compass
 Distance between electric generators or motors and steering compass *50 feet.*
 The nearest cables to the compasses are as follows:—
 A cable carrying *2.7* Ampères feet from standard compass *6* feet from steering compass.
 A cable carrying *0.2* Ampères feet from standard compass *1* foot from steering compass.
 A cable carrying *0.2* Ampères feet from standard compass *1* foot 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 degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

THE CALEDON SHIPBUILDING & ENGINEERING CO LTD

Dunbrans

GENERAL MANAGER.
SHIPBUILDING DEPT.

Builder's Signature.

Date

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *P.S. "WILLIAM HIGH"*

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

This Installation has been fitted on board in a satisfactory manner & in accordance with the Rules. The materials and workmanship are of good description. The installation has been examined under full load conditions & found satisfactory.

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

Run

12.6.29

Total Capacity of Generators *7* Kilowatts.

The amount of Fee ... £ *7:0* :
 Travelling Expenses (if any) £ : :
 When applied for, *4-6-1929*
 When received, *15-6-1929*

Ayresell
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec Light*

Im. 12.28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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