

No. 10720

Rpt. 13.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office NOV -1 1938

Date of writing Report 26<sup>th</sup> October 1938 When handed in at Local Office 10 Port of Copenhagen

No. in Survey held at Odense - Nakskov Date, First Survey 8<sup>th</sup> Nov 37 Last Survey 19<sup>th</sup> October 1938  
(Number of Visits.....)

Reg. Book. 89980 on the Single Sc. "SELANDIA" Tons {Gross 8482.25  
Net 5170.45

Built at Nakskov By whom built of Nakskov Skibverft Yard No. 86 When built 1938-10

Owners of Del Postaiialiske Selskab Port belonging to Copenhagen

Electric Light Installation fitted by The ship builders Contract No. - When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution 2 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

Position of Generators In the engine room from level, port side, 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 no wood work 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 the engine room from 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 wood work 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

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework mounted on Sindang

and is the frame effectively earthed yes Are the fittings as per Rule regarding: - spacing or shielding of live parts 2020

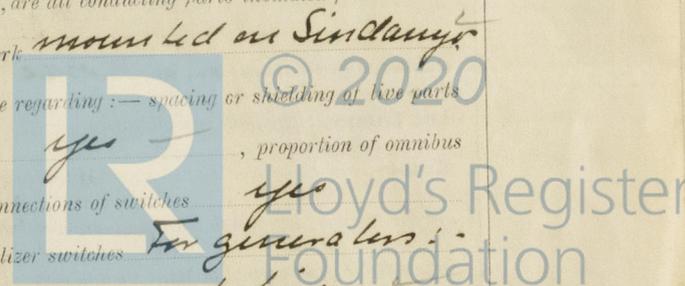
yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars yes

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 overboard & reversed current trips

For outgoing circuits:- A 2 pole switch with fuses on each pole



**Cables:** Single, twin, concentric, or multicore *single* 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 *All 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 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 *Armoured cables used - fixed on steel plate - secured by galvanised steel clips*

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 (minimum runs)*

**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 *-*

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 *2-3 cyl. SCSA Diesel engine direct coupled to 24 K.W. Dynamo - connected to the light switch board by a change over switch - All placed on upper platform in engine room*

**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 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 *lamps in cargo space protected by strong glass bulbs - metal grids - placed between deck beams*, 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** *one*, 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*, 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 etc*, 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	WHICH IS DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	135	220	614	400	3 cyl. 2 SCSA Diesel	Coal oil	Above 150°F
AUXILIARY								
EMERGENCY	1	24	220	110	900	3 cyl. 4 SCSA Diesel	Coal oil	Above 150°F
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS, etc.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT, AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	2x310	61	2.54	614	648	16-28 40	India rubber	Lead covered & wire armoured
EQUALISER CONNECTIONS	1	310	61	2.54	-	324	8-14-20	-	-
TRANSFORMER	1	16	7	1.7	37	49	100	-	-
EMERGENCY GENERATOR	1	70	19	2.16	110	124	8	-	-
Emergency Diesel Engine	1	120	37	2.03	153	178	-	-	-
ROTARY MOTOR	1	25	7	2.13	64	65	9	-	-
Dist. cooling pumps	1	6	7	1.05	15	28	36	-	-
ENGINE ROOM	1	10	7	1.35	22	38	28	-	-
BOILER ROOM	1	10	7	1.35	22	38	28	-	-
AUXILIARY SWITCHBOARDS	1	400	91	2.36	345	390	40	-	-
Fans SCSA Diesel	1	50	19	1.83	93	98	40	-	-
Refrig. Machinery	1	70	19	2.16	120	124	32	-	-
Dist. cooling pumps	1	95	19	2.53	146	152	42	-	-
ACCOMMODATION FORWARD	1	25	7	2.13	55	65	70	-	-
Brew aft	1	10	7	1.35	20	38	38	-	-
Pantries	1	70	19	2.16	100	124	36	-	-
Perkins etc	1	35	19	1.53	76	78	10	-	-
WIRELESS	1	10	7	1.35	30	38	60	-	-
SEARCHLIGHT	1	25	7	2.13	50	65	40	-	-
MASTHEAD LIGHT	1	1.5	1	1.38	-	9	102-218	-	-
SIDE LIGHTS	1	1.5	1	1.38	-	9	36	-	-
COMPASS LIGHTS	1	1.5	1	1.38	-	9	12	-	-
POOP LIGHTS	1	1.5	1	1.38	-	9	222	-	-
CARGO LIGHTS	1	1.5	1	1.38	-	9	16	-	-
ARC LAMPS									
HEATERS in Galley	1	400	91	2.36	375	390	84	-	-

