

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 JUN 1946

Received at London Office

Date of writing Report... 10<sup>th</sup> May 1946 When handed in at Local Office... 16.5.46 Port of... NEWCASTLE-on-TYNENo. in Survey held at... Helburn-on-Tyne Date, First Survey... 14<sup>th</sup> March Last Survey... 13<sup>th</sup> May 1946  
Reg. Book. (Number of Visits... 6...)

38601 on the M.V. "LATIA" Tons (Gross... 6442 Net... 3619)

Built at... Newcastle By whom built... Hawthorn Leslie &amp; Co Ltd. Yard No... 684 When built... 1946

Owners... Anglo-Saxon Petroleum Co. Ltd. Port belonging to... London.

Electrical Installation fitted by... Hawthorn Leslie &amp; Co Ltd. Contract No... — 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... —

Have plans been submitted and approved... Yes System of Distribution... Two Wires Insulated Voltage of supply for Lighting... 110

Heating... — Power... 110 Direct or Alternating Current, Lighting... D.C. Power... D.C. 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... — 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... — 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... In engine room

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... Near generators

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... Interchem, 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... Double pole quick

break switch with a fuse on each insulated pole.

and for each outgoing circuit... Double pole quick break changover switch with a fuse on each

insulated 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... earth lamps



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 1/2 lbs, 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. Yes

with insulating compound. — or waterproof insulating tape. Yes. 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. No, if so, are they adequately protected. —. Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. —. State how the cables are supported and protected. Main cables - pyrotex clipped to perforated steel tray. main cables in midship section - lead covered clipped to perforated steel tray. Accommodation cables - lead covered clipped to wood grounds.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Yes. Refrigerated chambers, are the cables and fittings as per Rule. —. 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. 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. —, are they adequately ventilated. —

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. No, if so, how are they protected. —

and where are the controlling switches fitted. —, are all fittings suitably ventilated. Yes. are all fittings and accessories constructed and installed as per Rule. Yes. Searchlight Lamps, No. of One, 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. —. 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	30	110	272	675	Steam engine	Oil	above 150°
	1	30	110	272	675	Diesel engine	Oil	above 150°
EMERGENCY ...								
ROTARY TRANSFORMER								

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or Diameter of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	30	1	0.2	272	276	75	Pyrotex.	
" " EQUALISER ...								
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

#### MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Draw Accommodation Off.	S.B.2.	1	0.06	71.4	135	360	Pyrotex.	
Midship Switchboard		2	0.15	263.6	492	1100	Pyrotex.	
Midship Accommodation	S.B.1.	1	19-064	99.3	135	48	V.C.	L.C.
Engine room Motors	S.B.4.	1	0.06	93.2	135	240	Pyrotex.	
Engine room lighting	S.B.3.	1	0.04	10.1	104	60	Pyrotex.	
Shore connection box.		1	0.15	246	246	336	Pyrotex.	

#### LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...		1	19-064	30	135	240	V.C.	L.C.
NAVIGATION LIGHTS ...		1	7-036	2.8	24	240	V.I.R.	L.C.
LIGHTING AND HEATING								
Portable connections Off.	D.B.8.	1	0.0045	6.9	15	360	Pyrotex.	
Cook Deck lighting	D.B.9.	1	0.0225	30.5	45	390	Pyrotex.	
Draw Accommodation lighting	D.B.6.	1	7-044	19.8	31	60	V.I.R.	L.C.
Midship Accommodation	D.B.1.	1	7-064	36.4	46	240	V.I.R.	L.C.
Portable connections midship	D.B.5.	1	7-044	13.1	31	240	V.I.R.	L.C.
Midship Accommodation	D.B.2.	1	7-044	15	31	162	V.I.R.	L.C.
Midship Accommodation	D.B.3.	1	7-064	22.8	46	120	V.I.R.	L.C.
Midship Accommodation	D.B.4.	1	7-044	19.1	31	126	V.I.R.	L.C.
Suez Canal Projector		1	19-052	50	104	1260	V.C.L.C. and Pyrotex.	

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Ventilation Fan Off.	1	4.25	1	0.0225	34	45	510	Pyrotex.
Exhausting Motor	1	4.5	1	0.06	60	135	390	Pyrotex.
Grainery Dred Motors	4	2.0	1	7-044	16.7	31	420	V.I.R.
Potato Piler Motor	1	0.5	1	7-029	6	15	30	V.I.R.
Midship Accommodation Vent fan	1	4.25	1	7-064	34	46	300	V.I.R.
Domestic Lighting motor	1	0.33	1	7-029	4	15	40	V.I.R.
Sub. Oil Purifier Motor	1	2	1	0.01	17.2	42	300	Pyrotex.
Oil Fuel Standby Pump Motor	1	1	1	0.007	9.2	28	300	Pyrotex.
Lathe Motor	1	3	1	0.007	25.6	28	120	Pyrotex.
Drilling Machine Motor	1	2	1	0.007	17.2	28	120	Pyrotex.
Grinder Motor	1	3	1	0.007	24	28	120	Pyrotex.

#### LIGHTING AND HEATING, ETC., CABLES (CONTINUED)

Forecastle lighting	D.B.10.	1	0.04	5	104	900	Pyrotex.	
Engine room lighting	D.B.10.	1	0.0045	8	15	240	Pyrotex.	
Engine room lighting	D.B.11.	1	0.0045	10.7	15	360	Pyrotex.	
Engine room lighting	D.B.12.	1	0.0045	8.2	15	240	Pyrotex.	
Engine room lighting	D.B.13.	1	0.0045	9.5	15	360	Pyrotex.	
Engine room lighting	D.B.14.	1	0.0045	6.4	15	60	Pyrotex.	
Engine room lighting	D.B.15.	1	0.0045	3.3	15	360	Pyrotex.	



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.

FOR R. & W. HAWTHORN, LESLIE & CO. LIMITED.

*C. Stephenson*

Electrical Engineers.

Date *11<sup>th</sup> May 1946*

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass *17 FEET.*

Minimum distance between electric generators or motors and steering compass *15 FEET.*

The nearest cables to the compasses are as follows:—

A cable carrying *0.14* Ampères *inside* ~~feet from~~ standard compass *inside* feet from steering compass.

A cable carrying *0.14* Ampères *inside* feet from standard compass *inside* ~~feet from~~ steering compass.

A cable carrying *0.14* Ampères *inside* feet from standard compass *inside* 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 *Every* course in the case of the

standard compass, and *Nil* degrees on *Every* course in the case of the steering compass.

FOR R. & W. HAWTHORN, LESLIE & CO. LIMITED.

*C. Stephenson*

Builder's Signature.

Date *11<sup>th</sup> May 1946*

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 installed in accordance with the Society's Rules and Regulations, and the arrangements are in accordance with or equivalent to those shown on the approved plans.*

*The materials used are of good quality and the workmanship is satisfactory.*

*On completion the insulation resistance of all circuits was above Rule requirements and the generator operated on load and governor tests with satisfactory results.*

*The approved plans are forwarded herewith.*

*The equipment, as installed, is, in my opinion, suitable for a classed vessel.*

*Noted*

*L.H.*  
*19/6/46*

Total Capacity of Generators *60* Kilowatts.

The amount of Fee ... £ *28:10* : { When applied for, *15.5.1946*

Travelling Expenses (if any) £ : : { When received, *4.6.1946*

*R.P. Storie*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 21 JUN 1946*

Assigned *see minute on F.E. Tech. Rpt.*

2m.10.33.—Transfer. (MADE IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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