

Rpt. 13.

No. 14190

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office. 2 JUL 1946

Date of writing Report 17-6-46 When handed in at Local Office 1-7-46 Port of Belfast

No. in Survey held at Belfast Date, First Survey 21st Mar Last Survey 10-6-1946
Reg. Book. (Number of Visits 12)

38605 on the M.V. "Lynia" Tons { Gross 6452
Net

Built at Belfast By whom built Harland & Wolff L^{td} Yard No. 1308 When built 1945-6

Owners Anglo Saxon Petroleum Co L^{td} Port belonging to London

Electrical Installation fitted by Harland & Wolff L^{td} Contract No. 1308 When fitted 1946

Is vessel fitted for carrying Petroleum in bulk yes Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. No

Have plans been submitted and approved yes System of Distribution Two Wire Voltage of supply for Lighting 110

Heating - Power 110 Direct or Alternating Current, Lighting direct Power direct If Alternating Current state frequency - Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off yes Are turbine emergency governors fitted with a

trip switch as per Rule No Generators, are they compound wound yes, are they level compounded under working conditions yes

if not compound wound state distance between generators - and from switchboard - Where more than one generator is fitted are they

arranged to run in parallel No, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

Negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing None Have certificates of

test for machines under 100 kw. been supplied yes and the results found as per rule yes Are the lubricating arrangements and the construction

of the generators as per rule yes Position of Generators Motor Room Tank Top Starboard

is the ventilation in way of generators satisfactory yes are they clear of inflammable material yes, if situated

near unprotected combustible material state distance from same horizontally - and vertically - are the generators protected from mechanical

injury and damage from water, steam and oil yes, are the bedplates and frames earthed yes and the prime movers and generators in metallic

contact yes Switchboards, where are main switchboards placed Motor Room Platform Starboard

are they in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steam

and oil yes, if situated near unprotected combustible material state distance from same horizontally - and vertically - what insulation

material is used for the panels Sindamyo (black), if of synthetic insulating material is it an Approved Type yes, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule - Is the frame effectually earthed yes

Is the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fuses

to pilot and earth lamps, voltmeters, etc. yes locking of screws and nuts yes, labelling of apparatus and fuses yes, fuses on the "dead"

side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches

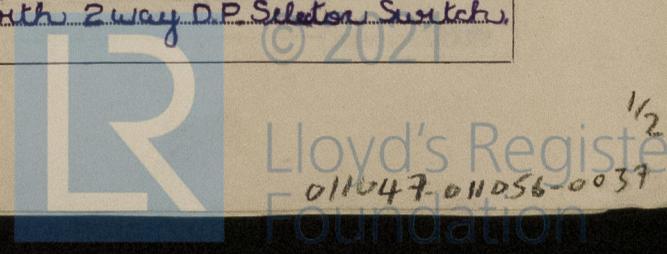
300 Amp. Double Pole Change Over Switches with 300 Amp Fuses on each Pole

and for each outgoing circuit Double Pole Change Over Switches with Fuse on each Pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 2

ammeters 2 voltmeters - synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection - Earth Testing, state means provided 2 Lamp System with 2 way D.P. Selector Switch



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Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an approved type yes, are all fuses labelled as per Rule yes, are the reversed current protection devices connected on the pole opposite to the equaliser connection -, have they been tested under working conditions -. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule yes.

Cables, are they insulated and protected as per the appropriate Tables of the Rules yes, if otherwise than as per Rule are they of an approved type -, state maximum fall of pressure between bus bars and any point under maximum load 4.6 Mm, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends None with insulating compound - or waterproof insulating tape -. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or 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, etc., lead covered No Pyrotex or lead in contact. State how the cables are supported and protected Main Runs (Pyrotex) in Inverted M.S. Channels under Gangways.

Machinery Spaces (Pyrotex) on Perforated Metal Plating. Lighting Cables (Lead Covered) Clipped to Bulkheads. Are all lead sheaths, armouring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule yes. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed yes and with what material Lead Bushes. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes. Emergency Supply, state position - and method of control -.

Navigation Lamps, are they separately wired yes controlled by separate double pole switches yes and fuses yes. Are the switches and fuses in a position accessible only to the officers on watch yes, is an automatic indicator fitted yes. Secondary Batteries, are they constructed and fitted as per Rule yes, are they adequately ventilated yes. Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present yes, if so, how are they protected -.

