

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 9 July 1928

No. of threads per inch of writing Report *28/6* When handed in at Local Office *1928* Port of *Copenhagen*
 Survey held at *Nakskov* Date, First Survey *16/5* Last Survey *26/6* 19*28*
 Thickness *189* on the *Steel Twin S. Motor vessel "VICTORIA"* (Number of Visits *8*)
 Tons { Gross *4499.93*
 Net *2746.83*
 When built *1928*
 By whom built *Nakskov Skibsværft* Yard No. *34*
 Port belonging to *Copenhagen*
 Electric Light Installation fitted by *Nakskov Skibsværft* Contract No. When fitted *1928*

Nature of Distribution *2 conductors insulated system*
 Voltage of supply for Lighting *110* volts, Heating volts, Power *220* volts.
 Type of Alternating Current, Lighting *direct* Power *direct*

Is a complete description of the system, state frequency of periods per second
 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*
 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
 with each shunt field *yes*
 Terminals accessible, clearly marked, and furnished with sockets *yes*, are they so spaced or shielded that they cannot be accidentally earthed,
 coiled, or touched *yes* Are the lubricating arrangements of the generators as per Rule *yes*

Location of Generators *plant in the motor room, port side*
 Installation in way of the generators satisfactory *yes*, are they clear of all inflammable material *yes*
 and are the generators protected from mechanical injury and damage from water, steam or oil *yes*
 Axes of rotation fore and aft *yes*
 Are the bedplates and frames of the generating plant efficiently earthed *yes* are the prime movers and
 alternative generators in metallic contact *yes*

Main Switch Boards, where placed *on a platform aft in the motor room*
 If the generators and main switchboard are not placed in the same compartment, is each generator provided with
 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*
 protected from mechanical injury and damage from water, steam or oil *yes*, if situated near unprotected
 or other combustible material, state distance of same horizontally from or vertically above the switchboards and

Constructed wholly of durable, non-ignitable non-absorbent materials *of marble*, is all insulation of high dielectric strength and of
 high insulation resistance *yes*, if semi-insulating material is used, are all conducting parts insulated from the slab
 by mica or other non-hygroscopic insulating material, and the slab similarly insulated from its framework *yes*
 Frame effectively earthed *yes* Are the fittings as per Rule regarding:— spacing or shielding of live parts
 accessibility of all parts *yes*, absence of fuses on back of board *yes*, proportion of omnibus
 individual fuses to voltmeter, pilot or earth lamp *yes*, connections of switches *yes*

Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches *for each generator: a
 circuit breaker with manual current trip & control breaker and equalizer switch as per
 spec. 3 A(f). Outgoing circuits: 2 single pole circuit breakers and a fuse on each pole.*
 Instruments on main switchboard *6* ammeters *4* voltmeters synchronising device for paralleling purposes.

Indicating, state what means are provided at the main switchboard for indicating the state of the insulation of the system *2 sets of earth
 and 2 voltmeters fitted with Ω scale.*

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*

Surveyors to Lloyd's Register

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Cables: Single, twin, concentric, or multicore *single - twin* are the cables insulated and protected as per Tables IV & V of the Rules *yes.*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *3 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 *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 *assumed cables used, in engine room laid on steel plates & secured by clips or laid in steel pipes, in holds laid on wood boards & secured by clips, protected by wood casings.*

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 *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 *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 4 kwts. generator driven by a 2-cyl. Kelvin paraffin engine placed on the omnibot beam across the engine room, switch-over fitted to main switch board.*

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.*

how are the cables led *yes.*

where are the controlling switches situated *yes.*

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

Arc Lamps, other than searchlight lamps, No. of *yes.*, 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. of gear motor.*

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.* and *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.*

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 ...	2	66	220	300	400	Two 2-cyl. a.c. Diesel engines	Diesel oil	above 150° F.
MAIN AUXILIARY ...	1	33	220	150	400	One 1-cyl. " " " "	" " "	" " "
EMERGENCY ...	1	4	110	36.4	1000	2-cyl. Kelvin paraffin engine	paraffin	under 150° F.
ROTARY TRANSFORMER	1	7.5	110	63	1500	Electric motor.		

