

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 16 AUG 1934

Date of writing Report 19... When handed in at Local Office 15 AUG 1934 19... Port of HULL

No. in Survey held at Hull. Date, First Survey 16.7.34 Last Survey 4.8.1934

Reg. Book. on the Steel Sc K. " Achroite "

Gross 313.82  
Net 157.56

Tons

Built at Beverley By whom built Cook, Welton & Gemmell Ltd. Yard No. 596 When built 1934

Owners Messrs Kingston Steam Trawling Co Ltd. Port belonging to Hull.

Electric Light Installation fitted by Wm Broady & Son Ltd. Contract No. When fitted 1934

Is the Vessel fitted for carrying Petroleum in bulk ho.

System of Distribution Two wire - parallel.

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 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 Yes, 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 Adjacent to generator.

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 Yes, 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 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

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars Yes

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 D.P. linked

switch for generator. Outgoing circuits controlled by S.P. 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.

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 Swiss 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 1.6 cables with brass clips; Armoured cables with G.I. clips.

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 None

**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 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 None

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 None

**Secondary Batteries,** are they constructed and fitted as per Rule None

**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 None, where are the controlling switches situated None

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

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

**Motors,** are their working parts readily accessible None, are the coils self-contained and readily removable for replacement None, are the brushes, brush holders, terminals and lubricating arrangements as per Rule None, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material None, are they protected from mechanical injury and damage from water, steam or oil None are their axes of rotation fore and aft None, 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 None, if not of this type, state distance of the combustible material horizontally or vertically above the motors None and None

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule None

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule None

**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 None

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office None

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	One	6	100	60	350	Steam		
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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	0.06	19	0.064	46	93	24	V.I.R.	LC.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	0.0029	3	0.036	3.5	12	20	V.I.R.	LC + armoured
BOILER ROOM	1	0.0029	3	0.036	1.5	12	40		
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	1	0.02214	7	0.064	12	46	150		
Navigation Main	1	0.007	7	0.036	6	24	150		
WIRELESS	1	0.007	7	0.036	10	24	150		
SEARCHLIGHT	1	0.0029	3	0.036	2	12	150		
MASTHEAD LIGHT	1	0.0029	3	0.036	2	12	30		LC.
SIDE LIGHTS	1	0.0029	3	0.036	2	12	30		
COMPASS LIGHTS	1	0.0045	7	0.029	0.5	18.2	150		LC + armoured
POOP LIGHTS									
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 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.

**WM BROADY & SON**  
**ENGLISH STREET**  
**HULL.**

Electrical Engineers.

Date 10<sup>th</sup> Aug. 1934.

**COMPASSES**

Distance between electric generators or motors and standard compass 70 ft

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Ampères to feet from standard compass ✓ feet from steering compass.

A cable carrying 0.5 Ampères to feet from standard compass 5.0 feet from steering compass.

A cable carrying ✓ Ampères ✓ feet from standard compass 5.0 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. B. Camper*  
 CHIEF DRAUGHTSMAN.

Builder's Signature.

Date 8/8/34

Is this installation a duplicate of a previous case yes If so, state name of vessel "Aragouille"

General Remarks (State quality of workmanship, opinions as to class, &c.) This electric lighting installation has been fitted on board in accordance with the Rules and when tried under working conditions was found satisfactory in every respect. This vessel is eligible in my opinion to have the notation "Electric Light"

*W. J. R. J.*  
 17/8/34.

Total Capacity of Generators 6 Kilowatts.

The amount of Fee E.L. £ 3 : 0 : 15 AUG 1934  
 Travelling Expenses (if any) £ : : 11.9.34

*G. Moffatt*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 24 AUG 1934

Assigned See Mch. Rph  
Atl. 45038

Im.1228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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