

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

2 JUL 1926

Date of writing Report 23rd June 1926 When handed in at Local Office 19 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 20th April Last Survey 18th June 1926

Survey Reg. Book. 40393 on the Shell S. S. ODINN (Number of Visits 15)

Tons { Gross 465.53
Net 152.83

Built at Copenhagen By whom built H. Jørgensen's Arbejdsk. Skov. Yard No. 179 When built 1926-6

Owners The Iceland Government Port belonging to ✓

Electric Light Installation fitted by Messrs. H. Helweg - Larsen Contract No. ✓ When fitted 1926-6

System of Distribution Two conductor insulated system ✓

Pressure of supply for Lighting 110 ✓ volts, Heating ✓ volts, Power 110 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 yes ✓, are they compound wound No ✓

are they over compounded 5 per cent. ✓, if not compound wound state distance between each generator 13'

Where more than one generator is fitted are they arranged to run in parallel No, 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

Position of Generators In the starboard side of the 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 6' horizontally and ✓

are their axes of rotation fore and aft yes

Earthing, are the bed-plates 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 In the starboard side of the engine room near the generators.

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 6' horizontally 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 yes

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

and is the frame effectively earthed yes Are the fittings as per Rule regarding: — 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

For each generator: A fuse on each pole and a double pole linked switch

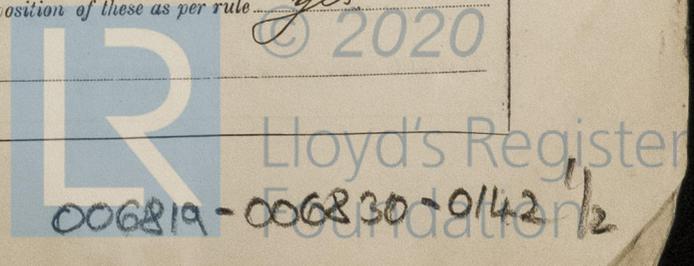
For each outgoing circuit: A fuse on each pole and a double pole linked switch.

Instruments on main switchboard 2 ammeters 2 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 Earth lamps fitted on main switch board.

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

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



Cables: Single, twin, concentric, or multicore *Insulated* are the cables insulated and protected as per Tables IV or V of the Rules *yes*.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *1.5 volts*.

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 *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 *yes*.

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 *Armoured cables used, supported by clips, when necessary the cables are protected by iron tubes or iron screens.*

If cables are run in wood casings, are the casings and caps secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in separate grooves *yes*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *yes*.

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

Joints in Cables, state if any, and how made, insulated, and protected *No joints in main cables - Watertight cast iron joint boxes used.*

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 Partitions, 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 *lead*.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *yes*, are their connections made as per Rule *yes*.

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *yes*.

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *yes*.

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*.

Secondary Batteries, are they constructed and fitted as per Rule *yes*.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and where 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 *yes*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *yes*, how are the cables led *yes*, where are the controlling switches situated *yes*.

Searchlight Lamps, No. of *2 off*, whether fixed or portable *fixed*, are their fittings as per Rule *yes*.

Arc Lamps, other than searchlight lamps, No. of *1*, are their live parts insulated from the frame or case *yes*, are their fittings as per Rule *yes*.

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 *yes*, 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 *vertical*, 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 *yes*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *yes* and *yes*.

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *yes*.

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *yes*.

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 *yes*, If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *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	2	2 x 13	112	118	550	Vertical single cyl. steam engine	2 off.	
AUXILIARY								
EMERGENCY								
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	70	19	2.16	118	7	vulcanized rubber	Steel wire armoured
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	1.5	1	1.38	1.5	30	vulcanized rubber	Steel wire braided
	BOILER ROOM	2	1.5	1	1.38	1.7	25	" "	Steel wire armoured
	ACCOMMODATION FOR	2	4.0	7	0.85	7.6	60	" "	Steel wire braided
	" AFT	2	1.5	1	1.38	8.6	24	" "	" "
	" MIDSHIP	2	4	7	0.85	10.0	40	" "	" "
	WIRELESS	2	25	19	1.32	60	18	vulcanized rubber	Iron tubes and Steel wire braided.
	SEARCHLIGHT	2	16	7	1.7	40	84	" "	Steel wire armoured
	MASTHEAD LIGHT	2	1.5	1	1.38	1.4	208	" "	" "
	SIDE LIGHTS	2	1.5	1	1.38	0.7	26	" "	" "
	COMPASS LIGHTS	2	1.5	1	1.38	0.3	24	" "	" "
	POOP LIGHTS	2	1.5	1	1.38	0.3	70	" "	Steel wire armoured
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								All cables are lead covered

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—								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS	2	1.5	1	1.38	1.0	16	vulcanized rubber	Lead covered.
	Steering machine	2	4.0	7	0.85	20.0	40	" "	Steel wire armoured.
	Refrigerator expansion	2	1.5	1	1.38	2.8	10	" "	Lead covered.
									All cables are lead covered.

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

H. HELWEG-LARSEN
 ELEKTROINGENIØR, M. ING. S.
 61 KONGEVEJ 23

Electrical Engineers.

Date 28th June 1926

COMPASSES.

Distance between electric generators or motors and standard compass 20 m.

Distance between electric generators or motors and steering compass 18 m.

The nearest cables to the compasses are as follows:—

A cable carrying 40 Amperes 3 feet from standard compass 2 feet from steering compass.

A cable carrying 0,2 Amperes 0,5 feet from standard compass 0,5 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 yes

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 0 degrees on _____ all course in the case of the standard

compass, and 0 degrees on _____ all course in the case of the steering compass.

AKTIESELSKABET
KJØBENHAVNS FLYDEDOK OG SKIBSVÆRFT

Builder's Signature.

Date 28th June 1926

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 electric lighting and power installation as above described has been fitted in accordance with the Rules, the approved plan and the requirements embodied in the London letter E dated 24/2 1926.

The material used and the workmanship are of good description
 The electric installation has been tested under full power working condition and found satisfactory

Recommend the vessel to have notation in the Register Book of ELECTRIC LIGHT

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

[Signature]
 5/7/26

Total Capacity of Generators 26 Kilowatts.

The amount of Fee £ : :	is noted on the Machinery Report.	When applied for, ✓	19.....
		When received,	19.....
Travelling Expenses (if any) £ : :			

[Signature] S. Clausen
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 6 JUL 1926

Assigned Elec. Light

Im. 1. 23.—Transfer. (The Surveyors are requested not to write on or back to the space for Committee's Minute.)

