

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 8th July 1924 When handed in at Local Office 8th July 1924 Port of Aberdeen

Received at London Office WED JUL 9 1924

No. in Survey held at Aberdeen Date, First Survey 15th April Last Survey 7th April 1924
Reg. Book. (Number of Visits.....)

on the Sc 37 "JOYCE LLEWELLYN"

Built at Aberdeen By whom built John Lewis & Sons Ltd Yard No. 93. Tons { Gross
Net

Owners Llewellyn Shipping Coy Ltd. Port belonging to Cardiff

Electric Light Installation fitted by Jas Thomson - Aberdeen. Contract No. When fitted 1924.

As above

System of Distribution double wiring distribution board system
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 overload 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 _____, is an adjustable regulating resistance fitted in series with each shunt field _____

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators on starting platform in Engineer's room, Starboard side,
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
4 feet horizontal and none vertical are the generators protected from mechanical injury and damage from water, steam or oil yes
are their axis 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 near dynamo
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, incombustible non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance yes, if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micaite and the slab similarly insulated from its framework _____, and is the frame effectively earthed yes

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

yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Fitted with 4 double pole switches and 8 single pole fuses. Pilot lamp. Earth lamps. Voltmeter switched & fused on each pole.

Instruments on main switchboard one ammeters one voltmeters _____ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system a lamp connected to earth on each pole.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes

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Insulation of Cables, state type of cables, single or twin single are the cables insulated and protected as per Tables III ~~or IV~~ of the Rules III yes.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets yes.

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound _____

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.

Support and Protection of Cables, state how the cables are supported and protected Fixed to under side of steel deck by means of galvanised iron saddles lead covered & armoured.

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 secured as per Table VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements _____

Joints in Cables, state if any, and how made, insulated, and protected none.

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 Positions, 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 hard wood lead.

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 4 circuits

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. _____, are separate screens provided for the use of oil and electric side lights yes.

are separate oil lanterns provided for the mast head lights and side lights 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 none.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none.

_____, how are the cables led _____

where are the controlling switches situated _____

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 axis 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 _____

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed 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 _____

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office _____

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	one	7.35	105	70	500	Steam		
AUXILIARY						Single Cylinder D.A. Val		
EMERGENCY						Open type direct coupled		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	.06	19	.064	35	15	V.I.R.	Galvanised tube
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	6	.0015	1	.044	1.2	40	V.I.R.	Lead covered & armoured
	BOILER ROOM	2	.0015	1	.044	1.2	50	" " "	Lead cov ^d in Gal tubes
	Accommodation	16	.0015	1	.044	1.2	60	" " "	Lead covered only
	WIRELESS	2	.0225	7	.064	15	200	V.I.R.	Lead covered & armoured
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.0015	1	.044	1.1	200	V.I.R.	" " "
	SIDE LIGHTS	2	.0015	1	.044	1.2	50	V.I.R.	" " "
	COMPASS LIGHTS	2	.0015	1	.044	1.5	30	V.I.R.	Lead covered
	POOP LIGHTS								
	CARGO LIGHTS	2	.003	3	.036	2.4	140	V.I.R.	Lead covered & armoured
	ARC LAMPS								
	HEATERS								

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MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	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								
	WORKSHOP MOTOR								
	VENTILATING FANS								

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All Conductors are of annealed copper conforming to British Standard Specification No. 7. *yes*
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules. *yes*
 The foregoing is a correct description.

James Thomson

Electrical Engineers.

Date *8th July 1924*

COMPASSES.

Distance between electric generators or motors and standard compass *about 48 feet*

Distance between electric generators or motors and steering compass *44 "*

The nearest cables to the compasses are as follows:—

A cable carrying *5* Ampères *10* feet from standard compass *10* feet from steering compass.

A cable carrying *10* Ampères *18* feet from standard compass *12* feet from steering compass.

A cable carrying *15* Ampères *for Compass light* feet from standard compass *Compass light* 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.

JOHN LEWIS & SONS Ltd.

C. E. Wilson Builder's Signature.

Date *8th July 1924*

SHIPYARD MANAGER

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. _____)

The various parts of the Installation were examined during the fitting on board, the Materials and Workmanship are good, and on completion the Light was tried at full power, and everything found satisfactory.

It is submitted that
 this vessel is eligible for
 THE RECORD. *Elec. Light.*

R. A. 16/7/24

Total Capacity of Generators *7.35* Kilowatts

The amount of Fee £ *7 : 10* : { When applied for, _____
 19 _____
 Travelling Expenses (if any) £ *✓* : { When received, *See debit book.*

C. E. Wilkes
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned _____

Im. 9. 21. — Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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