

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Recorded at London Office.....

Date of writing Report... 5-1-1942 When handed in at Local Office... 19... Port of Middlesbrough

No. in Survey held at Haverston Hill on Tees Date, First Survey 12-11-41 Last Survey 29-12-1941
Reg. Book. (Number of Visits.....)

on the S/S. "EAGLESDALE" (EX- "EMPIRE METAL") Tons { Gross.....
Net.....

Built at Haverston Hill on Tees By whom built Furness Shipbuilding Co. LTD Yard No. 339 When built 1941
Owners Admiralty Port belonging to LONDON

Electrical Installation fitted by Furness Shipbuilding Co. Ltd Contract No. 339 When fitted 1941

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. Yes

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 Yes, 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 Yes 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 aft on raised generating flat
none 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 near 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 "Sindanip", 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 quick
break knife switch and double pole cartridge type fuse

and for each outgoing circuit a double pole quick break knife 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 connected to E through bus & 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 4.4V, 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

16/10/37

accord
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Rule

ter of Shipping.
Stuart



with insulating compound... or waterproof insulating tape... 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 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... State how the cables are supported and protected... all cables V.C. insulated: In machinery spaces deck runways & service cable to run deck, lead-covered armoured & braided cables fastened to metal tray. In accommodation, lead-covered and braided cables on surface, protected where necessary

Are all lead sheaths, armouring and conduits effectually bonded and earthed... yes Refrigerated chambers, are the cables and fittings as per Rule... 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 and with what material... lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... yes Emergency Supply, state position... and method of control... Navigation Lamps, are they separately wired... yes controlled by separate double pole switches... yes 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 Secondary Batteries, are they constructed and fitted as per Rule... are they adequately ventilated... what is the 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 fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... yes, if so, how are they protected... D & S "Drop-in" Flameproof lighting fittings installed as approved in Central Office and where are the controlling switches fitted... in open quarters, are all fittings suitably ventilated... yes are all fittings and accessories constructed and installed as per Rule... yes Searchlight Lamps, No. of... whether fixed or portable... are their fittings as per Rule... Heating and Cooking, is the general construction as per Rule... are the frames effectually earthed... are heaters in the accommodation of the convection type... Motors, are all motors constructed and installed as per Rule... yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil... yes, if situated near unprotected combustible material state minimum distance from same horizontally... and vertically... Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment... none fitted

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... none fitted Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule... none fitted Control Gear and Resistances, are they constructed and fitted as per Rule... yes Lightning Conductors, where required are they fitted as per Rule... none fitted 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... yes, are all fuses of the cartridge type... yes are they of an approved type... yes Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... yes Are the cables lead covered as per Rule... yes Spare Gear, if the vessel is for open sea service have spares been provided as per Rule... yes, are they 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	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	20	110	182	600	Single Cylinder Steam Engine		
de Sauxing	1	20	110	182	600	ditto		
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 GENERATORS	2 x 20	1	19/085	182	191	32+40	V.C.	L.C.A.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Sub Switchboard (main feed)	1	37/093	75	543	670	V.C.	L.C.A.B.
" " (emergency feed)	1	37/093	75	543	660	"	"
Off Lighting Sub. Board Feed	1	19/052	60	104	160	"	"
Shore Connection	1	19/083	-	191	240	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS (off Sub. Board)	1	7/044	15	42	134	V.C.	L.C.B.
NAVIGATION LIGHTS (off Sub. Board)	1	7/044	12	42	130	"	"
LIGHTING AND HEATING							
Engine Room Lig. D.B. No. 1.	1	7/044	15	42	64	V.C.	L.C.A.B.
" " " " " 2.	1	7/044	15	42	70	"	"
Forecastle Lig. Board.	1	7/044	8	42	364	"	"
Main Floor D.B.							
Main Port D.B.							
Pump Room Lig. D.B.							
2. Upper Lig. D.B. (off Main Board)	1	7/044	18+21	42	60+90	V.C.	L.C.B.
2. Lower " " (off Off Board)	1	7/044	16+18	42	16+70	"	L.C.A.B.
Off Port D.B.	1	7/044	-	42	60	"	"
Emergency W.T. (off Main Board)	1	7/044	-	42	820	"	"

Distribution fuses mounted on Sub. Switchboard

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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.			
Off Vent. Fan Motor	1	3.	1	7/044	28	42	140+132	V.C.	L.C.A.B.
Main " " "	1	3.	1	7/044	28	42	146+90	"	"

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.

FURNESS SHIPBUILDING CO. LIMITED

Electrical Engineers.

Date

13.1.42

COMPASSES.

Minimum distance between electric generators or motors and standard compass 285 ft

Minimum distance between electric generators or motors and steering compass 280 ft

The nearest cables to the compasses are as follows:—

A cable carrying 2 1/2 Ampères 100 ft from standard compass 7 feet from steering compass.

A cable carrying 1 1/4 Ampères 7 feet from standard compass 50 ft 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.

FURNESS SHIPBUILDING CO. LIMITED

Builder's Signature.

Date

13.1.42

Geo. M. Robertson

Is this installation a duplicate of a previous case Yes. If so, state name of vessel S/S. EMPIRE GOLD.

Plans. Are approved plans forwarded herewith No. If not, state date of approval 6-11-40

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 and 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 full working conditions 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
L.H.
23/1/42

Total Capacity of Generators 20 (+20 D.G.) Kilowatts.

The amount of Fee ... £25 : 0 : 0 When applied for, 20/1/1942

Travelling Expenses (if any) £ : : When received,19.....

Surveyor to Lloyd's Register of Shipping.

D.S. Ward

Committee's Minute TUE 27 JAN 1942

Assigned See for machine etc.

5m. 4. 50. Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minutes.)



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