

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 OCT 1935

Date of writing Report 18th Dec 1935 When handed in at Local Office

Port of Copenhagen

No. in Survey held at *Akershus*Date, First Survey 23rd August Last Survey 9th October 1935

Reg. Book.

40260 on the *Twin Screw Motor Vessel "TASMANIA"*

(Number of Visits 12)

Tons { Gross 4460.30
Net 2683.98Built at *Akershus*By whom built *A. S. Akershus Skibsverft* Yard No. 67.

When built 1935

Owners *A/S O/S "Orient"*Port belonging to *Copenhagen*Electric Light Installation fitted by *The builders*

Contract No. When fitted 1935

Is the Vessel fitted for carrying Petroleum in bulk *no*System of Distribution *2 conductor insulated system.*Pressure of supply for Lighting *220* volts, Heating *220* volts, Power *220* volts.Direct or Alternating Current, Lighting *direct* 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 rating *yes*, are they compound wound *yes*are they over compounded 5 per cent. *yes*, if not compound wound state distance between each generatorWhere more than one generator is fitted are they arranged to run in parallel *yes*, is an adjustable regulating resistance fitted inseries 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 the engine room, port side, 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 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 andtheir respective generators in metallic contact *yes*Main Switch Boards, where placed *on a platform in the after 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 unprotectedwoodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards *no woodwork*are they constructed wholly of durable, non-ignitable non-absorbent materials *yes*, is all insulation of high dielectric strength and ofpermanently 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

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 omnibusbars *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 generators:—**a 3 pole circuit breaker with overload & reverse & current trips. For outgoing**circuits: a double pole switch with fuses on each pole.*Instruments on main switchboard *6* 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 voltmeter fitted**with ohm scale & one 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*

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

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *5 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 sized 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 *Armoured cables used, laid on steel plates - secured by steel 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, if lights are fitted, are the cables and fittings in accordance with the special requirements

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 *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 *placed on a platform in the top of the engine room, worked by a 2 cylinder 8 H.P. "PENTA" petrol engine connected to the switchboard for light & wireless telegraph through 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*

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

where are the controlling switches situated

Searchlight Lamps, No. of *1*, whether fixed or portable *yes*, are their fittings as per Rule *yes*

Are Lamps, other than searchlight lamps, No. of *1*, 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 *no woodwork*

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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	66	220	300	320	2 cyl. 250 H.P. Diesel engines	Endeavour	about 150° F.
AUXILIARY								
EMERGENCY	1	4	220	18.2	1000	2 cyl. 8 H.P. "PENTA" motor	petrol	
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 Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	310	61	2.54	300	324	38.46.54	Pdica	Lead covered & wire armoured
EQUALISER CONNECTIONS	1	150	37	2.27		206	19.23.27	rubber	Wire armoured
AUXILIARY GENERATOR									
EMERGENCY GENERATOR	1	4	7	0.85	18.2	22	4		
ROTARY TRANSFORMER									
ENGINE ROOM									
BOILER ROOM									
WORKSHOP MACHINERY	1	4	7	0.85	20	22	16		
AUXILIARY SWITCHBOARDS									
LIGHT	1	70	19	2.16	136	124	20		
WINCHES FORWARD	1	150	37	2.27	260	270	110		
WINCHES MIDSHIP	1	120	37	2.03	200	231	24		
WINCHES AFT	1	185	37	2.52	260	337	70		
PURIFIERS & HEATERS	1	120	37	2.03	170	177	12		
ACCOMMODATION AFT	1	4	7	0.85	20	22	120		
ACCOMMODATION MIDSHIP	1	4	7	0.85	20	22	8		
ACCOMMODATION FORWARD	1	6	7	1.05	25	28	70		
GALLEY	1	2.5	7	0.67	6	16	12		
WIRELESS ETC.	1	70	19	2.16	136	124	92		
WIRELESS	1	10	7	1.35	35	38	78		
SEARCHLIGHT									
MASTHEAD LIGHT	1	1.5	1	1.38	0.2	9	94 - 172		
SIDE LIGHTS	1	1.5	1	1.38	0.2	9	24		
COMPASS LIGHTS	1	1.5	1	1.38	0.1	9	6		
POOP LIGHTS	1	1.5	1	1.38	0.1	9	128		
CARGO LIGHTS	1	1.5	1	1.38	1.4	9	18		
ARC LAMPS									
HEATERS									

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 Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	15 H.P.	1	1	25	7	2.13	60	65	52	Pdica Lead covered and wire armoured
MAIN BILGE LINE PUMPS	2 H.P.	1	1	10	7	1.35	36	38	47	rubber
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS	4 H.P.	2	1	150	37	2.27	180	206	26	
CIRC. FRESH WATER PUMPS	2 H.P.	1	1	25	7	2.13	60	65	8	
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR	8 H.P.	2	1	10	7	1.35	32	38	22	
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP		1	1	16	7	1.7	40	49	53	
WINDLASS	52 H.P.	1	1	120	37	2.03	208	231	50	
WINCHES FORWARD	33 H.P.	4	1	70	19	2.16	132	145	8	
WINCHES MIDSHIP		2	1	70	19	2.16	132	145	6	
WINCHES AFT		4	1	70	19	2.16	132	145	8	
STEERING GEAR										
(a) MOTOR GENERATOR		1	1	25	7	2.13	52	65	120	
(b) MAIN MOTOR	13 H.P.	1	1	2.5	7	0.67	10	16	14	
WORKSHOP MOTOR	LATHE	1	1	2.5	7	0.67	10	16	14	
VENTILATING FANS										
PURIFIERS	3 H.P.	2	1	2.5	7	0.67	12	16	6-50	
OIL HEATERS	15 KW	2	1	35	19	1.53	68	78	6-50	
CO. COMP. for PROVISION		1	1	2.5	7	0.67	12	16	70	
FUEL OIL CIRC. PUMP		1	1	2.5	7	0.67	8	16	4	
DRAWING MACHINE		1	1	2.5	7	0.67	4	16	6	
EMERY WHEEL		1	1	2.5	7	0.67	12	16		

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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 14 m.

Distance between electric generators or motors and steering compass 12 m.

The nearest cables to the compasses are as follows:—

A cable carrying 0.7 Ampères 6" feet from standard compass. The magnetic system in the feet from steering compass.

A cable carrying 0.1 Ampères 6" feet from standard compass. The magnetic system in the 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 above electric installation)

has been constructed and fitted outboard under special survey in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter E dated 25/4. 26/6. 1935

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

On completion the installation was tested under full load and found satisfactory.

W. H. J.
30/10/35

Total Capacity of Generators 202 Kilowatts.

The amount of Fee £ 954.24

Travelling Expenses (if any) £

When applied for,

25/10/35

When received,

11/11/35

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

Committee's Minute FRI 1 NOV 1935

Assigned

see J. E. Machy Report.