

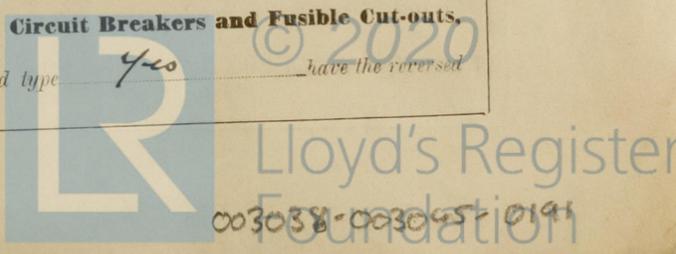
REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 9-2-1940 when handed in at Local Office 19 Port of Liverpool Hamburg
 No. in Survey held at Stanlow Date, First Survey 26-1-40 Last Survey 26-1-1940
 Reg. Book. 23490 on the M.V. "DRUPA" (Number of Visits.....)
 Built at Hamburg By whom built Deutsche Werft A.G. Bet Yard No. 218 When built 1939
 Owners Anglo-Saxon Petroleum Co. Ltd Port belonging to London
 Electric Light Installation fitted by A.E.G. Contract No. _____ When fitted 1939
 Is the Vessel fitted for carrying Petroleum in bulk Yes.

System of Distribution Two wire
 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 temperature rise Not known, are they compound wound Yes
 are they over compounded 5 per cent. Not known, if not compound wound state distance between each generator _____
 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. Have certificates of test results for machines under 100 kw. been submitted and approved No Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing 4
 Have certificates for generators under 100 kw. been supplied and approved No
 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 In Engine Room, bottom platform, starboard side., 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 Boards, where placed In Engine Room adjacent to generators.
 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, 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 _____, is the non-hygroscopic insulating material of an approved type _____, 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 D.P. switch fuses for each generator, D.P. switch & D.P. fuses for each outgoing circuit.
 Are turbine driven generators fitted with emergency trip switch as per rule _____ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes Instruments on main switchboard 2 ammeters 2 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 Each Lamp. 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 are all fuses labelled as per rule 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, V, X, XI, XII or XIII of the Rules Yes

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 6 Volts

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, lavatories, bathrooms and lavatories lead covered or run in conduit Yes if so, are they adequately protected Yes

Support and Protection of Cables, state how the cables are supported and protected Yes If cables are run in wood casings, are the casings and caps secured by screws Yes are the cap screws of brass Yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements Yes 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 Cable sheathing & armoring & all apparatus efficiently bonded & earthed 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

are they ventilated 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 Yes

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 - Top of pump rooms, fittings in special flame proof compartments. Centric cable space lighting - flameproof fittings. Pump room wiring in conduit wholly outside spaces. Centric cable - wiring in conduit.

where are the controlling switches situated in accommodation amidships. 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 Wiring only whether fixed or portable 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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing Yes have certificates for all motors for essential services been supplied and approved 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

are all fuses of the filled cartridge type Yes are they of an approved type Yes 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 Yes

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

PARTICULARS OF GENERATING PLANT.

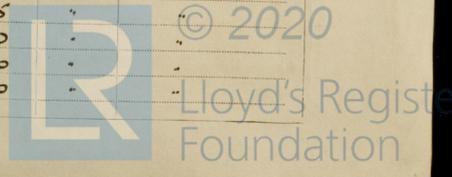
Table with columns: DESCRIPTION OF GENERATOR, No. of, Kilowatts, Volts, Amperes, Revs. per Min., DRIVEN BY, WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. Includes MAIN, AUXILIARY, EMERGENCY, ROTARY TRANSFORMER.

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

Table with columns: DESCRIPTION, CONDUCTORS (No. per Pole, Total Nominal Area per Pole), COMPOSITION OF STRAND (No., Diameter), TOTAL MAXIMUM CURRENT (Circuit, Rule, Amperes), Approximate Length, Insulated with, HOW PROTECTED. Includes MAIN GENERATOR, AUXILIARY GENERATOR, ENGINE ROOM, SHORE CONNECTION, NAVIGATION, MFT. LIGHTING, etc.

MOTOR CONDUCTORS.

Table with columns: DESCRIPTION, No. of Motors, CONDUCTORS (No. Per Pole, Total Nominal Area per Pole), COMPOSITION OF STRAND (No., Diameter), TOTAL MAXIMUM CURRENT (In Circuit, Rule, Amperes), Approximate Length, Insulated with, HOW PROTECTED. Includes BALLAST PUMP, MAIN BILGE LINE PUMPS, GENERAL SERVICE PUMP, etc.



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.

Electrical Engineers.

Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass

30 ft. (Vibrating Fan Motors)

Minimum distance between electric generators or motors and steering compass

30 ft (do)

The nearest cables to the compasses are as follows:—

A cable carrying .36 Ampères led into feet from standard compass 4 feet from steering compass.

A cable carrying .36 Ampères 4 feet from standard compass led into feet from steering compass.

A cable carrying 1.6 Ampères 15 feet from standard compass 10 feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power have been adjusted with and without the electrical installation at work at full power. found satisfactory.

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 degrees on course in the case of the steering compass.

Builder's Signature.

Date

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 equipment of this vessel has been examined, as far as practicable, in accordance with the Secretary's letter of 16/12/39. Details of the completed installation were compared with the approved plans & so far as could be ascertained, found to be in accordance with same. The materials and workmanship are good.

An insulation test was carried out and the readings obtained were satisfactory. The steam engine driven generator was examined under working conditions & the governing & compounding found satisfactory. The oil engine driven generator could not be tested.

The electrical equipment appears to be installed in accordance with the requirements of the Society's Rules for Electrical Equipment.

W. H. Haffner
2.4
20/2/40

Total Capacity of Generators 32 Kilowatts.

The amount of Fee £	:	:	When applied for,	19
Travelling Expenses (if any) £	:	:	When received,	19

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

Committee's Minute
Assigned See Ham J.C. 24176a

2012.38—Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.

