

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 1.9.31 When handed in at Local Office 1.9.31 Port of Middlesbrough Received at London Office 16 SEP 1931

No. in Survey held at Haverton Hill on 1st Date, First Survey June 4 Last Survey 12.8.1931
Reg. Book. 35507 on the T. S. S. Svend Foyn (Number of Visits 2)

Gross 14577 Tons Net 8008

Built at Haverton Hill on 1st By whom built Furness Shipbuilding Co Ltd No. 190 When built 1931

Owners Hvalfangeraktieselskapet Lydhavet Port belonging to Sandefjord

Electric Light Installation fitted by Furness Shipbuilding Co Ltd Contract No. 190 When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution Double Wire

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second 50

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. level, if not compound wound state distance between each generator yes

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 effectively earthed yes

their respective generators in metal contact with the prime movers and

Main Switch Board Starboard side of 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

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 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, individual fuses to voltmeter, pilot or earth lamp 271 connections of switches

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

Breaker for each generator. Double pole switch & fuses for each outgoing circuit

Instruments on main switchboard 3 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

2-10 watt lamps in series across bus-bars & middle point earthed

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 Single + Twin are the cables insulated and protected as per Tables IV or V of the Rules TV

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.7V

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 Lead covered & armoured cables are supported by means of galvan iron clips. Lead covered cables are supported by means of brass clips & screws

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 Porcelain connections in W/T bases

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 50% of area of main cables

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 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

In pump rooms special gas-tight fittings yes, how are the cables led yes

in H.G. Galv iron pipes yes

where are the controlling switches situated Outside pump room entrances

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

Arc Lamps, other than searchlight lamps, No. of -, 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

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

Rpt. 9a.

Port of

Continuation of Report No.

dated

on the

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPS		APPROX LENGTH LEAD & RETURN FEET	INSULATED WITH	HOW PROTECTED
	NO PER POLE	AREA	NO	DIA	IN CIRCUIT	RULE			
<u>A Section Box</u>									
A. Dist Box	1	0100	7	044	20.8	38	300	V. C	L.C A+B
C. " "	1	0100	7	044	27.0	38	300	"	" " "
E. " "	1	0100	7	044	37.0	38	10	"	" " "
<u>B Section Box</u>									
H Dist Box	1	0100	7	044	21.0	38	150	"	" " "
G " "	1	0100	7	044	19.8	38	150	"	" " "
<u>C Section Box</u>									
L+M Dist Boxes	1	0100	7	044	12.0	38	200	"	" " "
P " "	1	0100	7	044	12.1	38	100	"	" " "
R " "	1	0100	7	044	11.8	38	100	"	" " "
W " "	1	0100	7	044	23.5	38	60	"	" " "
2 Searchlights (each)	1	0100	7	044	18.0	38	200	"	" " "
<u>D Section Box</u>									
N Dist. Box	1	0100	7	044	13.8	38	100	"	" " "
S " "	1	0100	7	044	8.0	38	70	"	" " "
T " "	1	0100	7	044	24.5	38	8	"	" " "
<u>E Section Box</u>									
J Dist Box	1	0100	7	044	13.6	38	160	"	" " "
K " "	1	0100	7	044	17.2	38	140	"	" " "
<u>F Section Box</u>									
D Dist Box	1	0100	7	044	24.8	38	300	"	" " "
F " "	1	0100	7	044	27.8	38	10	"	" " "
I " "	1	0400	19	052	30.8	94	700	"	" " "
B " "	1	0100	7	044	18.9	38	300	"	" " "
<u>Heating</u>									
D Section Box	1	0100	7	044	18.0	38	140	"	" " "
	1	0100	7	044	9.0	38	140	"	" " "
<u>Ventilating Fan</u>									
D Section Box	1	0030	3	036	8.0	12	100	V. I. R	" " "
<u>Heating</u>									
A Section Box	1	0030	3	036	9.0	12	100	V. I. R	" " "

Port of

Continuation of Report No.