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT, AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	25	7	2.13	60	65	38	India rubber	Lead covered & wire armoured
MAIN BILGE LINE PUMPS	1	1	25	7	2.13	64	65	50	-	-
Large Sanitary GENERAL SERVICE PUMP	1	1	16	7	1.7	40	49	36	-	-
EMERGENCY BILGE PUMP	1	1	25	7	2.13	50	49	112	-	-
SANITARY PUMP cold & W.	1	1	10	7	1.35	30	38	13	-	-
CIRC. SEA WATER PUMPS	2	1	95	19	2.53	140	152	42	-	-
CIRC. FRESH WATER PUMPS	1	1	95	19	2.53	140	152	40	-	-
AIR COMPRESSOR	2	1	310	61	2.54	320	324	30	-	-
FRESH WATER PUMP cold	2	1	25	7	0.67	10	16	12	-	-
ENGINE TURNING GEAR	1	1	25	7	2.13	48	65	64	-	-
Hot water pump	2	1	25	7	0.67	5	16	6	-	-
ENGINE REVERSING GEAR	2	1	25	7	0.67	12	16	4	-	-
LUBRICATING OIL PUMPS	2	1	150	37	2.27	200	206	40	-	-
OIL FUEL TRANSFER PUMP	1	1	70	19	2.16	112	124	20	-	-
WINDLASS	1	1	120	37	2.03	232	232	8	-	-
WINCHES, FORWARD	8	1	310	61	2.54	500	579	148	-	-
WINCHES, MIDSHIP	9	1	240	61	2.24	350	423	56	-	-
WINCHES, AFT	5	1	150	37	2.27	250	279	104	-	-
GRAINE PUMP	1	1	25	7	0.67	12	16	4	-	-
STEERING GEAR										
Fans Accommodation	5	1	4	7	0.85	114	122	204	72	-
(a) MOTOR GENERATOR	1	1	150	37	2.27	200	206	158	-	-
(b) MAIN MOTOR	3	1	15-2.5	1-7	1.38-0.67	12-10	9-16	8	-	-
WORKSHOP MOTOR	3	1	15-2.5	1-7	1.38-0.67	12-10	9-16	8	-	-
VENTILATING FANS Eng. Room	2	1	25	7	2.13	60	65	2 1/2	-	-
Dist. cooling pumps	2	1	10	7	1.35	32	38	7	-	-
Eng. room fans	1	1	4	7	0.85	16	22	10	-	-
Dist. cooling pumps	1	1	50	19	1.83	98	98	12	-	-
35-83 HP winches	15	1	70	19	2.16	140	149	max. 40	-	-
25 HP winches	4	1	50	19	1.83	100	115	16	-	-
16 HP winches	2	1	25	7	2.13	60	69	16	-	-
Fans accommodation	4	1	1.5	1	1.38	124	9	204	64	-

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  
 NAKSBOV SKIBSVÆRFT

*[Signature]* Electrical Engineers. Date \_\_\_\_\_

COMPASSES.

	Wreck	Smoky Shales 0.25 HP	Wreck
Distance between electric generators or motors and standard compass	10 m	6 m	20 m
Distance between electric generators or motors and steering compass	21 m	3 m	22 m

The nearest cables to the compasses are as follows:—

A cable carrying 0.07 Amperes *findes* feet from standard compass *under the* feet from steering compass.  
 A cable carrying — Amperes — feet from standard compass — feet from steering compass.  
 A cable carrying — Amperes — 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.

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*[Signature]* 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 installation*)

*as described herein has been constructed and fitted under special survey in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter E dated 17/12-37*

*The material used in construction is in accordance with the Rules and the workmanship is good.*

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

*Noted  
 J.Y.  
 4/11/38*

Total Capacity of Generators *429* Kilowatts.

The amount of Fee ... *Fr. 1208.48* When applied for, *31/10/38*

Travelling Expenses (if any) *Fr. 66.00* When received, *21/11/38*

*[Signature]*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 8 NOV 1938

Assigned *See Lpn. JE 10720*

1m, 9, 30.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)