

14 JAN 1960

Rpt. 13

No. 15093

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 4th Dec. 19 59 When handed in at Local Office 19 Port of TRIESTE

No. in Survey held at Trieste (Monfalcone) Date, First Survey 20 Rpt 4e Last Survey 19 Reg. Book 40931 (No. of Visits)

on the ESSO LIVERPOOL Tons Gross 23720 Net 12752

Built at Monfalcone By whom built C.R.D. Adriatico Yard No. 1841 When built 1959

Owners Esso Petroleum - London Port belonging to London

Installation fitted by C.R.D. Adriatico When fitted 1959

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 Three wire insulated Voltage of Lighting 115 V.

Heating steam Power 440 D.C. or A.C. Lighting A.C. Power A.C. If A.C. state frequency 60

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 yes Generators, are they compound wound yes, and level compounded under working conditions. yes

Are the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole. negative

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

under 100 kw. been supplied and the results found as per Rule yes Position of Generators abreast, starbd. side of engine

room manoeuvring platform

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 starbd. side forward of

generators,

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. dead front type, 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. - 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. three pole linked circuit breakers with overcurrent and short

circuit protection reverse power relays and low voltage protection set to operate at 100 Volts

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. two or three pole circuit breakers with

overcurrent and short circuit protection on each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. yes Instruments on main switchboard 9

ammeters 7 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection. yes Earth Testing, state means provided. yes

earth lamps Preference Tripping, state if provided. no, and tested. -

Switches, Circuit Breakers and Fuses, are they as per Rule. yes, are the fuses an Approved Type. yes

make of fuses. Artic, are all fuses labelled. yes If circuit breakers are provided for the generators, at what

overload do they operate. 15% overload 4 seconds, and at what current do the reverse current protective

devices operate. - 36 Amps. 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. 2 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends. yes

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. yes, if so, are they adequately protected. yes State

type of cables (if in conduit this should also be stated) in machinery spaces. Insulated cable lead covered steel braided and

where required. Cables supported and protected as per Rules. Steel

braided or armoured. Run in conduit or fabricated steel channels as and where required.

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. Domestic. Yes

Have refrigeration fan motors been constructed under survey. - and test certificates supplied.

Are the motors accessible for maintenance at all times. -



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Emergency generator (upper deckhouse aft)

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, fitted and adequately ventilated as per Rule Yes, state battery capacity in ampere hours 40 Amp/ hr. Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted Yes If so, state nominal lamp voltage 115 V. and compartments where lamps are fitted engine room, boiler room and accommodation spaces

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

Searchlights, No. of 1, whether fixed or portable fixed, 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 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

Lightning Conductors, where required are they fitted as per Rule Yes

Ships carrying Oil having a Flash Point of 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 Arctic London Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Marconi location of transmitter and receiver frame 113/114 starbd. side

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	
			KW per Generator	Volts	Amps	Revs. per Min.	TYPE	MAKER
MAIN ...	2	C.R.D.A. - Monfalcone	938	450	1220	1200	steam	TOSI WESTINGHOUSE
Exciter ...	2	do	18	110	164	1200	turbine	
EMERGENCY ...	1	do	187.5	450	241	1200	Diesel	Suddeutsche Bremen A.G.
ROTARY TRANSFORMER: Exciter	1	do	7	45	61	1200		M.W.M.

GENERATOR CABLES

DESCRIPTION	No. of	Kw.	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return) in Mts.	INSULATION	PROTECTIVE COVERING
			No. in Parallel per Pole	Sectional Area of each conductor in sq. mm.	In the Circuit	Rule			
MAIN GENERATOR ...	2	750	8	3 x 160	1220	1704	42	V.I.R.	Lead covered steel braided
" EQUALISER ...	2	18	1	2x1x63	164	226		do	do
Exciter ...	2	18	1	2x1x63	164	226		do	do
EMERGENCY GENERATOR ...	1	150	2	1x3x100	241	310	10	do	do
ROTARY TRANSFORMER: MOTOR	1	7	1	2x1x20	61	106		do	do
" GENERATOR ...									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

DESCRIPTION	No. of	Sectional Area of each conductor in sq. mm.	In the Circuit	Rule	APPROX. LENGTH (lead plus return) in Mts.	INSULATION	PROTECTIVE COVERING
ES Emergency switchboard conn.	2	3 x 100	241	312	55	V.I.R.	Lead covered & steel braided or armoured.
MDP Midship dist. panel	1	3 x 100	112	156	130	do	do
T.2 Galley transformer	1	3 x 63	104	116	40	do	do
AVI/2 Acc. vent panels	1	3 x 32	48.2	73	190	do	do
BF Boiler room panel	1	3 x 63	106.5	116	25	do	do
EF Engine room fan panel	1	3 x 40	75.7	85	10	do	do
EP1 N°. 1 boiler room power panel	1	3 x 80	96	138	40	do	do
EP2 N°. 2 boiler room power	1	3 x 100	124.3	156	35	do	do
EP1 N°. 1 engine room power panels	1	3 x 100	141.5	156	30	do	do
EP2 N°. 2 engine room power panels	1	3 x 63	53.2	116	40	do	do
CP Conditioning plant	1	3 x 80	112	138	50	do	do
RP Refrigerating plant	1	3 x 16	30	49	70	do	do
WS Workshop power	1	3 x 10	21	38	50	do	do
EC Earth connection	2	3 x 160	400	426	75	do	do

