

Rpt. 13.

No. 11795

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.

Date of writing Report 10th July 1942 When handed in at Local Office 1942 Port of CopenhagenNo. in Survey held at Copenhagen & Denmark Date, First Survey 8th August 1940 Last Survey 13th May 1942
Reg. Book. (Number of Visits 222)on the Single Screw Motor Vessel Tons { Gross 2715
Net 4730

Built at Copenhagen By whom built Aht. Burmeister & Wain Yard No. 653 When built 1942

Owners - Port belonging to -

Electrical Installation fitted by Aht. Burmeister & Wain Contract No. - When fitted 1942

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

Have plans been submitted and approved yes System of Distribution 2 conductor insulated 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 yes Are turbine emergency governors fitted with a

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

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 yes, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

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

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

of the generators as per rule yes Position of Generators Port side of engine room floor level

is the ventilation in way of generators satisfactory yes are they clear of inflammable material - if situated

near unprotected combustible material state distance from same horizontally no woodwork etc. are the generators protected from mechanical

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

contact yes Switchboards, where are main switchboards placed In the forward end of the engine

room floor level

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

and oil yes, if situated near unprotected combustible material state distance from same horizontally no woodwork etc. 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 yes Is the frame effectually earthed yes

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

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

side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches A - 3 pole circuit

Breaker with overload & reversed current trips

and for each outgoing circuit A 2 pole switch with fuses on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes 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 yes Earth Testing, state means provided 1 set of earth lamps & 1 ohm meter

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 no, state maximum fall of pressure between bus bars and any point under maximum load alt 6 mils 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 no with insulating compound no or waterproof insulating tape no. 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 no. Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit no. State how the cables are supported and protected Lead covered & armoured (sheath) cables used throughout the vessel, laid on galvanized steel plates and secured by steel clips spaced as required by the Rules. 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 effectively 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 no and method of control no. 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 no, are they adequately ventilated no. 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 no.

and where are the controlling switches fitted no, are all fittings suitably ventilated no, are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of no, whether fixed or portable no, are their fittings as per Rule no. 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 no woodwork etc. 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 no, are all fuses of the cartridge type no, are they of an approved type no. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type no. 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	3x545	400	3-3 cyl 25 C.S.A Diesel	Conde oil	about 150°F
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return cable).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area sq. in. and No. of Strands.	In the Circuit.	Rule.			
MAIN GENERATOR ...	120	2	2x240	545	545	38-42-48	Rubber	Lead covered and wire armoured
" " EQUALISER ...	-	1	240	272	272	19-21-24	Rubber	wire armoured
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

3 Refrigerating machinery - Compressor	1	240	16	270	272	49	57	12	Rubber	Lead covered and wire armoured
3 Refrigerating machinery - Section Boards	1	120	16	160	177	50	50	-	-	armoured
4 Air fans - light duty refrigeration hold	1	150	180	206	73	-	-	-	-	"
6 Fuel & lubrication oil heaters - purifiers	1	50	95	98	54	-	-	-	-	"
10 Ballast pump & stripping pump	1	50	98	98	30	-	-	-	-	"
13 Workshop, Tumblers, gear etc	1	150	50	195	72	206	98	75	10	-
15 Heating form & Salted house	1	185	214	232	40	-	-	-	-	"
16 Passengers heating etc	1	150	185	206	232	132	-	-	-	"
16 Officers' heating etc	1	120	175	177	83	-	-	-	-	"
17 Wireless	1	185	190	232	116	-	-	-	-	"
19 Navigation lights	1	10	9	38	112	-	-	-	-	Lead covered and wire armoured
16 Lighting and heating - Galley & forward	1	25	67	63	65	-	-	-	-	wire armoured
150 Heating forward	1	10	29	38	50	-	-	-	-	"
160 Laundry heating & galley aft	1	70	122	124	140	-	-	-	-	"
18 Engine room light	1	10	16	38	5	-	-	-	-	"
20 Saloon light	1	10	19	38	86	-	-	-	-	"
20 Passengers etc. light	1	10	11	38	10	-	-	-	-	"
2-22 Officer's Cour de light aft	1	6	15	29	40	-	-	-	-	"
23 Forecastle light	1	6	11	29	100	-	-	-	-	"
4 Light in refrigeration hold	1	25	3	15	-	-	-	-	-	"

LIGHTING AND HEATING, ETC., CABLES.

