

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

2 NOV 1944

Date of writing Report 10th Oct 44 When handed in at Local Office 23rd 10 1944 Port of Glasgow

No. in Survey held at Glasgow Reg. Book. 89313 on the S.S. "EMPIRE JURA" Date, First Survey 14.8.44 Last Survey 13th Oct. 1944 (Number of Visits 9)

Tons { Gross 812.69 Net 334.13

Built at Glasgow By whom built A & J Inglis Ltd. Yard No. 1282 P When built 1944

Owners Ministry of War Transport Port belonging to Glasgow

Electrical Installation fitted by W. Muir Goodfellows & Co Ltd. Contract No. 1282 P When fitted 1944

Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D.F. E.S.D. Gy.C. Sub.Sig.

Have plans been submitted and approved Yes System of Distribution Two wire Voltage of supply for Lighting 110

Heating 110 Power 110 Direct or Alternating Current, Lighting D.C. Power 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 in engine room

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 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 Sindanyo, 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 Yes, are they effectively 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 D.P Switch and

Fuses

and for each outgoing circuit D.P. Switch and Fuses

Are compartments containing switchboards composed of fire-resisting material or shielded as per Rule Instruments on main switchboard 2

ammeters 2 voltmeters synchronising devices. For compound machines in parallel is an ammeter connected on the pole opposite to the

equaliser connection Earth Testing, state means provided earth lamps

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

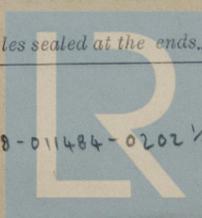
did they operate Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes

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 W.E.

state maximum fall of pressure between bus bars and any point under maximum load 3 volts, 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

10-44



with insulating compound _____ or waterproof insulating tape _____. 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 Maine L.C. & Pyroteaux. Machinery space Pyroteaux & L.C.A. Cables to ford pump room & forecabin Pyroteaux. Accommodation L.C. Cables clipped to tray, protected by covering where necessary.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes. Refrigerated chambers, are the cables and fittings as per Rule _____. 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 _____ Flameproof fittings installed in pump room in accordance with rule requirements and where are the controlling switches fitted in accommodation, 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 _____ and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil _____, 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 _____. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing _____ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule _____. Control Gear and Resistances, are they constructed and fitted as per Rule Yes. Lightning Conductors, where required are they fitted as per Rule _____. 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	6½	110	59.5	500	steam engine		
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	6½	1	.04	59.5	104	44	Pyroteaux cable	
" " 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							

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7.064	20	46	118	Rubber	L.C.B.
NAVIGATION LIGHTS	1	5.036	18	10	144	"	L.C.
LIGHTING AND HEATING							
ENGINE ROOM D.B.	1	2.0145	11	57	45	Pyroteaux Cable	
ACCOMMODATION D.B.	1	7.052	14.2	37	159	Rubber	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
DOMESTIC REFRIG.	1	1	1	2.0145	11	57	225 Pyroteaux Cable

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.

For W. MUIR GOODFELLOW & COY LTD

W. Muir Goodfellow Electrical Engineers. Date 18/10/44

COMPASSES.

Minimum distance between electric generators or motors and standard compass 100 feet

Minimum distance between electric generators or motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 6 Ampères 6 feet from standard compass 6 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 any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

A. & J. INGHIS LIMITED.
W. J. Inghis Builder's Signature. Date 20-10-44
 Director

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 23rd Dec. 1943.

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 fitted on board under special survey tested under working condition and found satisfactory. All the requirements of the approved plans and Ministry of War Transport specification have been carried out. The materials and workmanship are good.

Noted
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 8. 11. 44

1	1.004	20	02	11	11
1	2.012	11	11	11	11
1	7.052	12	37	159	159
1	2.012	11	11	11	11
1	2.012	11	11	11	11
1	2.012	11	11	11	11

Total Capacity of Generators 13 Kilowatts.

The amount of Fee ... £ 13 : 0 :
 SPEC. 3 : 5 :
 Travelling Expenses (if any) £ : :
 When applied for, **31 OCT 1944**
 When received,

J. A. Wright
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 31 OCT 1944**
 Assigned

5m.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

