

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

11 MAY 1942

Received at London Office

Date of writing Report 6-4-42 When handed in at Local Office 19 Port of Middlesbrough

No. in Survey held at Haverton Hill on Tees Date, First Survey 16-2-42 Last Survey 5-4-42

Reg. Book. S/S. "EMPIRE DICKENS" (Number of Ticks 7) on the 36440

Built at Haverton Hill on Tees By whom built Furness Shipbuilding Co. Ltd. Card No. 341 Tons (Gross Not) When built 1942

Owners The Ministry of War Transport Port belonging to Middlesbrough

Electrical Installation fitted by Furness Shipbuilding Co. Ltd. Contract No. 341 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. No Sub.Sig. 70

Have plans been submitted and approved Yes System of Distribution Low Voltage 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,

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 skunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

positive 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 engine room 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 raised platform of main generator's

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 "Kindanyo", 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 cartridge

type fuse

and for each outgoing circuit a double-pole double throw 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 Yes

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 E. lamps coupled to E through main 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 2.5 lb, 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 408. 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. 408, are cables laid under machines or floorplates 408, if so, are they adequately protected. 408. Are cables in machinery spaces, galleys, laundries, etc., lead covered 408 or run in conduit. 408. State how the cables are supported and protected. all cables covered with rubber insulated in machinery spaces, along deck gangways, main decks, forecabin and bridge space, lead covered and removed through in accommodation, V.C. & lead covered & painted run on the deck and protected where necessary. All lighting sub. boards, V.I.R. installed.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. 408. Refrigerated chambers, are the cables and fittings as per Rule. 408. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. 408, where unarmoured cables pass through beams, etc., are the holes effectively bushed. 408 and with what material. Lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. 408. Emergency Supply, state position. 408 and method of control. 408

Navigation Lamps, are they separately wired. 408 controlled by separate double pole switches 408 and fuses. 408. Are the switches and fuses in a position accessible only to the officers on watch. 408, is an automatic indicator fitted. 408. Secondary Batteries, are they constructed and fitted as per Rule. 408, are they adequately ventilated. 408 what is the battery capacity in ampere hours. 408

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. 408. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. 408, if so, how are they protected. in front of bulkhead etc. B.T.S. Disposition lighting fittings as approved, installed and where are the controlling switches fitted. in accommodation, are all fittings suitably ventilated. 408

are all fittings and accessories constructed and installed as per Rule. 408. Searchlight Lamps, No. of 408, whether fixed or portable. 408, are their fittings as per Rule. 408. Heating and Cooking, is the general construction as per Rule. 408, are the frames effectually earthed. 408, are heaters in the accommodation of the convection type. 408. Motors, are all motors constructed and installed as per Rule. 408 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. 408, if situated near unprotected combustible material state minimum distance from same horizontally. 408 and vertically. 408. 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. 408

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. 408. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. 408. Control Gear and Resistances, are they constructed and fitted as per Rule. 408. Lightning Conductors, where required are they fitted as per Rule. 408. 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. 408, are all fuses of the cartridge type. 408

are they of an approved type. 408. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. 408. Are the cables lead covered as per Rule. 408. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. 408, are they suitably stored in dry situations. 408. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. 408

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	25	110	227	480	Single Cylinder Steam Engine		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return test).	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	25	1	27.072	227	246	40	V.C.	L.C.A.T.B.
" " EQUALIZER No. 2	25	1	27.072	227	246	40	V.C.	L.C.A.T.B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return test).	INSULATED WITH.	HOW PROTECTED.
			In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Accommodation S.B.	1	19.052	24	104	116	V.C.	L.C.A.B.
Hullship Bulkhead Main	1	27.072	39	246	712	"	"
" " Emergency Feed	2	27.072	"	246	692	"	"
Emergency W.T. Supply	1	7.044	"	42	280	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS (off main switchboard)	1	7.044	-	42	116	V.C.	L.C.A.B.
NAVIGATION LIGHTS " " " "	1	7.044	5	42	116	"	"
LIGHTING AND HEATING (alternative feed with D.P.C. bulkhead feed in chart room)							
Forecastle D.B. (off Hull S.B.)	1	7.044	5	42	334	V.C.	L.C.A.B.
Upper room D.B. " " "	1	7.044	10	42	52	"	L.C.A.B.
Pump Room D.B. " " "	1	3.036	5	10	132	V.P.R.	L.C.A.T.B.
F. Cargo Hold D.B. " " "	1	7.044	2.7	31	320	"	"
Midship " " " "	1	7.036	5.5	24	274	"	"
Engine Room D.B.	1	7.044	81	42	30	V.C.	"
Acc. Cargo " " "	1	7.029	16	15	98	V.I.R.	"
Hullship Cargo D.B. (off Hull S.B.)	1	7.044	10.5	42	180	V.C.	L.C.A.B.
Acc. D.B. 1 (off Acc. Board)	1	7.044	12	42	16	V.C.	"
" " 2 " " "	1	7.044	12	42	16	V.C.	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Hull Vent Fan.	1	3.5	1	7.044	20	42	268	V.C. L.C.A.B.
Acc. " "	1	4.75	1	7.044	32	42	132	"

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.

Whorley

Electrical Engineer

Date 13-4-42

Steering Compass: 4° on W. course due to W/G. N/4 set. Builder's Log notified Messrs. The Dock of this, COMPASSES. and compass was then adjusted with N/4 set being, as per Master's instructions.

Minimum distance between electric generators or motors and standard compass 290'

Minimum distance between electric generators or motors and steering compass 27'

The nearest cables to the compasses are as follows:—

A cable carrying 144 Ampères 7 feet from standard compass on the feet from steering compass.

A cable carrying 144 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 4° degrees on W. course in the case of the steering compass.

Builder's Signature Date 13-4-42

James M. Robertson

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 D. 20-9-41 S. 26-9-41

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.) This equipment

has been installed under special survey in accordance with the approved plans and the Ministry of Shipping Specifications & Amendments No. 6. 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.
LH
12/5/42

Total Capacity of Generators (2x25) 50 Kilowatts.

The amount of Fee ... £27. 10. 0.
Specification 6. 17. 6.
When applied for, 19/5/1942
Travelling Expenses (if any) £ : :
When received, 19.....

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

Committee's Minute FRI. 5 JUN 1942

Assigned See Indb JE 17239

501430—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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