17 WIRELESS ...	1	10	9	38	112	-	-	-	-	Lead covered and wire armoured
19 NAVIGATION LIGHTS ...	1	4	2	22	130	-	-	-	-	wire armoured
16 LIGHTING AND HEATING - Galley & forward	1	25	67	63	65	-	-	-	-	"
150 Heating forward	1	10	29	38	50	-	-	-	-	"
160 Laundry heating & galley aft	1	70	122	124	140	-	-	-	-	"
18 Engine room light	1	10	16	38	5	-	-	-	-	"
20 Saloon light	1	10	19	38	86	-	-	-	-	"
20 Passengers etc. light	1	10	11	38	10	-	-	-	-	"
2-22 Officer's Cour de light aft	1	6	15	29	40	-	-	-	-	"
23 Forecastle light	1	6	11	29	100	-	-	-	-	"
4 Light in refrigeration hold	1	25	3	15	-	-	-	-	-	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.								
1-2 Lubricating oil pumps	2	60	1	185	225	232	34-36	Rubber	Lead covered and wire armoured	
3 A.B.C.D NH ₃ compressors	4	25	1	50	90	98	112	-	wire armoured	
3 E.F. cooling water pumps	2	5.5	1	6	19	29	28	-	"	
3 A.N.H. compressors	1	6.5	1	10	15	26	27	-	"	
3 B. cooling water pumps	1	6.5	1	10	15	26	27	-	"	
4 A cooling fan I	1	8.5	1	16	35	49	75	-	"	
4 B.C cooling fans II-III	2	10	1	16	40	49	70-100	-	"	
4 D-E cooling fans IV-V	2	5.5	1	6	22	29	30-100	-	"	
4 F cooling fan VI	1	8.5	1	16	35	49	90	-	"	
5 Fuel oil pump	1	12	1	16	48	49	66	-	"	
6 A 3 oil purifier	3	2.5	1	4	17	22	10	-	"	
6 B.C.D. 3 oil heaters	3	15 KW	1	35	68	77	10	-	"	
6 E Water heater	1	6 KW	1	10	27	38	12	-	"	
7-8-9 Main cooling w. pumps	3	2.5	1	50	95	98	54	-	"	
11 Bilge & Sanitary pump	1	10	1	16	40	49	64	-	"	
10 A Ballast pumps	1	22	1	35	78	78	6	-	"	
10 B Stripping pump	1	3	1	4	13	22	10	-	"	
12 Cargo oil pumps	1	38	1	45	142	152	78	-	"	
13 A Ballast	1	5.5	1	10	24	38	15	-	"	
13 B Drilling machine	1	1	1	15	7	9	10	-	"	
13 C Turning gear	1	8	1	16	33	49	28	-	"	
13 E Boiler blower	1	1.7	1	1.5	7	9	38	-	"	
13 F High speed pump & w. heater	1	25.2 KW	1	6	21	29	40	-	"	
13 G Compressor	1	4	1	4	21	22	50	-	"	
14 Cooling w. pump & w. heater	1	5	1	6	21	29	38	-	"	
24 A Windlass	1	52	1	150	195	206	80	-	"	
8 off 25 HP winches	8	25	1	50	95	115	112	-	"	
3 " 33 " " "	3	33	1	70	120	149	112	-	"	
4 " 16 " " "	4	16	1	25	63	69	112	-	"	
Steering gear	1	22	1	50	85	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 & WAINSKIN-OG SKIBSBYGGERI

Electrical Engineers.

Date 27/7/42

COMPASSES.

Minimum distance between electric generators or motors and standard compass 13 metres

Minimum distance between electric generators or motors and steering compass 9 metres

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 4 feet from standard compass and 4 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
BURMEISTER & WAINSKIN-OG SKIBSBYGGERI

Builder's Signature.

Date 27/7/42

Is this installation a duplicate of a previous case yes

If so, state name of vessel B.W. Ford No 648-652

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

The electric installation as herein described 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. 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

Flu 10.1.46

Total Capacity of Generators 360 Kilowatts.

The amount of Fee ... £ 1134.50

When applied for, 21.5.1942

Travelling Expenses (if any) £ 51.00

When received, 1.8.1942

P. Langford Jones
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 11 JAN 1946

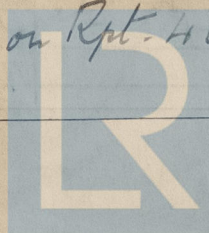
FRI. 25 OCT 1945

Assigned

Deferred

See Minute on Rpt. 46

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