

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

22 FEB 1951

Date of writing Report 12-2-1950 When handed in at Local Office 19

Port of Copenhagen

No. in Survey held at Odense

Date, First Survey 12-9-50 Last Survey 12-1-1951

Reg. Book.

(No. of Visits 12)

on the Motor Tanker Charlotte Maersk

Tonnage Gross Net

Built at Odense By whom built Odense Staalskilsværft Yard No. 112 When built 1950

Owners A/S D/S Svendborg - D/S 1912 A/S Port belonging to Fredericia

Installation fitted by Dansk Elektricitets-kompagni When fitted 1950

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. - Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 2 Wires Voltage of Lighting 110

Heating Power 110 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted with a trip switch Generators, are they compound wound Yes, and level compounded under working conditions Yes

if not compound wound state distance between generators and from switchboard Are the generators arranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole Negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Have certificates of test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators 2-44 KW - 1 off Port 1 off Starboard in engine room 1-20 KW upper part platform eng. room

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil Yes Switchboards, where are main switchboards placed Port side engine room starting platform

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil Yes, what insulation is used for the panels Blue steel front plate, if of synthetic insulating material is it an Approved Type Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear for each generator and arrangement of equaliser switches 11 double pole circuit breakers with overload and reverse current trips together with single pole equaliser.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double pole circuit breaker and a fuse on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3 ammeters 3 voltmeters synchronising devices For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided 1 Ohmmeter and 2 Earthing lamps

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes make of fuses Lauritz Knudsen, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 490 Amps, and at what current do the reversed current protective devices operate 50 Amps

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type state maximum fall of pressure between bus bars and any point under maximum load 6 Volts, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 any 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 or of the "H.R." type State how the cables are supported or protected The lead covered and steel wire armoured cables are supported on trays and secured by screwed clips

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

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Steering engine flat

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches 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 Is an alternative supply provided Yes

Secondary Batteries, are they constructed and fitted as per Rule Yes, are they adequately ventilated Yes

state battery capacity in ampere hours Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes

Are any 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 See app² plan of Pump room lighting

and where are the controlling switches fitted Accommodation Are all fittings suitably ventilated Yes

Searchlight Lamps, No. of 1, whether fixed or portable Portable, are they of the carbon arc or of the filament type Edison

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 None

Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil Yes

Are motors coupled to oil fuel transfer and 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 sea 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 an Approved Cartridge Type Yes, make of fuse J. K. Sanderson

Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are the cables lead covered as per Rule Yes

E.S.D., if fitted state maker Henry Hughes location of transmitter Special Room and receiver Chart room

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations Yes

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	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	J.B. Thryge	44	110	400	625	Oil Engine	Bukh aff.
HARBOUR	1	Sunderland Forge	20	110	182	600	Steam	Reader
EMERGENCY ...	1	Hobenhavns	10	110	90	1200	Oil Engine	Bukh aff.
ROTARY TRANSFORMER		Elektron Astarte						

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	2 off 44	2	150	400	625	1-38	Rubber	Lead covered & steel wire armoured
" " EQUALISER ...		1	150					
HARBOUR	20	1	150	182		31		
EMERGENCY GENERATOR ...	10	1	50	90	98	10		
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.								
Navigation lights	1	4	8	21	150	Rubber	Lead covered & steel	
Lighting amidships	1	35	72	78	130	"	wire armoured	
" aft	1	35	75	78	2	"		
Main light	1	150	175	625	40	"		
Lighting engine room	1	16	40	48	40	"		
Gyro and radar	1	16	29	48	160	"		
Galley fan etc	1	4	15	21	36	"		
Ventilators	1	50	93	98	40	"		

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Wireless Projector	1	16	27	48	140	Rubber	Lead covered & steel
	1	35	50	78	240	"	wire armoured

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Turning gear	1	15	1	70	114	124	42	Rubber
Fuel oil separator	1	3.5	1	10	31	38	60	"
Sub "	1	3.5	1	10	31	38	36	"
Spare "	1	3.5	1	10	31	38	66	"
Barber wire pump	1	3.5	1	10	31	38	56	"
Cooling water pump	1	2.5	1	10	22	38	68	"

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.

D.E.C.

DANSK ELEKTRISKE COMPAGNI

Electrical Contractors.

Date 17-2-51.

COMPASSES.

Have the compasses been adjusted under working conditions.

Odense Staalskibsværft A/S

Builder's Signature.

Date 17-2-51.

Have the foregoing descriptions and schedules been verified and found correct.

Yes

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

Plans. Are approved plans forwarded herewith. Yes If not, state date of approval.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith.

Yes

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

The electrical installation has been constructed under special survey in accordance with Rules, approved plans and Secretary's letter 25-11-50

The pump room lighting has been fitted in accordance with the plan N° E 112-04 approved in the Secretary's letter 25-11-50 and in agreement with the Bureau.

The fittings are of flameproof type with the switches in the accommodation space

All material used is in accordance with rule requirements and the workmanship is good

The whole installation has been tested and examined under working conditions and found satisfactory

Noted Smt 7/3/51

Total Capacity of Generators 118 Kilowatts.

The amount of Fee ...

Kr 115.4

When applied for,

17/2 19.51

When received,

19.

Travelling Expenses (if any) Kr 100

M. Russell

Surveyor to Lloyd's Register of Shipping.

TUES. 13 MAR 1951

Committee's Minute

Assigned

See F.E. mch. rpt.