Rpt. 13.

No. 13091

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report.....19..... When handed in at Local Office 23/8/19 47 Port of Trieste

Received at London Office 2 - SEP 1947

No. in Reg. Book. Survey held at Monfalcone Date, First Survey 6/2/1946 Last Survey 5/8/19 47 (Number of Visits 6a)

on the M.S. "JANUS" Tons Gross 6273 Net 3701

Built at Monfalcone By whom built Cantieri Riuniti dell'Adriatico Yard No. 1384 When built

Owners Western Chartering Co. Port belonging to Panama City

Electrical Installation fitted by CRDA Officine Elettromeccaniche Contract No. 1384 When fitted 1947

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

Have plans been submitted and approved yes ✓ System of Distribution two wire ✓ Voltage of supply for Lighting 110 ✓ Heating — Power 440 ✓ Direct or Alternating Current, Lighting direct ✓ Power direct ✓ 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 — 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 no ✓, 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 none ✓ Have certificates of test for machines under 100 kw. been supplied — ✓ and the results found as per rule — Are the lubricating arrangements and the construction of the generators as per rule yes ✓ Position of Generators in E.R. platform port side ✓, is the ventilation in way of generators satisfactory ye ✓ 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 near Generators ✓

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 steel with porcelain Micanite ✓ 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 double pole circuit breaker with instantaneous and time relay ✓

and for each outgoing circuit double pole double throw link switches with fuse to each pole and automatic circuit breaker of No 6, 7, 8 circuit ✓

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes ✓ Instruments on main switchboard 3 ammeters 4 ✓ voltmeters — ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection — Earth Testing, state means provided Voltmeter ✓

Switches, Circuit Breakers and Fuses, are they as per Rule yes ✓, are the fuses an approved type Diaced ✓, 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 at 25 A/S Time open ✓, are the reversed current protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current did they operate 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 —, state maximum fall of pressure between bus bars and any point under maximum load 3 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 —

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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 lead covered and steel braided cables supported by metal clips ✓

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 25V-40Amp Secondary battery in a WT box at the open air in the upper Bridge Deck and method of control Switch board in the Officers accomodation ✓. **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 ampère hours 25V-40Amp ✓

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 yes ✓, if so, how are they protected Gas light fittings ✓ and where are the controlling switches fitted outside of the space ✓, are all fittings suitably ventilated yes ✓, are all fittings and accessories constructed and installed as per Rule yes ✓. **Searchlight Lamps**, No. of 1, whether fixed or portable portable, 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 — 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 none ✓. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule —. **Control Gear and Resistances**, are they constructed and fitted as per Rule yes ✓. **Lightning Conductors**, where required are they fitted as per Rule steel Mast ✓. **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 Diesel type ✓. 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 ✓. **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 tested and found satisfactory yes ✓.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT Kilowatts.	Volts.	Amperes.	Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. Fuel Used.	Flash Point of Fuel.
MAIN	2 ✓	20 each ✓	110 ✓	182 ✓	400 ✓	One by Diesel Motor One by Steam Motor	O.F. ✓	above 150° F
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS. No. in Parallel Per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	MAXIMUM CURRENT IN AMPERES. Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
MAIN GENERATOR	20 ✓	1 ✓	128 ✓	182 ✓	184	190	rubber	steel braided
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS. No. in Parallel Per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	MAXIMUM CURRENT IN AMPERES. Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS							
Power in E.R.	1	128	182 ✓	184	100	rubber	Lead covered & Steel braided
Workshop S.B.	1	× 30	82	72	150	"	" "
Power S.B. on Deck	1	128	150	184	185	"	" "
Light in E.R.	1	29	44	72	120	"	" "
Forward S.B. for Light	1	8	35	34	860	"	" "
Centre S.B.	1	70	71	126	500	"	" "
Aft S.B. " " I	1	29	50	72	220	"	" "
" " " " II	1	29	30	72	220	"	" "

× for 75% load

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	42	30	89 ✓	500	rubber	Lead cov. & steel braided
NAVIGATION LIGHTS	1	4·4	3	23 ✓	700	"	" " " "
LIGHTING AND HEATING							
Heater	1	1·5	3	7 ✓	30	"	" " " "
"	1	4	9	22 ✓	30	"	" " " "
Searchlight	1	70	60	126 ✓	900	"	" " " "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Eng. turning gear	1	10	1	× 29	78	72 ✓	130	rubber	Lead cov. & steel braided
O.F. service Pump	1	2·5	1	8	21	34 ✓	270	"	" " " "
O.F. purifier	1	4	1	11·4	32	41 ✓	100	"	" " " "
L.O. purifier	2	4	1	11·4	32	41 ✓	110	"	" " " "
Lathe	1	1·6	1	4·5	18	23 ✓	60	"	" " " "
Drilling Mach	1	1·5	1	4·5	13	23 ✓	50	"	" " " "
Grinding Mach	1	3/4	1	3	9	20 ✓	50	"	" " " "

× 1/2 h rating

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.

Electrical Engineers. *Date* 20.8.47

Ing. Rodolfo de Sylva

COMPASSES.

Minimum distance between electric generators or motors and standard compass } 230'
Minimum distance between electric generators or motors and steering compass }

The nearest cables to the compasses are as follows:—

A cable carrying 1 *Ampères* 20 *feet from standard compass* 20 *feet from steering compass.*

A cable carrying — *Ampères* — *feet from standard compass* — *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 none *degrees on* ..... *course in the case of the standard compass, and* none *degrees on* ..... *course in the case of the steering compass.*

Builder's Signature. *Date*

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* 7.2.46 & 12.2.46

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

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

This Electrical equipment has been made under special survey in accordance with the Rules and approved plans. The material and workmanship are good. The installation tested in working condition and found in order. The insulating condition of the machinery switch boards and cables tested to 500 Volts and found satisfactory.

noted

30.10.47.

Total Capacity of Generators 40 *Kilowatts.*

The amount of Fee ... Lire 65000: When applied for, 27/11/47

Travelling Expenses (if any) £ : : When received. .....19.....

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 JAN 1948

Assigned See ye marks 1pt.

5m.4.30.—**Transfer.** (MADE AND PRINTED IN ENGLAND.)

(*The Surveyors are requested not to write on or below the space for Committee's Minute.*)