

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 14th November 1934 When handed in at Local Office

Port of Copenhagen

No. in Survey held at

Oslo

Date, First Survey

10/9 - 34

Last Survey

11/11

1934

Reg. Book.

89855 on the Twin Sc. 4 Motor Fr. "JUTLANDIA"

(Number of Visits 13)

Tons

Gross 8456.73

Net 5203.71

Built at

Oslo

By whom built

Oslo Skipsverft

Yard No.

60

When built

1934

Owners

% Del Østlandske Kompagni

Port belonging to

Copenhagen

Electric Light Installation fitted by

the builders

Contract No.

When fitted

1934

Is the Vessel fitted for carrying Petroleum in bulk

no.

System of Distribution

Two conductor insulated system.

Pressure of supply for Lighting

220 volts

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 rating

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

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

placed in Port side of the engine room, from 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 wood work

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 on a platform at the forward end of the 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

no wood work

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

, 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

yes

, individual fuses to voltmeter, pilot or earth lamp

yes

, connections of switches

yes

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

For each generator

a 3-pole circuit-breaker with overload & reversed current trips; for each outgoing circuit a double pole circuit breaker & a double pole fuse

Instruments on main switchboard

7 ammeters

3 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

1 ohmmeter &

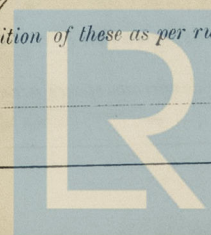
1 set of earth lamps

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



Lloyd's Register Foundation

Cables: Single, twin, concentric, or multicore *Single & twin* 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 *8 volts*

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 *✓*

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 *Around cables used, laid on steel plates under deck beams, supported by clips & covered by steel plating*

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, 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 *no joints in cables*

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 *generator placed on a platform inside engine casing, boat deck level, driven by a 4 cylinder 450 S.A Diesel engine, connected to light switch board by a double pole 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 *✓*

Fittings, are all fittings on weather decks, ~~in deck~~ 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 tied

where are the controlling switches situated *✓*

Searchlight Lamps, No. of *1 off*, whether fixed or portable *portable*, 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 *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 except the steering gear for bow engine*

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 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 *✓*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *✓*

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	3	3 x 135	220	614	400 3/4	250 S.A Diesel engine	Crude oil	about 150° F
AUXILIARY								
EMERGENCY	1	25	220	114	850 1/2	450 S.A Diesel engine	Crude oil	about 150° F
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) in feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter in mm.	In Circuit.	Rule.			
MAIN GENERATOR	2	2 x 310	61	2.54	614	648	40.50.62	rubber	Lead covered & wire armoured
EQUALISER CONNECTIONS	1	310	61	2.54		324	20.25.31		
AUXILIARY GENERATOR	1	70	19	2.16	114	125	8	"	"
EMERGENCY GENERATOR	1	70	19	2.16	114	125	8	"	"
ROTARY TRANSFORMER	2	10	7	1.35	18	38	6	"	"
ENGINE ROOM	1	25	7	2.13	35	65	170	"	"
BOILER ROOM	1	2.5	7	0.67	5	15.5	50	"	"
AUXILIARY SWITCHBOARDS	1	2.5	7	0.67	8	15.5	90	"	"
Winch house aft	1	2.5	7	0.67	8	15.5	90	"	"
Crew mess deck	1	4	7	0.85	10	22.1	36	"	"
Engine's Accommodation	1	4	7	0.85	14	22.1	22	"	"
Officer's Accommodation	1	4	7	0.85	12	22.1	90	"	"
ACCOMMODATION	1	2.5	7	0.67	1	15.5	104	"	"
Navigation Lights	1	35	19	1.53	45	77.7	72	"	"
Passenger Accommodation	1	35	19	1.53	45	77.7	72	"	"
WIRELESS	1	10	7	1.35	35	38	98	"	"
SEARCHLIGHT	1	25	7	2.13	50	65	50	"	"
MASTHEAD LIGHT	1	1.5	1	1.38	0.2	9.3	86.52	"	"
SIDE LIGHTS	1	1.5	1	1.38	0.2	9.3	24	"	"
COMPASS LIGHTS	1	1.5	1	1.38	0.1	9.3	8	"	"
POOP LIGHTS	1	1.5	1	1.38	0.1	9.3	210	"	"
CARGO LIGHTS	1	1.5	1	1.38	0.5	9.3	14	"	"
ARC LAMPS	✓							"	"
HEATERS	✓							"	"

