

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

119 JUL 1945

Received at London Office.....

Date of writing Report. 10-7-1945 When handed in at Local Office. 14-7-1945 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 28-4-45 Last Survey 7-7-1945  
Reg. Book. (Number of Visits.....)89505 on the S.S. "EMPIRE ALDCATE" Tons { Gross 3484.87  
Net 2156.88

Built at West Hartlepool By whom built Wm. Gray &amp; Co. Ltd Yard No. 1180 When built 1945

Owners The Ministry of War Transport Port belonging to West Hartlepool

Electrical Installation fitted by Wm. Gray &amp; Co. Ltd Contract No. 1180 When fitted 1945

Is vessel fitted for carrying Petroleum in bulk No. Is vessel equipped with D.F. Yes E.S.D. No 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 10 Direct or Alternating Current, Lighting 400 Power 400 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 on raised platform of Main engine

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 "Kinsup" 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 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 No.

ammeters Yes 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 6 lamps coupled 6 E through bus &amp; 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

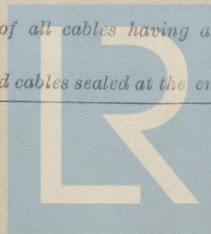
protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current

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 7.6 lb, are the ends of all cables having a sectional area of 0.01

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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005167-005173-0081



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	134.5	685	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.	Rule.			
MAIN GENERATOR ... .. No. 1.	15 ✓	2 ✓	19/064	126.5	166	48	W.E.	H. G. S. Gradient
" " EQUALISER ... ..								
" " No. 2.	15 ✓	2 ✓	19/064	126.5	166	42	W.E.	H. G. S. Gradient
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR ... ..								
" " GENERATOR ... ..								

[illegible]

WIRELESS	1	7/064	10	46	540	NE	H.G.S. Conduit
NAVIGATION LIGHTS	1	7/036	8	24	540	"	"
LIGHTING AND HEATING							
Bottom Frame DB.	1	7/052	15	37	495	NE	H.G.S. Conduit
Caplin Ltg DB.	1	7/052	7	37	21	"	"
Deck Ltg DB.	1	7/064	19	46	495	"	"
Reel & W. R. L. DB (4 Ltg & 1 Hot Ltg DB)	1	7/064	26	46	30	"	"
Prop & L. Ltg DB	1	7/064	8	46	30	"	"
Therm. Tank DB	1	7/052	26-8	37	69	"	"
Eng. 7 Ltg Run Ltg DB.	1	7/036	13	24	12	"	"

[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.

WILLIAM GRAY & CO. LTD.  
Thos. S. Simpson

Electrical Engineers.

Date 11th July '45

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 178'

Minimum distance between electric generators or motors and steering compass 176'

The nearest cables to the compasses are as follows:—

A cable carrying 14 Ampères 7 feet from standard compass on the feet from steering compass.

A cable carrying 14 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 4th

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted 4th

The maximum deviation due to electric currents was found to be 1/2 degrees on way course in the case of the standard compass, and nil degrees on way course in the case of the steering compass.

Builder's Signature.

Date 11th July '45

Thos. S. Simpson

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 S. 27.2.45: D. 20.2.45

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith 4th

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 specifications and amendments. Hereby: The materials used are of good quality and design and the workmanship is good: on completion, the equipment was operated on test with satisfactory results and the insulation resistance of each circuit has been measured and found good: This equipment is in my opinion suitable for a classed vessel.

Total Capacity of Generators (2x15) 30 Kilowatts.

The amount of Fee ...  
Specification 22. 10. 0  
5. 12. 6

When applied for,

15/7/1945

Travelling Expenses (if any) £

When received,

10

Surveyor to Lloyd's Register of Shipping.

FRI. 24 AUG 1945

Committee's Minute

Assigned See F.E. machy. opt.



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