

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

26 SEP 1951

Date of writing Report 4 Sept 1951 When handed in at Local Office 5 Sept 1951 Port of Bristol

No. in Survey held at SHARPNESS Date, First Survey 25 JAN 1949 Last Survey 29 August 1951
Reg. Book. (Number of Visits 10)

on the TW. SC. CHRISTINA DAWN EX LCG(M) 120 Tons (Gross 312.55)
(Net)

Built at LONDON By whom built GEN. STEAM NAV. Co. Yard No. - When built 1945

Owners I. P. LANGFORD (SHIPPING) LD. Port belonging to GLOUCESTER

Electric Light Installation fitted by Contract No. When fitted

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Parallel Constant Pressure.

Pressure of supply for Lighting 24 volts, Heating - volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct. Power Direct.

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 rating Administly approved, 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 yes, is an adjustable regulating resistance fitted in series with each shunt field yes

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

Position of Generators Port and Starboard at forward end of engine room, 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 - and -, are the generators protected from mechanical injury and damage from water, steam or oil yes

are their axes 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 forward end of engine room, at forward bulkhead.

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, non-ignitable non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance Administly approved., 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

and is the frame effectively earthed yes Are the fittings as per Rule regarding:— spacing or shielding of live parts Administly approved., accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars , individual fuses to voltmeter, pilot or earth lamp yes, connections of switches

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Hand operated Triple Pole Breakers including Equalizers.

Instruments on main switchboard three ammeters three voltmeters none 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 Earth lamps and switches, centre tapped to hull.

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

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



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Cables: Single, twin, concentric, or multicore single are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules Asm. approved.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load windlass 3.6 v.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Asm. approved.

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 clipped to steel trays.

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, 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 —

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands 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 —

Earthing Connections, state what earthing connections are fitted and their respective sectional areas min. .0045"

—, are their connections made as per Rule —

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule none.

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven none.

Navigation Lamps, are these separately wired oil lamps. 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 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 —

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 —

Searchlight Lamps, No. of none, whether fixed or portable —, are their fittings as per Rule —

Arc Lamps, other than searchlight lamps, No. of none, are their live parts insulated from the frame or case —, are their fittings as per Rule —

Motors, are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule Asm. approved, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes

are they protected from mechanical injury and damage from water, steam or oil yes are their axes of rotation fore and aft thumb shafts

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 and fitted as per Rule Asm. approved.

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	2	30 wh	220	136.5	1100	Payman Ricardo.	Diesel oil	above 150° F.
AUXILIARY	2	0.6 wh	24	27	1100	" "	"	"
EMERGENCY	1	6.0	220	27	1200	Hoter Diesel.	"	"
ROTARY TRANSFORMER	—							

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	.15	27	.072	136.5	246	50	V.C.	L.C.
EQUALISER CONNECTIONS	1	.075	19	.072	69.0	96	50	V.C.	L.C.
AUXILIARY GENERATOR	1	.01	7	.044	27.0	31	50	V.C.	L.C.
EMERGENCY GENERATOR	1	.01	7	.044	27.0	31	35	V.I.R.	L.C.
ROTARY TRANSFORMER MOTOR GENERATOR	—								
ENGINE ROOM	1	.057	7	.036	16.0	24	60	V.C.	L.C.
BOILER ROOM	—								
AUXILIARY SWITCHBOARDS	—								
ACCOMMODATION	1	.04	19	.052	32	37	80	V.I.R.	L.C.
WIRELESS	—								
SEARCHLIGHT	—								
MASTHEAD LIGHT	—								
SIDE LIGHTS	—								
COMPASS LIGHTS	—								
POOP LIGHTS	—								
CARGO LIGHTS	—								
ARC LAMPS	—								
HEATERS	—								

MOTOR CONDUCTORS.

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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST Pumps and	—									
MAIN BILGE LINE PUMPS	1	1	.0145	7	.052	30	37	24	V.C.	L.C.
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	1	1	.0145	7	.052	35	37	160	V.I.R.	V.C.
WINCHES, FORWARD	—									
WINCHES, AFT	—									
STEERING GEAR—										
(a) MOTOR GENERATOR	—									
(b) MAIN MOTOR	1	1	.0025	7	.029	9.0	15	160.	V.I.R.	L.C.
WORKSHOP MOTOR	—									
VENTILATING FANS	—									

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

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass _____

Distance between electric generators or motors and steering compass _____

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Amperes _____ feet from standard compass 3 feet from steering compass.

A cable carrying _____ Amperes _____ feet from standard compass _____ feet from steering compass.

A cable carrying _____ Amperes _____ feet from standard compass _____ feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power _____

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted _____

The maximum deviation due to electric currents was found to be _____ degrees on _____ course in the case of the standard compass, and _____ degrees on _____ 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, opinions as to class, &c. _____)

The Electrical installation of this vessel was originally installed to *Admittedly* plans and supervision during construction.

One additional 6.0 Kw. generator and electric windlass have been added, and accommodation lighting modified to suit conversion to *Coastworthy* vessel.

The installation has now been examined, overhauled and modified as found necessary, and insulation resistances megger tested with satisfactory results.

Installation subsequently seen under working conditions

It is recommended that this vessel is eligible to be classed A1 into freight, "for service U.K. Line (including West Coast) Channel Islands, and Continent between River Elbe and Brest."

Noted *CDM* 31-10-51

Total Capacity of Generators 67.2 Kilowatts.

The amount of Fee ... £ zee : { When applied for
19.....
 Travelling Expenses (if any) £ letter : { When received
19.....

W. J. P. Pritchard
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 6 NOV 1951

Assigned See F.E. Mchly sp

2m. 3.31. — 1 transfer. The Surveyors are requested not to write on or back to the space for Committee's Minute.



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