

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 JAN 1948

Date of writing Report: 1948 Jan 48 When handed in at Local Office: 19..... Port of: Copenhagen
 No. in Survey held at: Copenhagen Date, First Survey: 10.6.47 Last Survey: 124. Jan 48
 Reg. Book. (Number of Visits: 12.) 1344
 on the: STEEL Twin-Sc. JACO ex LCT 8-4027 Tons { Gross: 1344 Net: 719 }
 Built at: MIDDLEBRO' (Copenhagen) By whom built: CLEVELAND DOCKYARD Yard No.: When built: 1945
 Owners: J. AISMUSSENS EFTF. Port belonging to: COPENHAGEN
 Electrical Installation fitted by: MEJRI. KEMP & LAURITZEN Contract No.: When fitted: 1948
 Is vessel fitted for carrying Petroleum in bulk: No Is vessel equipped with D.F.: Yes E.S.D.: Yes Gy.C.: Yes Sub.Sig.: Yes

Have plans been submitted and approved: Yes System of Distribution: Two wire insulated Voltage of supply for Lighting: 220
 Heating: 220 Power: 220 Direct or Alternating Current, Lighting: DC Power: DC If Alternating Current state periodicity: Prime Movers,
 has the governing been tested and found as per Rule when full load is suddenly thrown on and off: Yes Are turbine emergency governors fitted with a
 trip switch as per Rule: Yes 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: 2 off in fore - 2 off in aft side next to the
 engine room, is the ventilation in way of generators satisfactory: Yes are they clear of inflammable material: Yes, if situated
 near unprotected combustible material state distance from same horizontally: and vertically: 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 engine room back front 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: and vertically: what insulation
 material is used for the panels: as per Drawing LD 7345, if of synthetic insulating material is it an Approved Type: Yes, 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 three pole
 circuit breaker with overload and reverse-current trips and a single
 pole equalizer switch for each generator
 and for each outgoing circuit: a fuse on each pole and a double pole linked switch

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule: Yes Instruments on main switchboard: 6
 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: One set of earth lamps and 1 Voltmeter with Ohm 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 If circuit breakers are provided for the generators, at what overload current did they open when tested: 150 Amp are the reversed current
 protection devices connected on the pole opposite to the equaliser connection: Yes, have they been tested under working conditions, and at what current
 did they operate: 30 Amp. 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: 0.4 V, 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 ends: Yes

with insulating compound or waterproof insulating tape 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 Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit State how the cables are supported and protected by galvanized iron clips. Steel wire armoured lead covered cables used

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Refrigerated chambers, are the cables and fittings as per Rule

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 and with what material Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Emergency Supply, state position and method of control

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 what is the battery capacity in ampere hours 2000 600 amp / hour each

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

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 whether fixed or portable are their fittings as per Rule 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 and vertically Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment Yes

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 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 are they of an approved type Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Are the cables lead covered as per Rule Spare Gear, if the vessel is for open sea service have spares been provided as per Rule are they suitably stored in dry situations Insulation Tests, has the insulation resistance of all circuits and apparatus been 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	4	30	220	133	1100	4 cyl. long stroke engine	diesel oil over 150° F.	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return lead).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	95	133	150	32	Rubber	Lead covered.
" " EQUALISER		1	95					Steel armoured.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	2.75	1	4	14.6	21	24		
" " GENERATOR	2	1	25	60	63	3		

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return lead).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area sq. mm.	In the Circuit.	Rule.			
AUX SWITCHBOARDS AND SECTION BOARDS							
Steering gear	1	6	9	29	48	Rubber	Lead covered
Warping winch	1	25	57	63	48		
Transformer	1	16	14	21	30		
Engine room port.	1	16	19	48	24		
Windlass	1	50	58	98	152		
Ballast pump port.	1	16	20	48	20		
Cooling water pump	1	16	33	48	35		

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	4	21	26			
NAVIGATION LIGHTS	1	4	1.5	21	26		
LIGHTING AND HEATING							
Looker	1	35	75	78	19		
Stable room port.	1	16	7	48	108		
Engine room port.	1	16	19	48	24		
Heating I	1	50	100	98	6		
Heating and lighting in engine room	1	25	48	63	14		
Board of lighting	1	16	11	48	6		
" " "	1	16	14	48	6		

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return lead).	INSULATED WITH.	HOW PROTECTED.
			No. in Parallel Per Pole.	Sectional Area sq. mm.	In the Circuit.	Rule.			
Warping winch	1	15	1	25	57	63	48		
Transformer	1	3.75	1	4	14	21	30		
Ballast pump	1	1	1	2.5	4.6	13	4		
Windlass	1	15	1	50	58	98	152		
Port Ballast pump P.	1	7.4	1	16	20	48	20		
Port " " " Slt.	1	7.4	1	16	30	48	24		
Cooling water pump	1	2.5	1	6	9	29	24		
Steering gear	1	2	1	6	9	29	14		

The Electrical Equip.

with the approved plans and the requirements of the Rules.

All Insulated Conductor

have been tested at the maker's works as specified in the Rules.

The foregoing is a correct a

W. J. S. S. S.

Electrical Engineers.

Date *26th Jan. 48*

distance between electric generators or motors and standard compass *10 m.*
distance between electric generators or motors and steering compass *8 m.*

The nearest cables to the compasses are as follows:—

A cable carrying *58* Ampères *10* feet from standard compass *8* feet from steering compass.
A cable carrying *100* Ampères *12* feet from standard compass *10* feet from steering compass.
A cable carrying *133* Ampères *10* feet from standard compass *8* 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.

W. J. S. S. S.

Builder's Signature.

Date *26th Jan. 48*

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

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *✓*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *No. All available*

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

The electrical installation has been partly constructed and filled under Special Survey and in accordance with the Rules, the plans forwarded as filled and the Secretary's letters E dated London 10/7-1/8-1947.

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

For starting purpose a 24 Volt electrical installation has been fitted as per Drawing N^o $\frac{3065}{50}$ attached.

On completion the whole installation was tested under full power working condition and found in order.

Total Capacity of Generators *120* Kilowatts.

The amount of Fee *£ 6,840.-* When applied for, *19*

Travelling Expenses (if any) £ *:* When received, *19*

L. S. S.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 14 MAY 1948*

Assigned *See minute on F.E. mchy Rpt*

5m. 4.38.—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveys are required not to write on or below the space for Committee's Minute.)



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