dated

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DESCRIPTION	NO OF MOTORS	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPS		APPROXIMATE LENGTH LEAD & RETURN FEET	INSULATED WITH	HOW PROTECTED
		NO PER POLE	AREA	NO	DIAMETER	IN CIRCUIT	RULE			
Evaporators	2 each	1	.0225	7	.064	50	68	140 100	V.C	LCA+B
Engine Room Workshop	1	1	.0100	7	.044	32	38	60	V.C	LCA+B
Factory Workshop	1	1	.0400	19	.052	80	94	260	V.C	LCA+B
25" Fans	2 each	1	.0100	7	.044	35	38	230 80	V.C	LCA+B
30" Fans	2 each	1	.0020	3	.029	3	7.8	80 120	V.I.R.	LCA+B
Smithy Blower	1	1	.0045	7	.029	8	18.2	120	V.I.R.	LCA+B
Waste Oil Separators	8 each	1	.0100	7	.044	35	38	40	V.C	LCA+B
DISC BRUSHER	1	1	.0020	3	.029	3	7.8	60	V.I.R.	LCA+B
Wireless (mains)	1	1	.0225	7	.064	-	68	1100	V.C	LCA+B
Hot Press	-	-	.1000	19	.083	60	172	1100	V.C	LCA+B
Oven Blower	1	1	.0020	3	.029	4	7.8	80	V.I.R.	LCA+B
Range Blower	1	1	.0020	3	.029	4	7.8	60	V.I.R.	LCA+B
Coffee Mill	1	1	.0020	3	.029	3	7.8	12	V.I.R.	LCA+B
Potato Peeler	1	1	.0020	3	.029	3	7.8	60	V.I.R.	LCA+B
Hot Plate	-	-	.0030	3	.036	10	12.0	90	V.I.R.	LCA+B
Refrig (cable)	1	1	.0020	3	.029	-	7.8	90	V.I.R.	LCA+B



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W126-00393/4

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	75	110	682	500	BELLISS & MORCOM STEAM ENGINES		
MAIN GENERATOR ...	2 each	50	110	455	500			
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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	8500	127	.093	682	733	60	V. C	L C A & B
EQUALISER CONNECTIONS ...	-	4000	61	.093	-	-	30	" "	" " "
2 MAIN GENERATORS each	1	5000	61	.093	455	486	50	" "	" " "
EQUALISER CONNECTIONS	-	2500	37	.093	-	-	25	" "	" " "
EMERGENCY GENERATOR									
ROTARY MOTOR									
TRANSFORMER GENERATOR...									
ENGINE ROOM...									
BOILER ROOM...									
AUXILIARY SWITCHBOARDS									
See attached list									
ACCOMODATION ...									
See attached list									
WIRELESS ...									
SEARCHLIGHT ...									
MASTHEAD LIGHT ...									
SIDE LIGHTS ...									
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										



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W126-0038 4/4

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.

P. S. Glover

Electrical Engineer.

Date *31st August 1931*

COMPASSES.

Distance between electric generators or motors and standard compass

610'

Distance between electric generators or motors and steering compass

600'

The nearest cables to the compasses are as follows:—

A cable carrying *1* Ampères *4* feet from standard compass *4* feet from steering compass.

A cable carrying *-* Ampères *-* feet from standard compass *-* feet 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* courses in the case of the standard compass, and *nil* degrees on *all* courses in the case of the steering compass.

For FURNESS SHIPBUILDING CO. LTD.

P. S. Glover
DIRECTOR

Builder's Signature.

Date *Aug 31st 1931*

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

"Ventfold"

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

*The materials and workmanship are good.
This electric installation has been fitted aboard under special
survey in accordance with the Rules and approved Plans and
has been tested under working conditions with satisfactory
results and is, in our opinion, suitable for a classed vessel.*

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

*Elec. Light
21/9/31*

Total Capacity of Generators *175* Kilowatts.

The amount of Fee ... £ *35-5-0* 18 8. 1931

When applied for,

Travelling Expenses (if any) £ : : *1-9-1931*

When received,

P. J. McA. & C. Clayton

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt.



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