

B.C.

Rpt. 13.

No. 9338

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 OCT 1952

Date of writing Report 12/10/ 19 52 When handed in at Local Office 12/10/52 Received at London Office  
 Port of SINGAPORE  
 No. in Survey held at SINGAPORE Date, First Survey 21/12/51 Last Survey 20/9/52 19  
 Reg. Book. (No. of Visits (During GS Cycle)  
 95010 on the Steel Twin Screw Motor Vessel "ORESTES" Tons { Gross 7765  
 Net 4737  
 Built at BELFAST By whom built WORKMAN, CLARK & CO. LD. Yard No. - When built 1926  
 Owners OCEAN S.S. CO. LD. Port belonging to LIVERPOOL  
 Installation fitted by - When fitted 1926  
 Is vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. - Radar -

Plans, have they been submitted and approved - System of Distribution TWO-WIRE Voltage of Lighting 110  
 Heating 220 Power 220 D.C. or A.C., Lighting DC Power DC 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

Positive 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 - and the results found as per Rule -

Position of Generators No.1 P.A.; No.2 P.F.; No.3 S.F.; No.4 S.A

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 of Engine

Room at Forward Eng about 20 feet above bottom E.R. 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 - 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 construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear

for each generator and arrangement of equaliser switches DP. CB's - Equalising Switches Integral  
 with circuit breaker

and the switch and fuse gear (or circuit breakers) for each outgoing circuit DP switches. Circuit breaker on  
 Refrigerating Main Circuit

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6  
 ammeters 6 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  
 2-15w Lamps in Series Across Poles - Centre Point Earths

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes  
 make of fuses - are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate 750 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 0, 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 -

of the "HR" type - State how the cables are supported or protected Perforated trays and brass  
 clips. Steel Boxes in exposed positions.

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

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Lloyd's Register  
Foundation



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule.....Yes..... Emergency Supply, state position  
Steel Motor House on Upper Deck

Navigation Lamps, are they separately wired.....Yes.....controlled by separate double pole switches and fuses.....Single.....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.....-....., are they adequately ventilated.....-.....  
state battery capacity in ampere hours.....-

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.....-

and where are the controlling switches fitted.....-..... Are all fittings suitably ventilated.....Yes.....  
Searchlight Lamps, No. of.....One....., whether fixed or portable.....Portable....., are they of the carbon arc or of the filament type.....Filament.....

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 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.....-..... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing.....-.....

Have certificates of test for motors under 100 BHP intended for essential sea 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.....-..... 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.....-....., are all fuses of an Approved Cartridge Type.....-....., make of fuse.....-..... 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.....-.....

E.S.D., if fitted state maker.....-..... location of transmitter.....-..... and receiver.....-.....  
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 ...	4		100	220	455	300	DIESEL ENGINE - B & W	
LIGHTING	2		20	110	180	675	31 BHP MOTOR	
EMERGENCY ...	1		16	110	146	800	3 CLY PARAFFIN - GARDNER	
ROTARY TRANSFORMER								

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	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 ... No. 1	100	-	91/.103	455	-	300	P.I.	L.C.B.
" " " 2	100	-	91/.103	455	-	300	"	"
" " " 3	100	-	91/.103	455	-	480	"	"
" " " 4	100	-	91/.103	455	-	560	"	"
EMERGENCY GENERATOR ...	14	1	37/.072	146	-	72	P.I.	L.C.B.
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

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

DESCRIPTION.							
RING MAIN (FWD.PORT, FWD.STARBOARD)	2	0.35	1630	-	590	PI	L.C.B.
" " (AFT.PORT, AFT.STARBOARD)	2	0.35	1100	-	720	PI	"
WINCHES-MIDSHIP - FORD.	1	37/.093	260	-	210	"	"
" MIDSHIP	1	37/.093	260	-	400	"	"
" MIDSHIP AFT.	1	37/.093	260	-	500	"	"
REFRIGERATING MACHINERY	2	1.0	1167	-	615	"	"
OIL FUEL PURIFIERS ETC.	1	37/.103	250	-	80	"	"
AUXILIARY MACHINERY	1	37/.072	150	-	420	"	"
EMERGENCY INTER CONNECTOR	1	37/.093	140	-	440	"	"

