

Rpt. 13.

No. 47183

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 SEP 1936

Received at London Office

Date of writing Report

10

When handed in at Local Office

10

Port of

HULL

No. in Survey held at

Hull

Date, First Survey

25. 8. 36

Last Survey

9. 9. 1936

Reg. Book.

on the

Steam Trawler "King Sol"

(Number of Visits.....)

Tons

Gross 430.32

Net 238.01

Built at

Selby

By whom built

Bochrane & Sons Ltd.

Yard No.

1168

When built

1936. 9

Owners

Rinovia Steam Fishing Co. Ltd.

Port belonging to

Grimsby

Electric Light Installation fitted by

Humber Electrical Co. Ltd.

Contract No.

When fitted

1936.

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Two wire

Pressure of supply for Lighting

100 ✓

volts, Heating

100 ✓

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 temperature rise

Yes ✓

are they compound wound

main. Yes.

aux. Interpole compound.

are they over compounded 5 per cent.

Yes ✓

if not compound wound state distance between each generator

approx 16 feet.

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

Have certificates of test results for machines under 100 kw. been submitted and

approved

Maker's Certificate

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

✓

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

(1)

Starboard side of engine room. Aux. is at P.S. aft Engine Room.

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

Main. Yes.

Auxiliary. No.

Main Switch Boards, where placed

Beside main 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 ✓

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 ✓

is it of an approved type

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

✓

is the non-hygroscopic insulating material of an approved

type

✓

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 ✓

temperature rise of

omnibus bars

Yes ✓

individual fuses to voltmeter, pilot or earth lamp

Yes ✓

are moving parts of switches alive in the

"off" position

No ✓

are all screws and nuts securing connections effectively locked

Yes ✓

are any fuses fitted on the live side of

switches

No ✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Main & Aux. generator, fused on each pole and D.P. linked switch. For each outgoing circuit

a fuse on each pole and a D.P. linked switch

Are turbine driven generators fitted with emergency trip switch as per rule

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

Instruments on main switchboard

One

ammeters

One

volts

switch for synchronising device for paralleling purposes.

For compound machines is the ammeter connected on the opposite pole to equaliser connection

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 ✓

are the fusible cutouts of an approved type

Yes ✓

have the reversed

current protection devices been tested under working conditions. **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 *twin* are the cables insulated and protected as per Tables IV, V, X or XI of the Rules *yes*.
If the cables are insulated otherwise than as per Rule, are they of an approved type *yes*. **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *1 volt*.
Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *yes*.
Paper Insulated and Varnished Cambric Insulated Cables. If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *yes*, or waterproof insulating tape *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*. Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit *yes*.
Support and Protection of Cables, state how the cables are supported and protected *armoured cables with G.I. clips*.
L.B. cables with brass 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, 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. *Frame is earthed.*
Earth lamp connection to frame is through cable 3x.029-0.00194
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 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 *water tight*.
glass protected by brass guards.
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 in bunker.*
glass "D" fittings.
L.C. and armoured cables properly secured to underside of deck.
where are the controlling switches situated *in stokehold.*
are all fittings suitably ventilated *yes*, are all switches and lampholders constructed wholly of non-inflammable, non-absorbent materials *yes*.
Heating and Cooking Appliances, are they constructed and fitted as per Rule *yes*, are air heaters constructed and fitted as per Rule *yes*.
Searchlight Lamps, No. of *one*, whether fixed or portable *fixed*, are their fittings as per Rule *yes*.
Are Lamps, other than searchlight lamps, No. of *yes*, 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 *yes*, 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*.
Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and 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*, are all fuses of the filled cartridge type *yes*, are they of an approved type *yes*.
If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office *yes*.
Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule *yes*.

