

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

7 AUG 1936

Date of writing Report

10

When handed in at Local Office

5 AUG 1936

Port of

Received at London Office

NEWCASTLE ON TYNE

SUNDERLAND

No. in Survey held at

Sunderland.

Date, First Survey

10/6/36

Last Survey

24/7/1936

Reg. Book. Supt.

90155. on the S.S. "Springwood"

(Number of Visits.....6.....)

Tons

Gross 1177

Net 657

Built at Sunderland.

By whom built Short Bros Ltd

Yard No. 446

When built 1936

Owners Springwell Shipping Co Ltd

Port belonging to

London.

Electric Light Installation fitted by The Sunderland Forge & Eng Co Ltd

Contract No. 446

When fitted 1936.

Is the Vessel fitted for carrying Petroleum in bulk

System of Distribution

Rough wire

Pressure of supply for Lighting

110

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 temperature rise

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

, is an adjustable regulating resistance fitted in

series with each shunt field

Yes

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

approved

Yes.

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 Engine room starboard side

, 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 Engine room starboard side

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

Yes

, is the non-hygroscopic insulating material of an approved

type

Yes

, and is the frame effectively earthed

Yes

Are the fittings as per Rule regarding:— spacing or shielding of live parts

omnibus bars

Yes

, accessibility of all parts

Yes

, absence of fuses on back of board

Yes

, temperature rise of

“off” position

No

are all screws and nuts securing connections effectively locked

Yes.

are moving parts of switches alive in the

switches

No

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

S.P.S. + fuses on dynamo mains. S.P. fuses + S.P. switch on each outgoing circuit.

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

1

ammeters

1

volumeters

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

E lamps coupled to E through S.P. switches + fuses

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.

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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 *single* 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

Fall of Pressure, state maximum between bus bars and

any point of the installation under maximum load

3.5 volts

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

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 *LCA+B*

Support and Protection of Cables, state how the cables are supported and protected

H.R. run in galvanised steel pipe with screwed connections. Accⁿ H.R. braided clipped up with brass 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, are the cables and fittings in accordance with the special requirements

Joints in Cables, state if any, and how made, insulated, and protected

have made

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

, are their connections made as per Rule

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

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

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

are all fittings suitably ventilated

, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials

Heating and Cooking Appliances, are they constructed and fitted as per Rule

, are air heaters constructed and fitted as per Rule

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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing

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

are all fuses of the filled cartridge type

are they of an approved type

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule

Yes.



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PARTICULARS OF GENERATING PLANT.

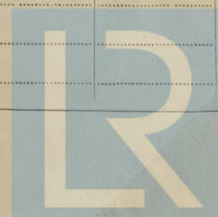
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	5	110	45	450	Steam Engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	.1	19	.083	45	118	12	K.I.R.	LC+B.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER { MOTOR GENERATOR									
ENGINE ROOM	1	.007	7	.036	5.1	24	15	50	LCA+B.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Navigation	1	.007	7	.036	3.1	24	185	50	HR.B in pipe
ACCOMMODATION Midships	1	.007	7	.036	11.6	24	160	50	50
" Engineers	1	.007	7	.036	12.5	24	80	50	50
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	1	.0015	1	.044	.4	4.1	150	50	50
SIDE LIGHTS	1	.0015	1	.044	.4	4.1	30	50	50
COMPASS LIGHTS	1	.0015	1	.044	.25	4.1	20	50	HR+B clipped up
SKOP LIGHTS	1	.0015	1	.044	.4	4.1	200	50	50
CARGO LIGHTS	1	.003	1	.064	5.3	12.9	120	50	HR+B in pipe
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 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										



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002109-002118-0234 2/2

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.

No. 1000
Sunderland Forge & Engineering Co. Ltd.
A. J. Gurney

Electrical Engineers.

Date *27-7-1936*

COMPASSES.

Distance between electric generators or motors and standard compass

150 feet.

Distance between electric generators or motors and steering compass

140 feet

The nearest cables to the compasses are as follows:—

A cable carrying *.25* Ampères *on the* ~~foot from~~ standard compass *10* feet from steering compass.

A cable carrying *.25* Ampères *10* feet from standard compass *on the* ~~foot from~~ steering compass.

A cable carrying Ampères 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 *nil* degrees on *all* course in the case of the standard compass, and *nil* degrees on *all* course in the case of the steering compass.

FOR SHOOT BROTHERS, LIMITED:

Ernest Woodcock

Builder's Signature.

Date

July 28-1936

DIRECTOR

Is this installation a duplicate of a previous case *Yes*.

If so, state name of vessel

S.S. "Springweat"

General Remarks (State quality of workmanship, opinions as to class, &c. *The above instⁿ has been fitted out*)

under special survey. The materials used & workmanship are good. On completion the dynamo, governor, main board, fuses, cables & fittings have been tested & examined & found suitable for a classed vessel.

Noted

W. T. Badger

10.8.36

W. T. Badger

Total Capacity of Generators *5* Kilowatts.

The amount of Fee ...

£ *5 : 0*

When applied for,

24 July 1936

Travelling Expenses (if any) £

:

When received.

25 July 1936

W. T. Badger

W. T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 11 AUG 1936

Assigned

See Std JE 31880