

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 3 MAR 1942

Date of writing Report... 7-2-1941 When handed in at Local Office... 19... Port of Middlesbrough

No. in Survey held at Newton Hill n. Tees Date, First Survey 19-12-41 Last Survey 5-2-1942
Reg. Book. 36408 on the R.F.A "EASEDALE" (Number of Vicks...)

Built at Newton Hill n. Tees By whom built James Shephard & Co. Ltd Yard No. 340 When built 1942
Owners Admiralty Port belonging to London

Electrical Installation fitted by James Shephard & Co. Ltd Contract No. 340 When fitted 1942

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 no 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,

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 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 generator flat, near main generator

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 Stony "Sindony", 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 equation 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 coupled to "E" through 8000 & 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 4.40, 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

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. Yes, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes. State how the cables are supported and protected. in machinery spaces, along duct runways, galley, etc. V.C.A.B. cables clipped to metal tray fastened to the surface. In accommodation, V.C. lead-covered & braided cables clipped to the surface & protected where necessary by metal or wood.

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 effectually 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.

"Inspection" nameplates of lighting fittings as approved installed in accessible and where are the controlling switches fitted. in engine 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. Yes

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	2	20	110	182	600	Single Cylinder 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	20	1	19/083	182	191	32	V.C.	L.C.A.B.
" " EQUALIZER								
" " Starboard		1	19/083	182	191	40	"	"
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	45	343	670	V.C.	L.C.A.B.
" " (Emergency feed)	1	37/093	45	343	650	"	"
Aft. Lighting Sub. board.	1	19/052	60	104	160	"	"
Starboard Conduction	1	19/083	—	191	240	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS (off sub. switchboard)	1	7/044	15	42	134	V.C.	L.C.B.
NAVIGATION LIGHTS (off sub. switchboard)	1	7/044	12	42	180	"	"
LIGHTING AND HEATING							
Engine Room Lighting D.B. No. 1	1	7/044	15	42	64	V.C.	L.C.A.B.
" " " No. 2	1	7/044	15	42	70	"	"
Forecastle Ltg. Bd.	1	7/044	8	42	264	"	"
Main Hold D.B.							
Mid. Portables D.B.							
Pump Room Ltg. D.B.							
2 Forward Ltg. D.B.'s (off Mid. Sw. Bd.)	1	7/044	18+21	42	60+90	V.C.	L.C.B.
2 Eng. " " (off aft. Bd.)	1	7/044	16+18	42	16+70	"	L.C.A.B.
Aft. Portables (off aft. Bd.)	1	7/044		42	60	"	"
Emergency W.T. Feed. (off aft. Bd.)	1	7/044	15	42	320	"	"
Geno. Compass Feed. (midship Bd.)	1	7/029	6	15	120	V-I-R	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Aft. Ventilation Fan Motor	1	3.	1	7/044	28	42	272	V.C.	L.C.A.B.
Mid. " " "	1	3.	1	7/044	28	42	236	"	"

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

P. S. Green

Electrical Engineers.

Date *11/2/42*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *283 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 *1/4* Ampères *on the* feet from standard compass *7* feet from steering compass.

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

FURNESS SHIPBUILDING CO. LIMITED

Builder's Signature.

Date *11-2-42*

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 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
S.D. Ward
3/3/42*

Total Capacity of Generators *20 (4 20 D.C.)* Kilowatts.

The amount of Fee ... *£25:0:0* When applied for, *28/2/1942*

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

S.D. Ward
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 10 MAR 1942*

Assigned *See Mdb JE 17206*

501439—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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