

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 8 JAN 1945

Date of writing Report 2.1.1945 When handed in at Local Office 5 JAN 1945 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 9-11-44 Last Survey 30-12-1944
Reg. Book. 89418 on the S.S. "EMPIRE MANDALAY" (Number of Visits 10)Built at Sunderland By whom built Shipbuilding Corporation Ltd (Wear Branch) Tons { Gross 7085
Net 4889
Yard No. When built 1944

Owners The Ministry of War Transport Port belonging to Sunderland

Electrical Installation fitted by Sunderland Forge & Engineering Co Ltd Contract No. When fitted 1944

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. No 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 — 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 engine room situated on raised stools

, 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 angle framework adjacent to 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 Heavy "Kindsomps" 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 knife switch and double-pole fuse: a double-pole, double

throw knife switch for supplying D.C. from either generator.

and for each outgoing circuit a double-pole double throw quick-break knife switch and

double pole 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 sub 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 2.67, 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 —

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.	Flash Point of Fuel.
MAIN	2 ✓	15 ✓	110 ✓	136.5	950 ✓	Single Cylinder Vertical Steam Engines		
EMERGENCY ...								
ROTARY TRANSFORMER								

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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.	Rule.				
MAIN GENERATOR No. 1 ...	15	1	19/083	136.5	191	50	V.C.	L.C.	
" " EQUALISER									
" " No. 2 ...	15	1	19/083	136.5	191	50	V.C.	L.C.	
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR ...									
GENERATOR ...									

[illegible]

WIRELESS	1	19/044	53	✓ 80	V.I.R.	H.G.S. conduit
NAVIGATION LIGHTS	1	7/036	6	24 ✓ 60	"	"
LIGHTING AND HEATING	(Alternative fed from D.P.C.O. British No 4 shedhouse)					
Bridge lighting DB-1A	1	7/036	5	24 ✓ 72	V.I.R.	H.G.S. conduit
Food Crgs lighting DB-2	1	7/044	10	31 ✓ 218	"	" "
Off " " - 3.	1	7/044	6	31 ✓ 240	"	" "
Engine & Boiler Hms DB-4	1	7/036	22	24 ✓ 42	"	" "
Crew qtr 5B	1	7/052	13	37 396	W.E.	" "

[illegible]

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 3 - 1 - 1945

COMPASSES.

Minimum distance between electric generators or motors and standard compass 61'

Minimum distance between electric generators or motors and steering compass 66'

The nearest cables to the compasses are as follows:—

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

A cable carrying 1/4 Ampères 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 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 nil degrees on every course in the case of the standard compass, and nil degrees on every course in the case of the steering compass.

SHIPBUILDING CORPORATION LTD
(WEAR BRANCH)

Builder's Signature.

Date Jan 4 / 45

JOSEPH L. THOMPSON & SONS LTD

Managing Agents

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

Plans. Are approved plans forwarded herewith no. If not, state date of approval 24-8-43.

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. Upon completion the equipment was operated on 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.

Noted Thus 11.1.45

Total Capacity of Generators (2x15) 30 Kilowatts.

The amount of Fee ...	£ 22 : 10 :	When applied for, 3 Jan 1945
Specification	5 : 12 : 6	
Travelling Expenses (if any) £	:	When received, 19

Surveyor to Lloyd's Register of Shipping.

FRI 16 FEB 1945

Committee's Minute

Assigned

See F.E. machy. rpt.



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Foundation