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) in feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter in mm.	In Circuit.	Rule.			
BALLAST PUMP	1	1	25	7	2.13	60	65	84	rubber	Lead covered & wire armoured
MAIN BILGE LINE PUMPS	1	1	16	7	1.7	43	49	10	"	"
GENERAL SERVICE PUMP	1	1	16	7	1.7	48	49	78	"	"
EMERGENCY BILGE PUMP	1	1	25	7	2.13	54	65	90	"	"
2 SANITARY PUMPS	2	1	2.5	7	0.67	15	15.5	76	"	"
2 CIRC. SEA WATER PUMPS	2	1	70	19	2.16	120	124	26	"	"
CIRC. FRESH WATER PUMPS	1	1	70	19	2.16	120	124	10	"	"
2 AIR COMPRESSOR	2	1	310	61	2.54	320	324	90	"	"
AUXILIARY COOLING FRESH WATER PUMP	1	1	70	19	2.16	112	124	32	"	"
2 ENGINE TURNING GEAR	3	1	50	19	1.83	90	98	90	"	"
CARGO OIL PUMP	1	1	70	19	2.16	80	124	26	"	"
ENGINE REVERSING GEAR	3	1	70	19	2.16	120	124	10.12.14	"	"
3 LUBRICATING OIL PUMPS	1	1	25	7	2.13	60	65	20	"	"
OIL FUEL TRANSFER PUMP	1	1	120	37	2.03	230	232	28	"	"
WINDLASS	4	1	240	61	2.24	270	420	140	"	"
WINCHES, FORWARD	4	1	240	61	2.24	270	420	140	"	"
FOREPEAK PUMP	2	1	240	61	2.24	270	420	140	"	"
WINCHES, AFT	4	1	240	61	2.24	270	420	140	"	"
Winches used for 2 SHP	4	1	120	37	2.03	175	238	110	"	"
STEERING GEAR	2	1	70	19	2.16	120	124	90	"	"
BOAT LIFTING WINCHES	2	1	70	19	2.16	120	124	90	"	"
(a) MOTOR GENERATOR	1	1	50	19	1.83	95	98	182	"	"
(b) MAIN MOTOR	1	1	16	7	1.7	48	49	62	"	"
WORKSHOP MOTORS	7	1	70	19	2.16	120	124	78	"	"
VENTILATING FANS	2	1	70	19	2.16	108	124	30	"	"
Refrigerating Machine	3	1	120	37	2.03	175	238	185	"	"
Boiler house aft	11	1	50	19	1.83	95	98	110	"	"
Terminal house	1	1	310	61	2.54	320	324	60	"	"
Lighting	3	1	10	7	1.35	18	38	6	"	"
Purifiers	3	1	150	37	2.27	200	206	144	"	"
Laminating	3	1	150	37	2.27	200	206	144	"	"

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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.

AKTIESELSKABET
NAKSKOV SKIBSVÆRFT

Electrical Engineers.

Date

COMPASSES.

Distance between ~~electric generators or motors~~ and standard compass 7 m

Distance between ~~electric generators or motors~~ and steering compass 10 m

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Ampères 7" feet from standard compass 7" feet from steering compass.

A cable carrying 0.1 Ampères 3 m feet from standard compass 5 m 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

Builder's Signature.

Date

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 light and power installations as above described has been fitted in accordance with the Society's Rules, the approved plans and the requirements contained in the Secretary's letters of 2 1/2 & 4/3 1934. The material used for the installation is of good description throughout and the workmanship of high quality.

On completion the whole installation was tested in accordance with the requirements of the Rules and during the final trial trip under full power working condition and found good.

Noted

30/11/34.

Total Capacity of Generators 430 Kilowatts.

The amount of Fee ... £ 946.40: When applied for, 23.11.1934

Travelling Expenses (if any) £ : - : When received, 3.12.1934

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

Committee's Minute TUE. 4 DEC 1934

Assigned

See other Cpn JE 9481



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Foundation