Flameproof and gastight Fittings. Fitted where necessary. and where are the controlling switches fitted Non-dangerous Positions, are all fittings suitably ventilated yes, are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of 1, whether fixed or portable portable, are their fittings as per Rule yes. Heating and Cooking, is the general construction as per Rule -, are the frames effectually earthed -, are heaters in the accommodation of the convection type -. Motors, are all motors constructed and installed as per Rule yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil yes, if situated near unprotected combustible material state minimum distance from same horizontally - and vertically -.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing -. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule yes. Control Gear and Resistances, are they constructed and fitted as per Rule yes. Lightning Conductors, where required are they fitted as per Rule yes. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with yes, are all fuses of the 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 -. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule yes, are they suitably stored in dry situations yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory 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	-	
	1	30	110	273	675	Diesel Engine	Boiler Oil above 150° F.	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands Sq. ins. or mm.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	0.2	273	296	72	Mineral Insulated	Copper Sheathed
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS						
Midship Masterboard	2	0.15	190	246	450	Mineral Insulated Copper Sheathed
Section Box No 1	1	0.0145	36	57	70	" " "
" " " 2	1	0.04	70	104	70	" " "
" " " 3	1	0.04	44	104	40	" " "
" " " 4	1	0.04	58	104	40	" " "
" " " 5	1	0.04	42	104	30	" " "

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	0.06	25	135	120	Mineral Insulated Copper Sheathed
NAVIGATION LIGHTS D.B. No. 1	1	0.0045	8	15	140	" " "
LIGHTING AND HEATING Dist. Box No. 1 (Floodlighting)	1	0.01	8	42	140	" " "
" " " 2	1	0.01	8	42	60	" " "
" " " 3	1	0.01	8	42	60	" " "
" " " 4	1	0.01	8	42	60	" " "
" " " 5	1	0.01	8	42	60	" " "
" " " 6	1	0.01	8	42	60	" " "
" " " 7	1	0.01	8	42	60	" " "
" " " 8	1	0.01	8	42	60	" " "
" " " 9	1	0.01	8	42	60	" " "
" " " 10	1	0.01	8	42	60	" " "
" " " 11	1	0.01	8	42	60	" " "
" " " 12	1	0.01	8	42	60	" " "
" " " 13	1	0.01	8	42	60	" " "
" " " 14	1	0.01	8	42	60	" " "
" " " 15	1	0.01	8	42	60	" " "
" " " 16	1	0.01	8	42	60	" " "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
Turning Motor	1	10	1	0.04	80	104	60	Mineral Insulated Copper Sheathed
Vent. Fans	2	4	1	0.0145	33	57	120	" " "
Fuel Oil Pump	1	1.75	1	0.007	14.2	28	120	" " "
Lub. Oil Purifier	1	2	1	0.007	22	28	40	" " "
Lathe	1	3	1	0.007	16.8	28	80	" " "
Drilling Machine	1	2	1	0.007	17.6	28	70	" " "
Grinding Machine	1	3	1	0.01	16.8	42	60	" " "
Boat Davits	4	2	1	0.007	16.7	28	140	" " "
Pantry Exhaust Fan	1	0.25	1	0.002	1.9	5	60	" " "
Galley Exhaust Fan	1	0.25	1	0.002	1.8	5	35	" " "
" Supply Fan	1	0.25	1	0.002	2.6	5	30	" " "

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.



Electrical Engineers.

Date 27. 6. 46

COMPASSES.

Minimum distance between electric generators or motors and standard compass 25 feet.

Minimum distance between electric generators or motors and steering compass 21 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 0.16 Ampères on feet from standard compass 10 feet from steering compass.

A cable carrying 0.16 Ampères 10 feet from standard compass on 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

Is this installation a duplicate of a previous case no. If so, state name of vessel

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, 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. The materials and workmanship are good.

Notes

Ham 10.7.46

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... £ 28 : 10 : 27/6/19.46
Travelling Expenses (if any) £ : : When received. 19.....

R. P. Kerschison

Surveyor to Lloyd's Register of Shipping.

FRI. 26 JUL 1946

Committee's Minute

Assigned Su F.E. Macky. rpt.



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