

Rpt. 13.

No. 41579

## REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

29 JAN 1931

Date of writing Report 28.1.31 When handed in at Local Office 28 Jan 31 Port of HULL.  
 No. in Survey held at HULL Date, First Survey 19 Jan Last Survey 23 Jan 1931  
 Reg. Book. 62313 on the STEAM TRAWLER "SOLON."  
 Built at Beverley By whom built Cook, Welton & Gemmell Ltd Yard No. 562 When built 1931  
 Owners The Standard Steam Fishing Co. Ltd. Port belonging to Grimsby.  
 Electric Light Installation fitted by Hunter Electrical Co. Ltd. Contract No. When fitted 1931  
 Is the Vessel fitted for carrying Petroleum in bulk no.

System of Distribution Two wire  
 Pressure of supply for Lighting 100 volts, Heating volts, Power volts.  
 Direct or Alternating Current, Lighting Direct current 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 rating 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 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 yes  
 Position of Generators Starboard side 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 - direct coupled  
 Main Switch Boards, where placed Beside generator in engine room  
 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 yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micamite 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 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 SP. linked  
 Switch for dynamo. Outgoing circuits controlled by SP. switches and protected by fuses 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 Earth lamps with separate switches.

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

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Cables: Single, twin, concentric, or multi-core Yes 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 Volt.  
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 None  
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 L.C. cables arch brass clips; Armoured cables with G.I. clips  
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 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 no joints  
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 through earth lamps.  
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 None  
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 no  
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 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 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 ✓  
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 ✓  
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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	5	100	50	400	Steam engine			
AUXILIARY									
EMERGENCY									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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	0.06	19	16 Lsg.	40	83	24	V.I.R.	
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	0.00299	3	20 "	3.5	12	20		L.C. armoured
BOILER ROOM	1	0.00299	3	20 "	1.5	12	40		
AUXILIARY SWITCHBOARDS									
ACCOMODATION	1	0.01046	7	18 "	12	31	150		
Navigation Main	1	0.00701	7	20 "	4	24	150		
WIRELESS	1	0.00701	7	20 "	15	24	100		
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.00299	3	20 "	1	12	180		
SIDE LIGHTS	1	0.00299	3	20 "	1	12	30		L.C.
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 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.

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

The foregoing is a correct description.

W.B. Shute & Co. Electrical Engineers Co.

W.B. Shute & Co. Proprietors.

Electrical Engineers.

Date

#### COMPASSES.

Distance between electric generators or motors and standard compass 68 feet

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Amperes 10 feet from standard compass feet from steering compass.

A cable carrying 0.5 Amperes 10 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 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 no degrees on any course in the case of the standard compass, and no degrees on any course in the case of the steering compass.

COOK, WELTON & GEMMELL LTD.

a D Campbell  
CHIEF DRAUGHTSMAN

Builder's Signature.

Date 24/1/31

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

General Remarks (State quality of workmanship, opinions as to class, &c. The electrical installation)

of this vessel has been fitted on board under special survey, tried under full working conditions and found in good order.

It is eligible, in my opinion, to have record of "Electric Light"

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

Electric Light

24/1/31

Total Capacity of Generators 5 Kilowatts.

The amount of Fee £ 3 : 0 : 28 Jan 1931

Travelling Expenses (if any) £ : : 11.2.31

B. Moffatt

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 30 JAN 1931

Assigned

Elec Lt



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