

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

13 DEC 1930

Received at London Office

Date of writing Report 10.12.30 When handed in at Local Office 10 Dec. 1930 Port of HULL

No. in Survey held at Knottingley Date, First Survey 29 Oct Last Survey 26 Nov 1930

Reg. Book. 89943 on the Steel Single Screw "CONSTANCE H" (Number of Visits.....)

Built at Knottingley By whom built Messrs J. Harker Ltd. No. 38 When built 1930

Owners J. Harker Ltd. Port belonging to Hull

Electric Light Installation fitted by Humber Electrical Co. Contract No. When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution

Pressure of supply for Lighting 50 volts, Heating 100 volts, Power 100 volts.

Direct or Alternating Current, Lighting D.C. Power D.C.

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 One generator only

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

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

Position of Generators Totally enclosed Are the lubricating arrangements of the generators as per Rule yes

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

are their axes of rotation fore and aft yes, are the generators protected from mechanical injury and damage from water, steam or oil in Same Compartment

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes

their respective generators in metallic contact yes

Main Switch Boards, where placed Totally enclosed (in E.R.)

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

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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

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

Generator & all out going circuits protected by double pole

Switches & fuses

Instruments on main switchboard ammeters Two voltmeters one 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

Earth indicating lamps.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules

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



Cables: *Single* are the cables insulated and protected as per Tables IV or V of the Rules *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *Lighting 2 1/2 V Power 3 1/2 V*

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 *none*

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. cable with Brass clips & armoured cable with G.I. clips on girders*

If cables are run in wood casings, are the casings and caps secured by screws *none*, 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, if lights are fitted, 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 state the material of which the bushes are made

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *All circuits earthed with .01 sq in sectional area copper conductors*
are their connections made as per Rule *yes*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *none Required*

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

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 *none*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *light in pump room contained in Gas tight fittings* how are the cables led

where are the controlling switches situated *in the hull house*

Searchlight Lamps, No. of *none*, 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 *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, separated from pump by gas tight Bulkhead*

are they protected from mechanical injury and damage from water, steam or oil are their axes of rotation fore and aft *no may used for discharging cargo*

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 *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 *none*

PARTICULARS OF GENERATING PLANT.

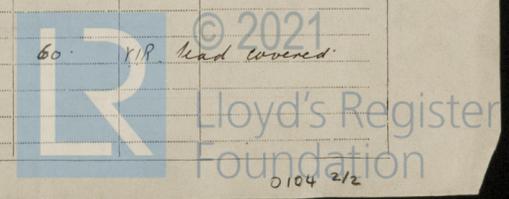
| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|---------------|------------------------------------------------|----------------------|
| | | Kilowatts. | Volts. | Ampères. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. |
| MAIN ... | 1 | 6 | 100 | 60 | 800 | Diesel Engine | Diesel oil | 160° approx |
| 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 Effective Area per Pole Sq. Ins. | No. | Diameter. | In Circuit. | Rule. | | | |
| MAIN GENERATOR ... | 1 | .0396 | 19 | .05 | 60 | 64 | 20 | V.L.R. | L.C. armoured |
| EQUALISER CONNECTIONS ... | | | | | | | | | |
| AUXILIARY GENERATOR ... | | | | | | | | | |
| EMERGENCY GENERATOR ... | | | | | | | | | |
| ROTARY TRANSFORMER MOTOR GENERATOR ... | | | | | | | | | |
| ENGINE ROOM ... | 2 | .00388 | 3 | .029 | 1 | 7.8 | 80 | " | L.C. armoured |
| BOILER ROOM ... | | | | | | | | | |
| AUXILIARY SWITCHBOARDS ... | 1 | .0396 | 19 | .05 | 60 | 64 | 20 | " | " |
| ACCOMODATION ... | 2 | .00388 | 3 | .029 | 3 | 7.8 | 180 | " | L.C. |
| Cooker | 1 | .02214 | 7 | .064 | 4.5 | 46 | 60 | " | L.C. armoured |
| WIRELESS ... | | | | | | | | | |
| SEARCHLIGHT ... | 1 | .00194 | 3 | .029 | 1 | 7.8 | 180 | " | " |
| MASTHEAD LIGHT ... | 2 | .00388 | 3 | .029 | 1 | 7.8 | 80 | " | " |
| SIDE LIGHTS ... | 1 | .00194 | 3 | .029 | 1 | 7.8 | 20 | " | " |
| COMPASS LIGHTS ... | 1 | .00194 | 3 | .029 | 1 | 7.8 | 100 | " | " |
| 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 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 ... | | | | | | | | | | |
| Cargo pump | 1 | 1 | .02214 | 7 | .064 | 4.5 | 46 | 60 | V.L.R. | Lead covered |



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.

FOR THE HUMBER ELECTRICAL ENGINEERING CO.

W. B. Sturges

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass *Six feet Steel Bulkhead intervening*

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères *6* feet from standard compass *one* feet from steering compass. *for Compass Light*

A cable carrying Ampères *6* feet from standard compass *one* feet from steering compass. *Telegraph*

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 *yes*

The maximum deviation due to electric currents was found to be *no* degrees on *any* course in the case of the standard compass, and *no* degrees on *any* course in the case of the steering compass.

John Harker L^{td}

E. K. Thirkettle

Builder's Signature.

Date *Nov. 28/30*

Manager

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

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

This vessel has been fitted on board under Special Survey & the materials & workmanship are good.

It has been tried under full working conditions & found in good order, & is eligible in my opinion to have Record of "Electric Light"

It is submitted that this vessel is eligible for THE RECORD

Elec. Light

RM 16/12/30

Im. 11. 20. - Transfer. (The Surveys are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators *6* Kilowatts.

The amount of Fee £ *6* : 0 : 0

When applied for, *11 Dec 1930*

AMT

W. H. Waggott
Surveyor to Lloyd's Register of Shipping.

Travelling Expenses (if any) £

When received, *24. 1. 31*

Committee's Minute

FRI. 19 DEC 1930

Assigned

Elec Lt



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