

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 30 JAN 1931

Date of writing Report 27th Jan. 1931 When handed in at Local Office 27th Jan. 1931 Port of HELSINGBORG.

No. in Survey held at HELSINGBORG. Date, First Survey 9th Dec. 1930 Last Survey 20th Jan. 1931

Reg. Book. 91182 on the Single Screw Steel Steamer "KALMARSUND" TX Tons { Gross 1154.16 Net 612.50

Built at HELSINGBORG. By whom built Höggs Yrvis & Söcklings AB Yard No. 53 When built 1931.

Owners Ångbåts AB KALMARSUND. Port belonging to KALMAR.

Electric Light Installation fitted by Messrs Hallberg & Co, Hög Contract No. When fitted 1931.

System of Distribution Direct current Dynamo. 2 wire

Pressure of supply for Lighting 115 volts, Heating 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 overload 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

Are all terminals accessible and clearly marked Yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited Yes

Position of Generators on platform, stbd side in the Engine Room. Are the lubricating arrangements of the generators as per Rule Yes.

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

are their axis 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 stbd side in the Engine Room. Material: marble.

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

are they constructed wholly of durable, incombustible 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 connected to one pole insulated from the slab with mica or micaite and the slab similarly insulated from its framework Yes.

frame effectively earthed Yes. Are the following fittings as per Rule, viz.:— spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars 60 mm²

individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches as per Rule.

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

main switch, main fuse, volt- and Amperemeter and for each outgoing circuit double pole switch & double pole fuse.

Instruments on main switchboard 1 ammeters 1 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 lamps fitted

on main switchboard as earth testing.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes.

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes.

Insulation of Cables, state type of cables, single or twin *both*, 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 *as per approved plan*.

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 socket *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 *paper insulated cables not used*.

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 *Secured by metal clips and in the holds protected by steel channels*.

If cables are run in wood casings, are the casings and caps secured by screws *None*, 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 *None*.

Joints in Cables, state if any, and how made, insulated, and protected *by porcelain & watertight metal boxes*.

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 Positions, 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*, are separate screens provided for the use of oil and electric side lights *yes*. are separate oil lanterns provided for the mast head lights and side lights *yes*.

Fittings, are all fittings on weather decks, in stockholds 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 *✓*. how are the cables led *✓*.

where are the controlling switches situated *✓*.

Searchlight Lamps, No. of *1*, 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 *✓*, 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 axis 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 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 *yes*. If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes*.

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	5.5	115	48	700	steam engine	✓	✓
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	16	7	1.71	48 ✓	4	vulcanized	armoured.
	AUXILIARY GENERATOR	✓	✓	✓	✓	✓	✓	✓	✓
	EMERGENCY GENERATOR	✓	✓	✓	✓	✓	✓	✓	✓
	ROTARY TRANSFORMER	✓	✓	✓	✓	✓	✓	✓	✓
	AUXILIARY SWITCHBOARDS	✓	✓	✓	✓	✓	✓	✓	✓
	ENGINE ROOM	✓	✓	✓	✓	✓	✓	✓	✓
	BOILER ROOM	✓	✓	✓	✓	✓	✓	✓	✓
	Nav. lamp control	2	6	7	1.05	3.6 ✓	105	vulcanized	armoured
	Central amidsh.	2	6	7	1.05	16.7 ✓	120	—	—
	— aft.	2	4	7	0.86	5 ✓	180	—	—
	WIRELESS	✓	✓	✓	✓	✓	✓	✓	✓
	SEARCHLIGHT	2	10	7	1.35	30 ✓	180	vulcanized	armoured
	MASTHEAD LIGHT	2	1.5	7	0.52	0.4 ✓	300	—	—
	SIDE LIGHTS	2	1.5	7	0.52	0.4 ✓	60	—	—
	COMPASS LIGHTS	2	1.5	7	0.52	0.15 ✓	20	—	—
	POOP LIGHTS	2	1.5	7	0.52	0.4 ✓	200	—	—
	CARGO LIGHTS	2	1.5	7	0.52	1.5 ✓	150	—	—
	ARC LAMPS	✓	✓	✓	✓	✓	✓	✓	✓
	HEATERS	✓	✓	✓	✓	✓	✓	✓	✓

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	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								
	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

Aktiefabriks Hallberg & Co
[Signature]

Electrical Engineers.

Date 26/1/1931

COMPASSES.

Distance between electric generators or motors and standard compass abt. 65 feet.

Distance between electric generators or motors and steering compass abt 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying 30 Ampères 5 feet from standard compass _____ feet from steering compass.

A cable carrying 1.5 Ampères 8 feet from standard compass _____ feet from steering compass.

A cable carrying 0.15 Ampères light to feet from standard compass light to 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 _____ degrees on _____ course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

Helsingborgs Varfs- & Svetsnings Aktiebolag

[Signature]

Builder's Signature.

Date 26.1.1931

Is this installation a duplicate of a previous case No If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c. This electric lighting installation has been fitted onboard this vessel under my inspection, has been tested and found satisfactory.

All the Rule requirements have been complied with.

Approved plan forwarded in separate cover.

The electric generator manufactured by Messrs AB Elektromekanik at Helsingborg. N° 43437. Type LP9. Rev. 700. 5.5 kw. 115 Volt. 48 Amp.

The steam engine driving the generator, size 115x80, manufactured by Messrs Helsingborgs Varus- & Svetsnings AB at Helsingborg.

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

See light
[Signature] 27/1/31.

Total Capacity of Generators 5.5 Kilowatts

The amount of Fee ... N. 100.10 { When applied for, 27-1 19 31

Travelling Expenses (if any) £ 5/2/31 { When received, 5/2/31

[Signature]

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

[Signature]
 Elec. Lt.

Im. 921.—T. ansfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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