

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

17 APR 1944

Date of writing Report. 29-3-1944 When handed in at Local Office. 15-4-1944 Port of Middlesbrough

No. in Survey held at Haverton Hill on Tues Date, First Survey 4-1-1944 Last Survey 23-3-1944
Reg. Book.37400 on the S/S. "EMPIRE LAW" Tons { Gross 812.8
Net 450.7

Built at Haverton Hill on Tues By whom built Furness Shipbuilding Co. Ltd. Yard No. 357 When built 1944

Owners The Ministry of War Transport. Port belonging to Middlesbrough

Electrical Installation fitted by Furness Shipbuilding Co. Ltd. Contract No. 357 When fitted 1944

Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. No

Have plans been submitted and approved Yes System of Distribution Two-Wire insulated Voltage of supply for Lighting 110

Heating — Power 110 Direct or Alternating Current, Lighting Yes Power Yes 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 fitted 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 on generator flat aft of L.P. Boilers

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 on generator flat aft of L.P. Boilers

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. Eray "Sindergo" 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 — 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 double-pole single

throw quick-break Rupture switch and double pole cartridge fuse. a double-pole

double-throw Rupture switch for supplying D.C. from either generator

and for each outgoing circuit. a double-pole, double-throw quick-break Rupture switch and double

pole cartridge type fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Two

ammeters Two 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 E. lamps coupled to E through two fuses.

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 —, 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 — 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 7.66 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

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.
MAIN	2	30	110	273	185	Single Cylinder Vertical Steam Engines	
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.									
DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rmle.				
MAIN GENERATOR	30	1	37/-085	273	296	60	P.C.	L.C.F.B.	
" " EQUATION	30	1	37/-083	273	296	80	"	"	
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
GENERATOR									

MAIN DISTRIBUTION CABLES

[illegible]

LIGHTING AND HEATING, ETC., CABLES.

[illegible]

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED.			No.	B.H.P.	MOTOR CABLES.					
Eng. Kent Farm (off Main 58)	1	2	1	7/044	20	42	310	V.C.	L.C.B.B.	
" " " " " "	1	3	1	7/044	20	42	370	"	"	
Mr. Pugh's Farm " " " "	1	5	1	1/064	5	10	85	"	"	
" " R.C. " " " "	1	5	1	1/064	5	10	85	"	"	
Turning Post	1	8	1	7/064	61	75	330	"	"	
Dec. Kent Farm (off Kent Farm 4/58)	1	3	1	7/044	21	42	210	"	L.C.	
" " " 4 1/2 " " " "	1	3	1	7/044	21	42	130	"	"	
Spring, Kent Farm (off Main 58)	1	1	1	7/029	7	15	140	"	L.C.B.B.	
Thorp, Green, Kent Farm (off Main 1/52)	1	3	1	7/044	21	42	145	"	L.C.	

The foregoing is a correct description.

Electrical Engineers.

Date 7-4-44

COMPASSES.

Minimum distance between electric generators or motors and standard compass.....15'

Minimum distance between electric generators or motors and steering compass.....13'

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Amperes 7 feet from standard compass on the feet ~~from~~ steering compass.

A cable carrying 14 Amperes on the feet from standard compass 7 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 440

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 715 degrees on every course in the case of the

standard compass, and Nil degrees on every course in the case of the steering compass.

...Builder's Signature.

Date April 7, 1944

Is this installation a duplicate of a previous case..... yes If so, state name of vessel S/S "Empire Bondy"

Plans. Are approved plans forwarded herewith.....*No.*..... If not, state date of approval.....*28-9-43*.....

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.).....

The electrical equipment of this vessel has been installed under special survey in accordance with the approved plans and the Ministry of Shipping specification and amendments thereto: The materials used are of good quality and design and the workmanship is good: On completion the equipment was operated under load with satisfactory results and the insulation resistance of each circuit was measured and found good: This equipment is in my opinion suitable for a classed vessel.

Notes

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Fr

18.4.44

Total Capacity of Generators (2x30) 60 Kilowatts.

The amount of Fee	£ 28. 10. 0.	} When applied for, 7-4-1944
<i>Specification</i>	7. 2. 6	
Travelling Expenses (if any) £	:	When received,19.....

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THURS 27 APR 1944

Assigned.

5m, 4.39. — **Transfer.** (MADE AND PRINTED IN ENGLAND.)