

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12 SEP 1928

Date of writing Report 4.8.1928 When handed in at Local Office 10.9.1928 Port of GLASGOW.

No. in Survey held at GREENOCK. Date, First Survey 18.4.28 Last Survey 6.8.1928  
Reg. Book. 89266 on the M.V. BENEDICK. (Number of Visits 6)Built at GLASGOW. By whom built THE BLYTHSWOODS B LTD. Yard No. 18 When built 1928  
Owners THE BEAR CREEK OIL SHIP CO LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by WATSON &amp; DUNDAS LTD. Contract No. 18 When fitted 1928.

**System of Distribution** Double wire distribution system

**Pressure of supply for Lighting** 110 volts, **Heating** — volts, **Power** 110. 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. —, 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** Stand 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 Yes metallic self coupling

**Main Switch Boards**, where placed adjacent to generator

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 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 A.P. switch + 2 S.P. fuses for each generator and also for each outgoing circuit

**Instruments on main switchboard** 2 ammeters 2 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 Earth testing lamps with switches fuses

**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. *5 volts*

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load

**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

**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 avoid the risk of mechanical damage

**Support and Protection of Cables,** state how the cables are supported and protected *Cables from + aft. run in heavy galleys running in engine room up to deck, 1 beam in cabin up to gunroom, bulkheads etc.*

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 *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 *in joints*

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands

**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *state the material of which the bushes are made. fibre funnels*

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas

*are their connections made as per Rule*

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule *Yes - see rules 15-25/10/28*

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven

**Navigation Lamps,** are these separately wired *are controlled by separate switch and separate fuses* *are the fuses double pole* are the switches and fuses grouped in a position accessible only to the officers on watch *has each navigation lamp an automatic indicator as per Rule*

**Secondary Batteries,** are they constructed and fitted as per Rule

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight 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 *Pump room have double glass fittings lighting through hole in the deck wholly outside in heavy galleys running where are the controlling switches situated at deck level in accommodation*

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

**Are 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

**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 *self contained battery lamps*

PARTICULARS OF GENERATING PLANT.

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	2	12.5	110	114	400	Single cylinder horizontal engine		
AUXILIARY	-					Four cylinder horizontal engine		
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...	2	1000	19	0.83	114	50'	V.R.	LC A+B.
	EQUALISER CONNECTIONS	-							
	AUXILIARY GENERATOR	-							
	EMERGENCY GENERATOR	-							
	ROTARY TRANSFORMER...	-							
	AUXILIARY SWITCHBOARDS	-							
	ENGINE ROOM	2	0100	7	0.44	10	110	V.R.	LC A+B.
	BOILER ROOM	-							
	ACCOMMODATION	2	0100	7	0.44	26	550	V.R.	LC in bulk
	Engine Room	2	0070	7	0.36	19	230	"	"
	Navigation	2	0070	7	0.36	12	200	"	LC A+B.
		2	0070	7	0.36	12	580	"	LC in bulk
	WIRELESS	2	0070	7	0.36	9	580	V.R.	LC in bulk
	SEARCHLIGHT	2	0015	7	0.44	6	260	V.R.	LC
	MASTHEAD LIGHT	2	0015	7	0.44	6	60	"	"
	SIDE LIGHTS	2	0015	7	0.44	3	40	"	"
	COMPASS LIGHTS	2	0015	7	0.44	3	40	"	"
	POOP LIGHTS	2	0015	7	0.44	3	40	"	"
	CARGO LIGHTS	2	0015	7	0.44	3	40	"	"
	ARC LAMPS	2	0015	7	0.44	3	40	"	"
	HEATERS	2	0015	7	0.44	3	40	"	"

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	2	0170	7	0.36	20.5	110	V.R.	LC A+B.
	VENTILATING FANS	2	0100	7	0.44	27.5	110	V.R.	LC A+B.

The number of Conductors in column one means in this case one for each pole.



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.

Electrical Engineers. Date 24<sup>th</sup> Aug '28

#### COMPASSES.

Distance between electric generators or motors and standard compass 210 ft

Distance between electric generators or motors and steering compass 206 ft

The nearest cables to the compasses are as follows:—

A cable carrying 12 Ampères 8 feet from standard compass 8 feet from steering compass.

A cable carrying 3 Ampères 8 feet from standard compass 8 feet from steering compass.

A cable carrying 3 Ampères 8 feet from standard compass 8 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.

LYTHBWOOD SHIPBUILDING CO., LTD.

*Driffle*

Builder's Signature. Date 24/8/28

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.)

*This installation has been fitted on board under special survey. 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.*

*@ 23/9/28*

Total Capacity of Generators 25 Kilowatts.

The amount of Fee ... £ 200.00

Travelling Expenses (if any) £ 1.10

Committee's Minute GLASGOW 11 SEP 1928

Assigned Elec. Light.

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



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