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. <i>m</i>	Insulated with	HOW PROTECTED.
				No.	Diameter.				
2	MAIN GENERATORS	2	2 x 95	19	2.52	300	46 38	RUBBER.	LEAD COVERED AND ARMOURED
	EQUALISER CONNECTIONS	1	95	70			23 19 27	"	CABLES
1	MAIN AUXILIARY GENERATOR	2	120	37	2.03	150	54	"	USED.
	EMERGENCY GENERATOR	2	10	7	1.35	36	10	"	
	ROTARY TRANSFORMER	2	35	19	1.53	63	12	"	led through galvanized iron tubes
	AUXILIARY SWITCHBOARDS							"	
	ENGINE ROOM	2	4	7	0.85	14	5	"	
	BOILER ROOM							"	
	ACCOMMODATION	AFT 2	4	7	0.85	14	116.	"	protected by wood casings.
	PANTRY	2	6	7	1.05	25	94	"	
	OFFICERS	2	4	7	0.85	14	50	"	
	WINCH-HOUSE	2	6	7	1.05	20	140	"	
	NAVIGATION LIGHT	2	2.5	7	0.67	7	102.	"	
	WIRELESS	2	6	7	1.05	15	96	"	
	SEARCHLIGHT							"	
	MASTHEAD LIGHT		1.5	1	1.38	1	94-190	"	
	SIDE LIGHTS		1.5	1	1.38	1	25	"	
	COMPASS LIGHTS		1.5	1	1.38	0.14	16.	"	
	POOP LIGHTS		1.5	1	1.38	1	190	"	
	CARGO LIGHTS							"	
	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. <i>m</i>	Insulated with	HOW PROTECTED.
				No.	Diameter.				
15	BALLAST PUMP	1	25	7	2.13	50	44	RUBBER	LEAD COVERED AND ARMOURED
9	MAIN BILGE LINE PUMPS	1	16	7	1.70	30	36.	"	CABLES USED
	GENERAL SERVICE PUMP							"	
	EMERGENCY BILGE PUMP							"	
	SANITARY PUMP							"	
30	CIRC. SEA WATER PUMPS	2	70	19	2.16	100	22.	"	LED THROUGH GALV. IRON TUBES
5.5	CO ₂ COMPRESSOR	1	6	7	1.05	17	32	"	OR
1	ENGINE ROOM WATER PUMPER CO. CONDENS.	1	2.5	7	0.67	3.5	34	"	PROTECTED BY WOOD CASINGS.
3	ENGINE TURNING GEAR	2	2.5	7	0.67	10	64	"	
	ENGINE REVERSING GEAR							"	
	LUBRICATING OIL PUMPS							"	
9	OIL FUEL TRANSFER PUMP	1	16	7	1.70	30	15	"	
52	WINDLASS	1	120	37	2.03	175	186.	"	
16	WINCHES, FORWARD	4	120	37	2.03	132	140	"	
16	WINCHES, AFT	4	120	37	2.03	201	68	"	
33	STEERING GEAR—							"	
	(a) MOTOR GENERATOR							"	
15	(b) MAIN MOTOR	1	25	7	2.13	50	110	"	
2	WORKSHOP MOTOR	1	2.5	7	0.67	7	40	"	
9.25	VENTILATING FAN GALLEY	1	2.5	7	0.67	1	70	"	
12	MOTOR GENERATOR	1	25	7	2.13	40	12.	"	
16	WINCHES AMIDSHIPS	2	50	19	1.83	02	76.	"	
2	OIL PURIFIERS	2	2.5	7	0.67	7	10	"	

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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

6/7.28

H. P. Høj
Christiansen

COMPASSES.

Distance between electric generator ~~or~~ motor ^{FOR WIRELESS} and standard compass 11 m.

Distance between electric generator ~~or~~ motor and steering compass 12 m.

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères 7" ^{THE MAGNETIC SYSTEM} feet from standard compass 7" ^{MAGNETIC SYSTEM} feet from steering compass.

A cable carrying 7 Ampères 3 m feet from standard compass 4.5 m feet from steering compass.

A cable carrying 1 Ampères 4 m feet from standard compass 1 m 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**

H. P. Høj

Builder's Signature.

Date

Christiansen

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 & Power Installation as above described has been fitted in accordance with the Society's Rules, the approved plan and the requirements contained in the Surveyor's letter 3 dated 28/7.28.

The material used for the installation is of high quality and the workmanship of good description throughout.

After completion the whole installation was tested under full power working conditions and found satisfactory.

Recommend the vessel to have notation of ELECTRIC LIGHT in the Reg. Book.

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

Elec. Light

J.M. 11/7/28.

Total Capacity of Generators 169 Kilowatts.

The amount of Fee ... £ 636.09

When applied for, 7.7.19.28

Travelling Expenses (if any) £ :

When received, 8.8.19.28

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

Committee's Minute 2028 27 JUL 1928

Assigned

Elec. Light

Imj.28.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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