

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-2 OCT 1935

Date of writing Report _____ When handed in at Local Office 25 SEP 1935 Port of LIVERPOOL Received at London Office _____

No. in Survey held at NORTHWICH Date, First Survey 29/8/35 Last Survey 4/9/1935
 Reg. Book. _____ (Number of Visits 2)

on the T.S. "LUNEVALE"

Built at NORTHWICH By whom built W.J. YARWOOD & SONS LD. Yard No. 490 When built 1935
 Owners MAYOR, ALDERMAN & BURGEES OF FLEETWOOD Port belonging to FLEETWOOD
 Electric Light Installation fitted by W.J. YARWOOD & SONS LD Contract No. 490 When fitted 1935
 Is the Vessel fitted for carrying Petroleum in bulk No.

Tons { Gross 47
 Net 21

System of Distribution Dentle wire

Pressure of supply for Lighting 100 volts, Heating _____ volts, Power _____ volts.

Direct or Alternating Current, Lighting Direct Power _____

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 _____, are they compound wound No Shunt.

are they over compounded 5 per cent. _____, if not compound wound state distance between each generator _____

Where more than one generator is fitted are they arranged to run in parallel _____, is an adjustable regulating resistance fitted in series with each shunt field Yes

approved Yes - here with Have certificates of test results for machines under 100 kw. been submitted and approved _____

Are all terminals accessible, clearly marked, and furnished with sockets _____, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes

Position of Generators Engin Room Fore end. Are the lubricating arrangements of the generators as per Rule _____, is the ventilation in way of the generators satisfactory Yes

are they clear of all inflammable material _____ 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 _____, are their axes of rotation fore and aft No Aftwards

Earthing, are the bedplates and frames of the generating plant efficiently earthed _____, are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed Engin Room Fore end.

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 _____, are they protected from mechanical injury and damage from water, steam or oil _____

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 _____, is it of an approved type Swidange

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 _____, Are the fittings as per Rule regarding: — spacing or shielding of live parts _____

accessibility of all parts _____, absence of fuses on back of board _____, temperature rise of omnibus bars _____

individual fuses to voltmeter, pilot or earth lamp _____, are moving parts of switches alive in the "off" position No

are all screws and nuts securing connections effectively locked _____, 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 dynamo + each outgoing circuit.

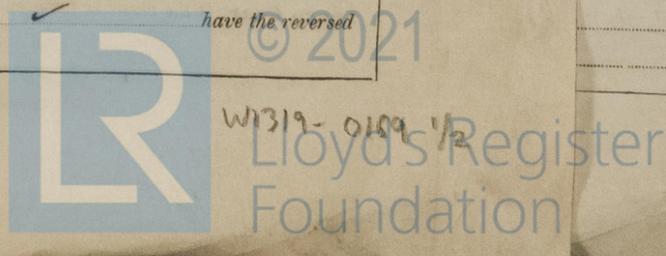
Are turbine driven generators fitted with emergency trip switch as per rule _____, Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes

Instruments on main switchboard _____ ammeters _____ 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 Earth lamps connected to earth through switch fuses

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Dorman Smith are the fusible cutouts of an approved type _____ have the reversed _____



current protection devices been tested under working conditions. **Joint Boxes, Section and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per rule. **Cables**: Single, twin, concentric, or multicore Single wire are the cables insulated and protected as per Tables IV, V, X or XI of the Rules. If the cables are insulated otherwise than as per Rule, are they of an approved type. **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load. 4 volts. **Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. **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. Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit. **Support and Protection of Cables**, state how the cables are supported and protected. L.C. clipped up throughout. If cables are run in wood casings, are the casings and caps secured by screws. are the cap screws of brass. 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. **Refrigerated Chambers**, are the cables and fittings in accordance with the special requirements. **Joints in Cables**, state if any, and how made, insulated, and protected. W.T. C.I. Joint boxes with porcelain connectors. **Watertight Glands and Deck Tubes**, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. **Bushes in Beams and Non-watertight Partitions**, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed. state the material of which the bushes are made. Lead or shite. **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. **Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven. **Navigation Lamps**, are these separately wired. controlled by separate switch and separate fuses. are the fuses double pole. are the switches and fuses grouped in a position accessible only to the officers on watch. has each navigation lamp an automatic indicator as per Rule. **Secondary Batteries**, are they constructed and fitted as per Rule. **Fittings**, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight. 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. are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. how are the cables led where are the controlling switches situated. are all fittings suitably ventilated. are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials. **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 whether fixed or portable. are their fittings as per Rule. **Arc Lamps**, other than searchlight lamps, No. of are their live parts insulated from the frame or case. are their fittings as per Rule. **Motors**, are their working parts readily accessible. are the coils self-contained and readily removable for replacement. are the brushes, brush holders, terminals and lubricating arrangements as per Rule. are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material. are they protected from mechanical injury and damage from water, steam or oil. are their axes of rotation fore and aft. 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. **Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule. **Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule. **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. are all fuses of the filled cartridge type. are they of an approved type. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office. **Spare Gear**, if the vessel is for open sea service have spares been supplied as per Rule.

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	12	100	12	1000	S.E. Diesel Engine			
AUXILIARY									
EMERGENCY									
ROTARY TRANSFORMER									

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.	In Circuit.	Rule.			
MAIN GENERATOR	1	0070	7	036	12	24	8	V.L.R.	L.C.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	003	3	036	5.1	12	6	V.L.R.	L.C.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Navigation	1	1003	3	036	255	12	24	V.L.R.	L.C.
ACCOMMODATION									
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	1	002	3	029	4	7.8	32	V.L.R.	L.C.
SIDE LIGHTS		002	3	029	4	7.8	20	V.L.R.	L.C.
COMPASS LIGHTS									
SEARCH LIGHT	1	002	3	029	4	7.8	114	V.L.R.	L.C.
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

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										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28)

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

For W. J. YARWOOD & SONS, LTD,

Albert Yarwood DIRECTOR,

Electrical Engineers.

Date *Sept 17/35.*

COMPASSES.

Distance between electric generators or motors and standard compass *9 ft approx*

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying *2.50* Ampères *5* feet from standard compass _____ feet from steering compass.

A cable carrying *.4* Ampères *in* feet from standard compass _____ 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 *nil* degrees on *any* course in the case of the standard compass, and degrees on course in the case of the steering compass.

For W. J. YARWOOD & SONS, LTD.

Albert Yarwood DIRECTOR.

Builder's Signature.

Date *Sept 17/35.*

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, &c. *This installation has been fitted*)

on board under special survey & in accordance with the approved plans and the modifications approved in London letter of 10th Sept 1935. The installation has been tested under full working conditions and found satisfactory. The materials & workmanship have been found to be good & sound.

*Noted
Jms
2.10.35*

[Signature]

Total Capacity of Generators *1.2* Kilowatts.

The amount of Fee ... £ *3* : - : { When applied for, *6/9/1935*

Travelling Expenses (if any) £ : : { When received, *1.11.1935*

R. C. Clayton
Surveyor to Lloyd's Register of Shipping.

Committee's Minute **LIVERPOOL - 1 OCT 1935**

Assigned *Electric Light*

2m. 534. — Transfer. The Signatures are requested not to write on or below the space for Committee's Minute)



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