

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 5 - JAN 1942

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(Number of Visits... TWELVE (12))

No. in Survey held at Rowhedge Date, First Survey 19-8-41 Last Survey 31-10-1941
Reg. Book. on the motor launch "EMPIRE LAD" Tons { Gross
Net

Built at Rowhedge By whom built Rowhedge Ironworks Ltd. Yard No. 601 When built 1941

Owners Ministry of War Transport Port belonging to Rowhedge
Electric Light Installation fitted by Central Electrical Co. (Colchester) Ltd. Contract No. When fitted 1941

Is the Vessel fitted for carrying Petroleum in bulk Yes

System of Distribution Two wire volts, Heating 110 volts, Power volts.

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

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 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 Yes

Where more than one generator is fitted are they arranged to run in parallel No, is an adjustable regulating resistance fitted in series with each shunt field Yes

approved Yes Have certificates of test results for machines under 100 kw. been submitted and approved Yes

Have certificates for generators under 100 kw. been supplied 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

Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators Engine Room 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 and 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 Yes

Main Switch Boards, where placed 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 and Yes, are they constructed wholly of durable, non-ignitable non-absorbent materials Yes (no panels)

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 micaite 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 No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 1 D.P. Circuit Breaker with 2 overload Relays for main Generators. D.P. Switched fuses for each outgoing circuit

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 None

Instruments on main switchboard One ammeters One voltmeters One synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection Yes

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

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 Yes

current protection devices been tested under working conditions are all fuses labelled as per rule

Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule

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

If the cables are insulated otherwise than as per Rule, are they of an approved type **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

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 or waterproof insulating tape

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 are cables laid under machines or floorplates if so, are they adequately protected

Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit **Support and Protection of Cables,** state how the cables are supported and protected **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

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

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements

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

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

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

Navigation Lamps, are these separately wired 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 are they ventilated 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 Light, the fitting can only be opened from outside Pump Room how are the cables led

Cables all outside on deck. where are the controlling switches situated

are all fittings suitably ventilated are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials

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

Searchlight Lamps, No. of whether fixed or portable 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 have certificates for all motors for essential services been supplied and approved

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 flameproof type approved for use in dangerous spaces

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule are they suitably stored in dry situations

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	One	5	110	45 1/2	1000	Diesel Engine	Diesel	about 150° F.
AUXILIARY	One	5	110	45 1/2	1000	Diesel Engine	Diesel	about 150° F.
EMERGENCY								
ROTARY TRANSFORMER	One	8	50/60	15	1400	Motor Generator		

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	One		7	.064	45	46	80	Do.	L.C. Armoured + Braided
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	One		7	.064	45	46	80	Do.	Do.
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR	One		7	.029	10	18	10	Do.	L.C. Protection
ENGINE ROOM	One		7	.029	15	18	10	Do.	Rubber covered + Braided
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	One		3	.029	8	7.8	120	Do.	Do.
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	One		3	.029	4	7.8	110	Do.	Do.
SIDE LIGHTS	One		3	.029	8	7.8	30	Do.	Do.
COMPASS LIGHTS	One		3	.029	10	7.8	10	Do.	Do.
POOP LIGHTS	One		3	.029	4	7.8	60	Do.	Do.
CARGO LIGHTS									
HEATERS	One		3	.029	4	7.8	120	Do.	Do.

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										

The Electrical Equipment is installed in accordance with the approved plans.
 All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

CENTRAL ELECTRICAL CO.
 (Colchester) LTD.

Johnson

Electrical Engineers.

Date 29 Oct 1941

COMPASSES.

Minimum distance between electric generators or motors and standard compass

Minimum distance between electric generators or motors and steering compass 40 feet

The nearest cables to the compasses are as follows:—

A cable carrying 25 Ampères feet from standard compass *on feet* feet from steering compass.

A cable carrying Ampères 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

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 degrees on course in the case of the standard

compass, and *nil* degrees on *all* courses in the case of the steering compass.

FOR THE ROWHEDGE IRONWORKS CO LTD

M. J. Oakes

Builder's Signature.

Date 2nd January 1942

MANAGING DIRECTOR

Is this installation a duplicate of a previous case If so, state name of vessel "BEN HANN"

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

This installation has been fitted on board under Special Survey in accordance with the approved plans & Rule requirements. The materials & workmanship are sound & of good description. The installation has been tested under full load condition.

*Noted
 S.Y.
 9/1/42.*

Total Capacity of Generators 10 Kilowatts.

The amount of Fee $\frac{10 + 25\%}{2}$ £ 12 : 10 : 0 } When applied for, 5/1/42
 Travelling Expenses (if any) £ : : } When received,

Joynt
 Surveyor to Lloyd's Register of Shipping.

FRI. 9 JAN 1942

Committee's Minute

Assigned *See J. E. Machy rpt*

2m. 12. 36.—Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute



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