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	<i>One</i>	<i>8</i>	<i>100</i>	<i>80</i>	<i>400</i>	<i>Steam Engine</i>			
AUXILIARY	<i>One</i>	<i>3.5</i>	<i>100</i>	<i>35</i>	<i>600/900</i>	<i>Main propelling shaft by pulleys & belts.</i>			
EMERGENCY	<i>One</i>	<i>6</i>	<i>110</i>	<i>54.6</i>		<i>Redian-Honday Oil Eng.</i>	<i>Fitted (additional) 947</i>		
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	<i>1</i>	<i>0.046</i>	<i>19</i>	<i>0.064</i>	<i>81</i>	<i>83</i>	<i>20</i>	<i>V.I.R.</i>	<i>L.C. & armoured</i>
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	<i>1</i>	<i>0.0146</i>	<i>7</i>	<i>0.052</i>	<i>35</i>	<i>37</i>	<i>50</i>	<i>V.I.R.</i>	<i>Rough rubber sheathed in conduit.</i>
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	<i>1</i>	<i>0.0104</i>	<i>1</i>	<i>0.044</i>	<i>3</i>	<i>6.1</i>	<i>80</i>	<i>V.I.R.</i>	<i>L.C. & armoured</i>
BOILER ROOM	<i>1</i>	<i>0.0104</i>	<i>1</i>	<i>0.044</i>	<i>1.2</i>	<i>6.1</i>	<i>120</i>		
AUXILIARY SWITCHBOARDS									
<i>Whelhouse</i>		<i>0.032</i>		<i>0.064</i>			<i>150</i>		
ACCOMMODATION (Whelhouse)	<i>1</i>	<i>0.022</i>	<i>7</i>	<i>0.064</i>	<i>20</i>	<i>46</i>	<i>50</i>		
<i>Navigation Room</i>	<i>1</i>	<i>0.022</i>	<i>7</i>	<i>0.044</i>	<i>4</i>	<i>31</i>	<i>160</i>		
<i>Aft Cabin</i>	<i>1</i>	<i>0.022</i>	<i>7</i>	<i>0.044</i>	<i>80</i>	<i>31</i>	<i>60</i>		
<i>Forecastle</i>	<i>1</i>	<i>0.007</i>	<i>7</i>	<i>0.036(6)</i>	<i>24</i>	<i>24</i>	<i>200</i>		
WIRELESS	<i>1</i>	<i>0.0104</i>	<i>7</i>	<i>0.044</i>	<i>10</i>	<i>31</i>	<i>165</i>		
SEARCHLIGHT	<i>1</i>	<i>0.0029</i>	<i>3</i>	<i>0.036</i>	<i>10</i>	<i>12</i>	<i>220</i>		
MASTHEAD LIGHT	<i>1</i>	<i>0.0015</i>	<i>1</i>	<i>0.044</i>	<i>0.6</i>	<i>6.1</i>	<i>270</i>		
SIDE LIGHTS	<i>1</i>	<i>0.0015</i>	<i>1</i>	<i>0.044</i>	<i>0.6</i>	<i>6.1</i>	<i>20</i>		<i>L.C.</i>
COMPASS LIGHTS	<i>1</i>	<i>0.0015</i>	<i>1</i>	<i>0.044</i>	<i>0.3</i>	<i>6.1</i>	<i>10</i>		<i>L.C. & armoured</i>
POOP LIGHTS									
CARGO LIGHTS	<i>1</i>	<i>0.0015</i>	<i>1</i>	<i>0.044</i>	<i>1</i>	<i>6.1</i>	<i>100</i>		
ARC LAMPS									
HEATERS	<i>1</i>	<i>0.0045</i>	<i>7</i>	<i>0.029</i>	<i>10</i>	<i>18.2</i>	<i>60</i>		
<i>Kettle</i>	<i>1</i>	<i>0.0029</i>	<i>3</i>	<i>0.036</i>	<i>6.5</i>	<i>12</i>	<i>50</i>		
MOTOR CONDUCTORS.									
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	HOW PROTECTED.
		No. Per Pole.	Total Nominal 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 (or International Electro-technical Commission Publication No. 28).

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

The foregoing is a correct description.

THE Humber Electrical Engineering Co.

W. B. Hume

Proprietor.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass

70 ft.

Distance between electric generators or motors and steering compass

70 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Amperes 1/2 feet from standard compass feet from steering compass.

A cable carrying 0.5 Amperes 1/2 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 1/2 degrees on any course in the case of the standard

compass, and 1/2 degrees on any course in the case of the steering compass.

FOR COCHRANE & SONS

W. B. Hume

Builder's Signature.

Date

Is this installation a duplicate of a previous case

No (but similar)

If so, state name of vessel. "Stafnes"

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 working conditions and found satisfactory.

Noted

Y. Hume

21.9.36

Total Capacity of Generators 11.5 Kilowatts.

The amount of Fee £ 5 : 15 :

When applied for,

16 SEP 1936

When received.

18-9-36

Travelling Expenses (if any) £ :

L. Moffatt

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 SEP 1936

Assigned

See Vol 56. 47183



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