

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

1940-8

Received at London Office

Date of writing Report 29th March 40 When handed in at Local Office 19 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 11th January Last Survey 17th March 1940
Reg. Book. (Number of Visits 22)

on the Single Screw Motor Vessel HOEGH SILVER DAWN Tons 7714.73
Gross 4729.96
Net

Built at Copenhagen By whom built A/S Burmeister & Wain's Maskin- & Skibsbyggeri Yard No. 648 When built 1940

Owners Sebskabskabet, Arizona (Det Hoegh's) Port belonging to Oslo

Electrical Installation fitted by A/S Burmeister & Wain's Maskin- & Skibsbyggeri Contract No. ✓ When fitted 1940

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. ye E.S.D. ye Gy.C. No Sub.Sig. No

Have plans been submitted and approved ye System of Distribution Two wire Voltage of supply for Lighting 220

Heating 220 Power 220 Direct or Alternating Current, Lighting direct Power direct If Alternating Current state frequency ✓ Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off ye Are turbine emergency governors fitted with a

trip switch as per Rule ✓ Generators, are they compound wound ye, are they level compounded under working conditions ye,

if not compound wound state distance between generators ✓ and from switchboard ✓ Where more than one generator is fitted are they

arranged to run in parallel ye, are shunt field regulators provided ye Is the compound winding connected to the negative or positive pole

positive pole Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ye Have certificates of

test for machines under 100 kw. been supplied ye and the results found as per rule ye Are the lubricating arrangements and the construction

of the generators as per rule ye Position of Generators In the port side of the motor room

is the ventilation in way of generators satisfactory ye are they clear of inflammable material ye, if situated

near unprotected combustible material state distance from same horizontally No comb. and vertically material, are the generators protected from mechanical

injury and damage from water, steam and oil ye, are the bedplates and frames earthed ye and the prime movers and generators in metallic

contact ye Switchboards, where are main switchboards placed In the port side of the motor room at fore end.

are they in accessible positions, free from inflammable gases and acid fumes ye, are they protected from mechanical injury and damage from water, steam

and oil ye, if situated near unprotected combustible material state distance from same horizontally No comb. and vertically material, what insulation

material is used for the panels marble, if of synthetic insulating material is it an Approved Type ✓, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule ye Is the frame effectually earthed ye

Is the construction as per Rule ye, including accessibility of parts ye, absence of fuses on the back of the board ye, individual fuses

to pilot and earth lamps, voltmeters, etc. ye locking of screws and nuts ye, labelling of apparatus and fuses ye, fuses on the "dead"

side of switches ye Description of Main Switchgear for each generator and arrangement of equaliser switches A three pole

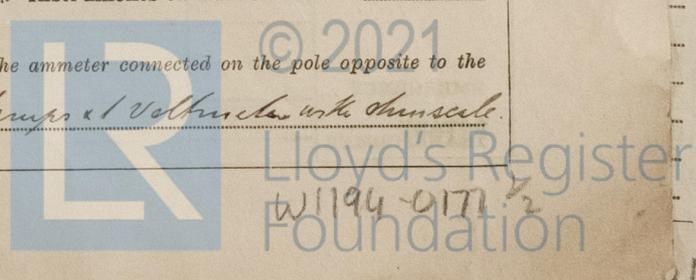
circuit breaker with overload and reverse current trips.

and for each outgoing circuit A double pole linked switch and a fuse in each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule ye Instruments on main switchboard 5

ammeters 3 voltmeters ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection ye Earth Testing, state means provided 1 set of earth testing lamps & 1 voltmeter with shunt scale.



Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled as per Rule Yes, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions Yes. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes.

Cables, are they insulated and protected as per the appropriate Tables of the Rules Yes, if otherwise than as per Rule are they of an approved type Yes, state maximum fall of pressure between bus bars and any point under maximum load 266 volts, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends Yes with insulating compound Yes or waterproof insulating tape Yes. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or 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, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected The cables are supported by screwed clips lead covered and steel wire armoured cables used where necessary protected by iron screens.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes. Refrigerated chambers, are the cables and fittings as per Rule Yes. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectually bushed Yes and with what material lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position Yes and method of control Yes.

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches Yes and fuses Yes. Are the switches and fuses in a position accessible only to the officers on watch Yes, is an automatic indicator fitted Yes. Secondary Batteries, are they constructed and fitted as per Rule Yes, are they adequately ventilated Yes.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present No, if so, how are they protected Yes and where are the controlling switches fitted Yes, are all fittings suitably ventilated Yes.

