

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 15 Dec 1945 When handed in at Local Office

Port of Copenhagen

No. in Survey held at Akstov

Date, First Survey 25th April 41 Last Survey 30th December 1945

Reg. Book.

(Number of Visits 23)

on the Single Sc. Motor Vessel "FALSTRIA"

Tons { Gross 6992.78
Net 4234.42

Built at Akstov

By whom built

Akstov Skibsverft No. 98

When built

Owners A/S Del Østasiatisk Kompagni

Port belonging to

Copenhagen

Electric Light Installation fitted by

Akstov Skibsverft

Contract No.

When fitted 1945

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution Two wire - 2 conductor system

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Direct

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 yes, 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 yes

Have certificates for generators under 100 kw. been supplied and approved yes (sewn in) 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 In the starboard side of engine room floor level, 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 no woodwork etc., 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 In the forward end of engine room

floor level. 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 no woodwork etc., 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 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

Generators — 2. 3 pole circuit breaker with overload, reverse current trips Outgoing circuits: 2 pole link & switch with fuses on each pole

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 yes Instruments on main switchboard 6 ammeters 3

voltmeters — synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

1 set of earth lamps + 1 voltmeter with ohm scale 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 *yes* are all fuses labelled as per rule *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* are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII 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 *about 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 *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 laid under machines or floorplates *no* if so, are they adequately protected *yes*

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit *lead covered*

Support and Protection of Cables, state how the cables are supported and protected *Wire armoured - lead covered - secured by metal 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 *yes*

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 *yes* 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 *A 3 hp. 4500 RPM Diesel engine placed in top of engine room, connected to main light switch board by a change over switch*

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* are they ventilated 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 *no* are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *no* how are the cables led *yes*

where are the controlling switches situated *yes* are all fittings suitably ventilated *yes* are all switches and lampholders constructed wholly of non-ignitable, 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 *portable* 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 *no woodwork etc* have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing *none* have certificates for all motors for essential services been supplied and approved *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* 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 flameproof type approved for use in dangerous spaces *yes* **Spare Gear,** if the vessel is for open sea service have spares been supplied as per Rule *yes* are they suitably stored in dry situations *yes*

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	3	3135	220	3614	425	3-4 hp 4500 RPM Diesel	Heavy oil	about 150°F.	
AUXILIARY	1	24	220	109	900	1-3 hp 4500 RPM Diesel	Heavy oil	about 150°F.	
EMERGENCY									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. mm.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	2	21310	-	-	614	648	9-12-17	Rubber	Lead covered
EQUALISER CONNECTIONS	1	310	-	-	-	324	45-6-8-5	-	Wire armoured
EMERGENCY GENERATOR	1	70	-	-	110	124	4	-	-
ACBILLY GENERATOR	1	35	-	-	72	78	18	-	-
EMERGENCY GENERATOR	1	50	-	-	92	98	16	-	-
ROTARY TRANSFORMER	1	240	-	-	243	275	18	-	-
ENGINE ROOM	1	10	-	-	25	38	-	-	-
BOILER ROOM	1	400	-	-	343	394	52	-	-
AUXILIARY SWITCHBOARDS	1	185	-	-	208	233	41	-	-
Galley	1	400	-	-	388	394	20	-	-
Cabin	1	10	-	-	35	38	43	-	-
Workshop	1	6	-	-	24	29	10	-	-
Engine room fans	1	95	-	-	138	150	18	-	-
Small bilge pump	1	4	-	-	14	21	20	-	-
Bilge pump	1	185	-	-	231	233	8	-	-
COOLING WATER PUMPS	1	25	-	-	60	63	28	-	-
Wardroom fresh pump	1	185	-	-	250	272	24	-	-
Steam light	1	400	-	-	336	394	23	-	-
Light bilge pump	1	50	-	-	95	98	30	-	-
Light bilge pump	1	10	-	-	30	38	30	-	-
Light bilge pump	1	10	-	-	30	38	33	-	-
WIRELESS	1	25	-	-	50	63	-	-	-
SEARCHLIGHT	1	25	-	-	50	63	-	-	-
MASTHEAD LIGHT	1	25	-	-	50	63	-	-	-
SIDE LIGHTS	1	1.5	-	-	-	-	-	-	-
COMPASS LIGHTS	1	1.5	-	-	-	-	-	-	-
POOP LIGHTS	1	1.5	-	-	-	-	-	-	-
CARGO LIGHTS	1	1.5	-	-	-	-	-	-	-
HEATERS	1	1.5	-	-	-	-	-	-	-