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	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	1	7/.064	-	-	300		L.C.B.
NAVIGATION LIGHTS.	1	7/.044	8.7	-	650		"
BOAT-LIGHTING - PORT	1	7/.044	8.8	-	50		"
" " - STARBOARD	1	7/.044	8.8	-	50		"
PANTRY AND BOILERS (FWD)	1	19/.064	56	-	360	PIR	"
HEATERS FORD	1	37/.064	95	-	400	"	"
" MIDSHIP	1	19/.083	58	-	400	"	"
GALLEY	1	37/.093	275	-	550	"	"
BOILERS MIDSHIP	1	19/.072	64	-	550	VIR	"
220V SHORE CONNECTION.	2	61/.133	-	-	210	VIR	"
110V GENERATOR MAINS	1	37/.083	163	-	220	"	"
LIGHTING - OFFICERS	1	19/.064	46	-	360	"	"
" MIDSHIPS	1	19/.052	28	-	450	"	"
" ER GENERAL	1	19/.064	38	-	140	"	"
" POOP	1	19/.052	13.6	-	1300	"	"
" FORD.CARGO.	1	19/.064	34	-	360	"	"
" AFT.CARGO	1	19/.064	45	-	180	"	"
110V SHORE CONNECTION	1	37/.083	160	-	200	"	"
EMERGENCY LIGHTING	1	19/.052	8	-	70	"	"

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
MAIN REFRIGERATING MOTOR	2	120	1	91/103	450	-	200	PI
BRINE PUMPS	3	15	1	19/.064	60	-	250	"
REFRIGERATING CIRC.PUMP.	1	5	1	19/.052	21	-	180	"
COOLING FANS	2	8	1	19/.064	33	-	350	"
LIGHTING M.G. (MOTOR)	2	31	1	19/.083	118	-	250	"
O.F. PURIFIER	2	4	1	7/.064	16.2	-	60	VIR
DOMESTIC REFRIGERATING	1	15	1	19/.064	59	-	150	"
ENG.TURNING GEAR	2	8	1	19/.052	35	-	90	"
DOM. P.W. PUMP	1	5	1	7/.064	21	-	90	"
BALLAST PUMP	1	45	1	37/.083	169	-	420	"
AUX.SW CIR.PUMP	1	5	1	7/.064	21	-	240	"
OIL FUEL-TRANSFER PUMP	1	15	1	19/.083	78	-	120	"
LUBRICATING-OIL PURIFIER	1	5	1	7/.064	8	-	180	"
VERTICAL FIRE/BILGE PUMP	1	30	1	37/.064	116	-	480	"
HORIZONTAL " "	1	30	1	37/.064	116	-	440	"
FORCED LUB.OIL PUMP	2	38	1	37/.064	140	-	150	"
MAIN COOLING PUMP	2	33	1	37/.064	121	-	100	"
EMERGENCY BILGE	1	12	1	19/.083	96	-	80	"
WATERTIGHT DOOR	1	3	1	3/.036	17	-	150	"
STEERING MOTORS	2	35	1	19/.083	134	-	850	"
WINDLASS	1	120	1	91/.093	450	-	600	"
WINCHES (8 TON)	2	58	1	37/.064	195	-	-	"
" (5 TON)	4	40	1	37/.064	130	-	-	"
" (4 TON)	2	40	1	37/.064	130	-	-	"
" (2 TON)	10	40	1	37/.072	130	-	-	"



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 Contractors. Date

COMPASSES.

Yes

Have the compasses been adjusted under working conditions.

Builder's Signature. Date

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

Is this installation a duplicate of a previous case. If so, state name of vessel.

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

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

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

The electrical appliances of this vessel have been examined in accordance with the requirements for Periodical Special Survey. The materials used and the workmanship throughout appears to be good.

Insulation tests have been carried out and the installation examined and tested under working conditions and found satisfactory.

The electrical installation of this vessel is eligible in my opinion to be classed with the Society, if or when all the Committee's requirements for classification have been completed.

Noted and 14/11/52  
L. H.

Total Capacity of Generators 400 Kilowatts.

The amount of Fee ... £ Please see Sng. Report No. 9021

When applied for, 19

Travelling Expenses (if any) £

When received, 19

M. P. Watson  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 18 NOV 1952

Assigned

See Sng. 9334