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

DESCRIPTION	No. in Parallel per Pole	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return) in Mts	INSULATION	PROTECTIVE COVERING
		Sectional Area of each conductor in sq. mm.	In the Circuit	Rule				
BHL1 Boiler room lighting	1	3 x 6.3	10	30	40	V.I.R.	Lead covered Steel braided or armoured	
BHL2 Boiler room lighting	1	3 x 6.3	8	30	30	do	do	
ERL1 Engine room lighting	1	3 x 16	12	49	25	do	do	
ERL2 Engine room lighting	1	3 x 16	13	49	15	do	do	
DL 4 Deck lighting	1	3 x 10	17	38	50	do	do	
DL 5 Deck lighting	1	3 x 10	15	38	20	do	do	
DL 6 Deck lighting	1	3 x 6.3	10	30	50	do	do	
DL 7 Deck lighting	1	3 x 10	16	38	20	do	do	
DL 8 Deck lighting	1	3 x 10	18	38	30	do	do	
EL 2 Exterior lighting	1	3 x 10	20	38	20	do	do	
MP 3 Misc. deck power	1	3 x 32	65	73	35	do	do	
MP 4 Misc. deck power	1	3 x 32	60	73	60	do	do	
HEP Boiler room emerg.	1	3 x 16	23	49	50	do	do	
BW21 Boat winches	1	3 x 10	22	38	40	do	do	
SP1/ 440 V. Signals	1	3 x 50	60	99	70	do	do	
P Suez light	1	2 x 20	15	56	85	do	do	
EP1/1 Emergency fire pump	1	3 x 20	52	56	30	do	do	
115 V/SP2 Signals	1	3 x 50	30	99	70	do	do	
I.C. Eng. & Blr. room signal panels	1	3 x 6.3	15	30	50	do	do	
EM2 Emergency lights	1	3 x 10	17	38	70	do	do	

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED	No.	B.H.P.	Sectional Area of each conductor in sq. mm.	In the Circuit	Rule	APPROX. LENGTH (lead plus return) in Mts.	INSULATION	PROTECTIVE COVERING
FDF1 F.D. fan	1	110/30	1	3 x 125	134/42	180	48	V.I.R. Lead covered, Steel braided or armoured
FDF2 F.D. fan	1	110/30	1	3 x 125	134/42	180	48	do
FDF3 F.D. fan	1	110/30	1	3 x 125	134/42	180	48	do
MC Main circulating	1	145	1	3 x 160	177	213	35	do
AC Aux. circulating	1	46	1	3 x 32	62	73	35	do
MCC1 Main cond.	1	38	1	3 x 20	49	56	27	do
MCC2 Main cond.	1	38	1	3 x 20	49	56	27	do
ACC Aux. cond.	1	27	1	3 x 16	37	49	20	do
FO1 F.O. service	1	14.7	1	3 x 6.3	19/11	30	25	do
FO2 F.O. service	1	14.7	1	3 x 6.3	19/11	30	25	do
LO1/2 L.O. circ. pump	2	32	1	3 x 16	42	49	42	do
LOC L.O. cooler	1	18	1	3 x 10	22	38	45	do
SG1/2 Steering gear	2	80	1	3 x 80	109	138	70	do
Fire pump	1	50	1	3 x 32	63	73	55	do
Bilge pump	1	8	1	3 x 6.3	12	30	30	do
E.R. & B.R. fans	8	13/2	1	3 x 6.3	18	30	30	do
Sanitary & emg. fire pump	1	40	1	3 x 20	52	56	30	do
Combustion comp.	3	15	1	3 x 10	21	38	40	do

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

CANTIERI RIUNITI DELL'ADRIATICO
CANTIERE NAVALE MONFALCONE

Electrical Contractors.

Date 22/12/59

COMPASSES

Have the compasses been adjusted under working conditions.

yes

CANTIERI RIUNITI DELL'ADRIATICO
CANTIERE NAVALE MONFALCONE

Builder's Signature.

Date 22/12/59

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

Is this installation a duplicate of a previous case. yes

If so, state name of vessel.

"ESSO WINDSOR"

Plans. Are approved plans forwarded herewith. "As Built" copies of

If not, state date of approval.

July, 1957

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.) The electrical installation has been constructed and installed under special survey in accordance with the Secretary's letters, approved plans

and Rule requirements.

The materials and workmanship are good.

On completion the installation was tested under full load and normal working conditions to R.R. and found to be satisfactory.

The insulation resistance and voltage drop was found to comply with the Rules.

The electrical equipment and installation, in my opinion, is suitable for a classed ship having the

Notation: "Carrying petroleum in bulk." OIL TANKER.

Total Capacity of Generators 1650 Kilowatts.

The amount of Fee ... £ 316.6.0 less 15% - £ 268.17.0

When applied for,

30.12.59

When received,

19

Travelling Expenses (if any) £ Rpt 1

Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRIDAY 12 FEB 1960

Assigned

See Rpt. 1.