are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of Yes, whether fixed or portable Yes, are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. Motors, are all motors constructed and installed as per Rule Yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil Yes, if situated near unprotected combustible material state minimum distance from same horizontally 10 mm and vertically comb. material.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yes. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule Yes. Control Gear and Resistances, are they constructed and fitted as per Rule Yes. Lightning Conductors, where required are they fitted as per Rule Yes. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with Yes, are all fuses of the 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 Yes. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule Yes, are they suitably stored in dry situations Yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory 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	3	3x120	220	545	400	3rd heavy oil engine	Crude oil above 150°F	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return feet)	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	120	2	2x240	545	544	48-38	Vulcanized Lead covered and	
" " EQUALISER		1	240		272	42-19	rubber	steel wire armoured
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return feet)	INSULATED WITH.	HOW PROTECTED.	
3 Refrigerating machinery		1	240	274	27	50	
4 AUX. SWITCHBOARDS AND SECTION BOARDS		1	240	274	27	50	
5 Cold. fans & light refrigerated holds		1	120	156	177	30	
6 Fuel and lubricating oil pump & tanks		1	150	180	205	73	
10 Ballast and stripping pump		1	50	85	98	54	
13 Workshop and engine turning gear		1	50	82	98	30	
15 Heating fan and return duct		1	150	191	205	75	
16 Office & heating fan		1	50	81	98	10	
24 3 Windlass from Windlass		1	185	238	235	40	
25 Winches forward		1	150	177	205	122	
26 Winches amidship		1	120	173	177	33	
27 " aft		1	185	204	235	116	

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return feet)	INSULATED WITH.	HOW PROTECTED.	
17 WIRELESS		1	10	10	38	112	
19 NAVIGATION LIGHTS		1	4	18	22	130	
15A Galley LIGHTING AND HEATING forward		1	25	67	63	65	
15B Heating forward		1	10	39	38	50	
16 B. Laundry Galley		1	70	123	124	140	
18 Engine room light		1	10	16	38	5	
20 Saloon light		1	10	19	38	86	
20A " Passages		1	10	11	38	86	
21 Office		1	6	14	29	40	
22 Crew		1	6	14	29	170	
23 Forecastle		1	6	10	29	200	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return feet)	INSULATED WITH.	HOW PROTECTED.
1-2 Lubricating oil pumps	2	60	1	185	204	235	34-36
3 A.B.C. 3 1/2" compressor	4	25	1	50	95	98	10-14
3 E.F. cooling water pumps	2	5.5	1	6	19	29	18-22
3 B. 2 1/2" compressor	1	7.5	1	10	15	33	10-12
3 A. cooling water pump	1	8.5	1	10	15	33	10-12
4 B. 6" boiler fan	2	8.5	1	16	29	34	49
4 D. E. " " " " " "	2	5.5	1	6	18	29	30-100
4 F. " " " " " "	1	8.8	1	16	30	49	90
5 Fuel oil pump	1	12	1	16	41	49	66
6 A. 3 1/2" oil pump	3	2.5	1	4	9	22	10
6 B. C. D. 3 1/2" oil heaters	-	154W	1	35	68	78	10-10
6 E. Water heater	-	6	1	10	28	38	12
7 A. 3 cooling water pumps	3	25	1	50	94	98	174-80
10 Ballast & stripping pump	1	22	3	35	4	75	10
11 Bilge & sawdust pump	1	10	1	16	38	49	64
12 Cargo oil pump	1	39	1	95	146	148	78
13 A. B. Lateral Oil	1	3.5	1	10	15	22	4
13 D. E. engine turning gear	1	8	2.2	16	15	35	9
13 F. Hydraulic pump & water heater	1	1.6+6W	1	6	30	39	60
13 G. Crane	1	4	1	4	16	22	50
14 Cooling water pump amidship	1	5	1	6	19	29	38
24 A. Windlass	1	52	1	150	198	205	80
24 B. C. Winch no 1-2	2	25-25	1	50	96	98	12-12
25 A. B. " " no 3-4	2	33-33	1	70	121	124	12-12
25 C. D. " " no 5-6	2	16-16	1	25	63	63	46-58
26 A. B. " " no 7-8	2	25-25	1	50	96	98	25-41
26 C. D. " " no 9-10	2	16-16	1	25	63	63	26-52
27 A. B. C. " " no 11-12-13-14	4	25-25	1	50	96	98	12-12
27 E. Hoisting winch	1	25	1	50	96	98	85
28 Hoisting gear	1	24	1	50	94	98	176

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

AKTIESELSKABET
 BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

A. Henningsen

Electrical Engineers.

Date *March 1940*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *13 meters*

Minimum distance between electric generators or motors and steering compass *9 meters*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Ampères *4* feet from standard compass *4* feet from steering compass.

A cable carrying *0.068* Ampères *to lamp in* feet from standard compass *and in* 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 *all* course in the case of the

standard compass, and *0* degrees on *all* course in the case of the steering compass.

AKTIESELSKABET
 BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

A. Henningsen

Builder's Signature.

Date *March 1940*

Is this installation a duplicate of a previous case *No* If so, state name of vessel *~*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electric installation has been constructed under special survey and in accordance with the Rules, the approved plans, and the requirements contained in the Secretary's letter E dated 29.8.1939

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

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

*Noted
 JH
 12/4/40.*

2m.10.38.—Transfer. (MADE IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators *360* Kilowatts.

The amount of Fee ...	<i>£ 1131.20</i>	When applied for,	<i>3 4</i>	19 <i>40</i>
Travelling Expenses (if any)	<i>£ 60.00</i>	When received,		19 <i>40</i>

S. Hansen
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned *See minute on F.E. mech Rpt*



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