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	15	1	25	-	-	60	63	18	Rubber	Lead covered
MAIN BILGE LINE PUMPS	9	1	10	-	-	36	38	20	-	Wire armoured
GENERAL SERVICE PUMP	17	1	35	-	-	66	78	7	-	-
EMERGENCY BILGE PUMP	25	1	25	-	-	50	63	12	-	-
SANITARY PUMPS	25	2	2.5	-	-	11	13	6-7	-	-
CIRC. SEA WATER PUMPS	35	2	95	-	-	132	150	22-24	-	-
CIRC. FRESH WATER PUMPS	35	1	95	-	-	132	150	20	-	-
AIR COMPRESSOR	90	2	1	400	-	333	394	14-15	-	-
FRESH WATER PUMP	2	1	2.5	-	-	11	13	6-7	-	-
ENGINE TURNING GEAR	8	1	10	-	-	32	38	25	-	-
ENGINE REVERSING GEAR	7.5	1	10	-	-	30	38	5	-	-
LUBRICATING OIL PUMPS	50	2	1	150	-	187	202	18-17	-	-
OIL FUEL TRANSFER PUMP	8	1	1	50	-	70	98	2	-	-
WINDLASS	33	1	1	150	-	233	230	7	-	-
WINCHES, FORWARD	25	4	1	70	-	125	149	22-29	-	-
WINCHES, AFT	25	5	1	50	-	131	149	10-12-8	-	-
WINCHES, AFT	25	5	1	50	-	95	115	4-16	-	-
WINCHES, AFT	35	5	1	70	-	132	149	5-10-7	-	-
STEERING GEAR	9	4	1	10	-	36	38	14-14	-	-
2 Bilge pumps	2	1	25	-	-	63	63	16-24	-	-
(a) MAIN GENERATOR	1	1	150	-	-	187	202	70	-	-
(b) MAIN MOTOR	50	1	1	150	-	187	202	70	-	-
WORKSHOP MOTOR	3	1	2.5	-	-	13	13	-	-	-
VENTILATING FANS	15	2	1	25	-	59	63	6-8	-	-
CO2 COMPRESSORS	15	1	1	50	-	95	98	7	-	-
Bilge pumps	3	1	1	2.5	-	13	13	6	-	-
Sea water pump	8	1	1	10	-	32	38	12	-	-
Sea water pump	4	1	1	4	-	17	21	9	-	-
Pump	2.5	3	1	2.5	-	11	13	2	-	-
Fresh water pump	4	1	1	4	-	17	21	6	-	-
Engine room fans	2.5	2	1	2.5	-	11	13	12	-	-

The Electrical Equipment is installed in accordance with the approved plans.

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

The foregoing is a correct description.

AKTIESELSKABET
NAKSKOV SKIBSVÆRFT

And Berg

Electrical Engineers.

Date _____

COMPASSES.

Minimum distance between electric generators or motors and standard compass *3 m (from smoke detector)*

Minimum distance between electric generators or motors and steering compass *2.3 m (from "clear sun screen")*

The nearest cables to the compasses are as follows:—

double A cable carrying *0.18* Ampères *7 inches* feet from standard compass *the magnetic system is* feet from steering compass.

double A cable carrying *0.18* Ampères *7 inches* feet from standard compass *the magnetic system is* 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 *0* degrees on *any* course in the case of the standard compass, and *0* degrees on *any* course in the case of the steering compass.

AKTIESELSKABET
NAKSKOV SKIBSVÆRFT

And Berg

Builder's Signature.

Date *29/11-45*

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. *The electric installation as*)

described above has been constructed and fitted in accordance with the Rules and the approved plans and to my satisfaction.

The material used in construction is of good description and the workmanship is good.

On the first trial trip the whole installation was tested under full power working conditions and found efficient in every respect.

Total Capacity of Generators *429* Kilowatts.

The amount of Fee ... *£ 1217.30*

When applied for,

5.12.1945

Travelling Expenses (if any) £ *:-*

When received.

19

J. Langkilde Jensen
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 1 FEB 1946

Assigned

See Cpn 114815



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Foundation