

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

4 FEB 1942

Received at London Office 6 FEB 1942

Date of writing Report Jan 30th 1942 When handed in at Local Office 19 Port of Newcastle on Tyne

No. in Survey held at Hebburn Date, First Survey 15/10/41 Last Survey 26/1/1942
Reg. Book. (Number of Vols. 8)

on the SAN VENANCIO Tons {Gross 8152
Net 4801

Built at Hebburn By whom built Hawthorn Leslie & Co Ltd Yard No. 636 When built 1941

Owners Raja Oil Shipping Co Ltd Port belonging to London

Electrical Installation fitted by Hawthorn Leslie & Co Ltd Contract No. 636 When fitted 1941

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

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

Heating No Power No Direct or Alternating Current, Lighting Direct Power Direct If Alternating Current state periodicity — Prime Movers,

have the governing been tested and found as per Rule when full 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,

are 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 No 1 Diesel driven No 2 Steam driven both on star-

board side of 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 On floor of engine room starboard side

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 Interlocking matt finish. 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 knife switches and double pole fuses

and for each outgoing circuit Double pole and double throw quick break knife switches

and double pole fuses.

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 coupled to earth via switches

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 If circuit breakers are provided for the generators, at what overload current did they open when tested —, are the reversed current

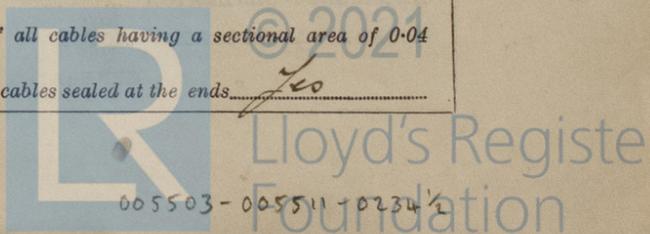
protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current

did they operate — 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 Less than 2.0", 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 ends Yes



with insulating compound Yes 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 Yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected Piped to metal trays or direct to steel work in engine room and galley, in accommodation spaces clipped to wood battens.

Are all lead sheaths, armoring 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. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position Yes and method of control Yes.

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 what is the battery capacity in ampere hours 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 Protected in welded steel gas-tight enclosures. and where are the controlling switches fitted Bridge deck, 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 Fixed, are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. 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 Yes and vertically Yes. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment Yes. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yes. 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. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes. Are the cables lead covered as per Rule Yes. 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 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	25	110	227	400	Oil driven diesel	Oil	above 150°
	1	25	110	227	400	Steam driven		
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 sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	25	1	37/103	227	240	60'-0"	V.I.R.	L.C.A
" " EQUALISER	25	1	37/103	227	240	27'-0"	V.I.R.	L.C.A
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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 sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
Engine room motor	1	19/023	88	118	215'	V.I.R.	L.C.A
Lighting	1	19/023	60	64	20'	V.I.R.	L.C.A
Bridge accommodation	1	37/103	233	252	600'	V.C.	L.C.A.B
Portable connections	1	7/029	2	15	150'	V.I.R.	L.C.A
Port deck lighting	1	7/064	25	46	201'	V.I.R.	L.C.A
Engine accommodation aft	1	7/064	24	46	171'	V.I.R.	L.C.A
Shore supply	1	37/072		246	165'	VC	L.C.A

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	27	83	610'	V.I.R.	L.C.A
NAVIGATION LIGHTS	1	7/044	25	31	660'	V.I.R.	L.C.A
LIGHTING AND HEATING							
Alternative feeds from accommodation	1	7/044	25	31	135'	V.I.R.	L.C.
Wires	1	19/064	27	83	45'	V.I.R.	L.C.
Portable connections	1	7/064	17	46	27'	V.I.R.	L.C.
Bridge accommodation	1	19/064	27	83	24'	V.I.R.	L.C.
Engine room lighting	1	7/064	40	46	120'	V.I.R.	L.C.
Forecastle lighting	1	7/064	5	46	400'	V.I.R.	L.C.A+B
Deck Projector	1	19/052	50	64	750'	V.I.R.	L.C. & L.C.A+B

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Surge motor	1	7.5	1	19/064	60	83	204'	V.I.R.	L.C.A
Light beam motor	1	1.5	1	7/036	12	24	141'	V.I.R.	L.C.A
Lathes	1	2.0	1	7/029	15	15	60'	V.I.R.	L.C.A
Drill	1	2.0	1	7/036	16	24	60'	V.I.R.	L.C.A
Grinder	1	2.25	1	7/044	19	31	60'	V.I.R.	L.C.A
Deck Bid pump	1	2.0	1	7/036	15	24	150'	V.I.R.	L.C.A
Deck Bid	1	1.0	1	7/029	9	15	100'	V.I.R.	L.C.A
Air Compressor	1	0.5	1	3/036	4	10	171'	V.I.R.	L.C.A
Fan	1	3.0	1	7/064	26	46	240'	V.I.R.	L.C.A
" Wheelhouse	1	4.0	1	7/064	33	46	210'	V.I.R.	L.C.
Refrigerator	1	8	1	3/036		10	30'	V.I.R.	L.C.

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.

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

C. Stephenson

Electrical Engineers.

Date 3/2/42

COMPASSES.

Minimum distance between electric generators or motors and standard compass 280'-0"

Minimum distance between electric generators or motors and steering compass 290'-0"

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Ampères inside feet from standard compass — feet from steering compass.

A cable carrying 1/4 Ampères — feet from standard compass inside feet from steering compass.

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 1/2 degrees on every course in the case of the standard compass, and 1/2 degrees on every course in the case of the steering compass.

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

C. Stephenson

Builder's Signature.

Date 3/2/42

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 20/7/41

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of this vessel was installed under special survey. The workmanship and material used are good. The governing, compounding and regulation of the generators were tested under full load and the insulation resistance of each circuit measured and found satisfactory. In my opinion the installation of this vessel is suitable for class.

*Noted
L.Y.
3/2/42.*

Total Capacity of Generators 50 Kilowatts.

Sld etc
The amount of Fee ... £ 27 : 10 :
Travelling Expenses (if any) £ : :
When applied for, 14 FEB 1942
When received,19.....

W. P. Cornell
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 13 FEB 1942

Assigned See NWC. J.C. 100147