

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

112 JAN 1948

Date of writing Report 20 DEC. 1947 When handed in at Local Office 1.1.1948 Port of BELFAST

No. in Survey held at Belfast Date, First Survey 17 June Last Survey 30 Dec 1947
 Reg. Book. 37564 on the M. V. "Lokorium" (Number of Visits.....13.....)
 Sup. 7. Tons { Gross 6220
 Net 3600

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1370 When built 1947

Owners Anglo Saxon Petroleum Co Ltd. Port belonging to London

Electric Light Installation fitted by Harland & Wolff Ltd. Contract No. 1370 When fitted 1947

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 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 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 yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing None fitted

Have certificates for generators under 100 kw. been supplied and approved 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 Motor Room, Tank Top Starboard, 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 Motor Room Platform Starboard

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 300 Amp. Double Pole Change Over Switches. With 300 Amp. Fuse in each Pole.

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 2 Lamp System with 2 way D.P. Selector Switch 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

22.1.48

current protection devices been tested under working conditions. — 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 & Twin 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 4.6 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 —, 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 yes are cables laid under machines or floorplates yes if so, are they adequately protected yes

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Pyrotenax in motor room, L.C. elsewhere

Support and Protection of Cables, state how the cables are supported and protected Main Runs, L.S.A.B. Cables, Clipped to M.S. Channel

If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass yes, 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 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 —

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 Bushes.

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 **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 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 Card Iron Fittings **With Thick Glass Front Piece** are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Flameproof **"WIGAN" Fittings** where applicable. how are the cables led **L.S.A.B. Cables Clipped to Beams.** where are the controlling switches situated Non-Dangerous Positions 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 —, are air heaters constructed and fitted as per Rule —

Searchlight Lamps, No. of 1 whether fixed or portable Portable, 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 —, 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 None Fitted 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 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 fitted 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.									
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	30	110	273	675	Steam Engine			
AUXILIARY	1	30	110	273	675	Diesel Engine			
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	0.2	1	0.505	273	296	72	Mineral Insulated	Copper Sheathed
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	0.2	1	0.505	273	296	40	Mineral Insulated	Copper Sheathed
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	12	0.007	1	0.094	13	28	100	Mineral Insulated	Copper Sheathed
BOILER ROOM	12	0.007	1	0.094	13	28	100	"	"
AUXILIARY SWITCHBOARDS	2	0.3	37	0.103	239	480	450	Rubber Mineral Insulated	L.S.A.B. Copper Sheathed
Section J. Box No 1	1	0.04	1	0.226	70	104	140	"	"
" " No 2	1	0.04	1	0.226	44	104	80	"	"
" " No 3	1	0.04	1	0.226	58	104	80	"	"
" " No 4	1	0.04	1	0.226	42	104	60	"	"
ACCOMMODATION DUCK BOX No 1	1	0.0045	7	0.029	14	15	140		
" " " 2	1	0.0100	7	0.044	26	42	60	Rubber	L.C.
" " " 3	1	0.125	"	"	26	50	—		
" " " 4	1	0.003	3	0.036	6	10	320		
" " " 5	1	0.007	7	0.036	8	28	70	Rubber	L.C.
" " " 6 & 10	1	0.0145	7	0.052	43	57	120	"	"
WIRELESS	1	0.06	19	0.064	25	135	140	Rubber	L.C.
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.01	7	0.044	8	42	140	Rubber	L.C.
SIDE LIGHTS	1	0.002	3	0.029	0.4	5	40	"	"
COMPASS LIGHTS	1	0.002	3	0.029	0.4	5	30	"	"
POOP LIGHTS									
CARGO LIGHTS									
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 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	1	1	0.04	1	0.226	80	104	60	Mineral Insulated	Copper Sheathed
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
STAND BY OIL PUMP	1	1	0.007	1	0.094	16	28	120	Mineral Insulated	Copper Sheathed
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR Lathe	1	1	0.007	1	0.094	15	28	80	Mineral Insulated	Copper Sheathed
VENTILATING FANS	2	1	0.0145	7	0.052	35	57	120	"	"
Pantry Exh. Fan	1	1	0.002	3	0.029	3	5	60	"	"
Stores Sup. Fan	1	1	0.002	3	0.029	5	5	80	"	"
Galley Exh. Fan	1	1	0.002	3	0.029	3	5	10	"	"
" Sup. "	1	1	0.002	3	0.029	3	5	5	"	"
Drilling Mc.	1	1	0.007	1	0.094	18	28	70	"	"
Grinding Mc.	1	1	0.01	1	0.113	26	57	60	"	"

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 Dec. 30 d. '47.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 40 FEET.

Minimum distance between electric generators or motors and steering compass 35 FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 0.2 Ampères on ~~10~~ feet from steering compass.

A cable carrying 0.2 Ampères 10 feet from standard compass on ~~10~~ feet from steering compass.

A cable carrying 40 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.



Builder's Signature.

Date 30. 12. 47.

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, etc.) The electrical equipment of this vessel has been fitted on board under special survey, tested under full working conditions and found satisfactory. Materials and workmanship are good.

Noted
22. 1. 48.

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... £ 36 : - : When applied for, 10/1/1948
Travelling Expenses (if any) £ - : - : When received, 19

R. I. Luce & E. Grievies.
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

FRI. 20 FEB 1948

Assigned

See F.E. nubby rph



© 2020

Lloyd's Register
Foundation