

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 20 APR 1946

Date of writing Report 16th April 1946 When handed in at Local Office 19. 4. 46 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 27. 3. 46 Last Survey 7th April 1946
Reg. Book. (Number of Visits.....)

40645 on the "M. V. EMPIRE GRENADA" Tons { Gross 8238
Net 4796

Built at Glasgow By whom built Harland & Wolff Ltd Yard No. 1197 G When built 1946

Owners Ministry of War Transport Port belonging to Glasgow

Electrical Installation fitted by Harland & Wolff Ltd Contract No. 1197 G When fitted 1946

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 Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. 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 Adm. & Gen. supply and the results found as per rule 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 Sindango, 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 Double pole switch

and fuses

and for each outgoing circuit Double pole switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3

ammeters 2 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 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

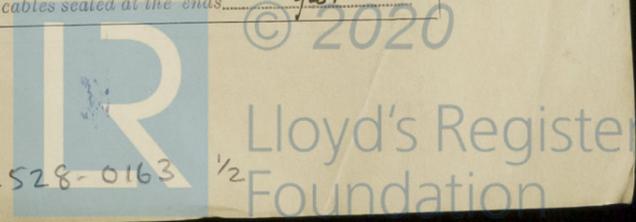
protection devices connected on the pole opposite to the equaliser connection, have they been tested under working conditions, and at what current

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

state maximum fall of pressure between bus bars and any point under maximum load 5.2 v/dk 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 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 Mains along gangway and machinery space Pyrotex clipped to tray, Accommodation space L.C. clipped to steel and woodwork.

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 accordance with rule requirements.

and where are the controlling switches fitted outside the compartments, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of 1, whether fixed or portable portable (Suez Canal Projector), are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule —, are the frames effectually earthed Yes, 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 —.

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 Yes. 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	30	110	273	550	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 ... No 1	30	1	.2	273	296	36	Pyrotex Cable	
" " EQUALISER								
MAIN GENERATOR No 2	30	1	.2	273	296	50	Pyrotex Cable.	
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 ...							
MIDSHIP MASTERBOARD (MAIN FEEDERS)	1	0.15	125	246	570	Pyrotex Cable	
TURNING GEAR	1	0.04	80	104	86	"	"
ENGINE ROOM MOTORS (D.B.M.1.)	1	0.04	77	104	60	"	"
BOAT WINCHES AFT. (D.B.M.2)	1	0.0145	33	57	110	"	"
VENTILATION AFT. (D.B.F.1.)	1	0.0225	60	75	150	"	"
POOP ACCOM. LIGHTING (S.B.1.)	1	0.0225	48	75	110	"	"
ENGINE ROOM LIGHTING (S.B.2.)	1	0.0225	45	75	90	"	"
SHORE CONNECTION	1	0.15	200	246	120	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	25	46	100	Rubber	L.C.
NAVIGATION LIGHTS & D.B.1.	1	7/064	27	46	100	"	"
LIGHTING AND HEATING							
MASTER BOARD CIRCUITS.							
D.B. 2 UPPER BRIDGE DECK	1	7/029	14	15	40	"	"
D.B. 4 FORECASTLE	1	0.0145	12	57	330	Pyrotex Cable	
D.B. 5 CENTRE CASTLE	1	7/029	10	15	10	Rubber	L.C.
D.B. 6 CARGO COHNS. MIDSHIP	1	7/029	10	15	10	"	"
D.B. 3 BRIDGE DECK	1	7/044	30	31	10	"	"
VENT FAN MIDSHIP	1	0.0145	33	57	150	Pyrotex Cable.	
BOAT WINCH PORT	1	0.007	16.5	28	150	"	"
D.B.1 & NAVIGATION IND. ALTERNATIVE	1	7/064	27	46	100	Rubber	L.C.
BOAT WINCH STARBD.	1	0.007	16.5	28	110	Pyrotex Cable	
GYRO COMPASS INSTALLATION	1	7/036	20	24	48	Rubber	L.C.
SUEZ CANAL PROJECTOR	1	7/064	30	46	600	Rubber	L.C. & V.C. LCAB.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
BOILER ROOM VENT FANS	2	1.6	1	0.0045	15	15	180 Pyrotex Cable
FUEL OIL PURIFIER	1	3	1	0.01	26	42	" "
LUB. OIL PURIFIER	1	3	1	0.01	26	42	" "
E.R. VENT FAN.	1	1.6	1	0.0045	15	15	96 " "

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 HARLAND AND WOLFF, LIMITED

R. Green

Electrical Engineers.

Date

Govan Secretary.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 13 feet from W/T Motor Generator

Minimum distance between electric generators or motors and steering compass 12 " " " " "

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 3.5 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.

For HARLAND AND WOLFF, LIMITED

R. Green

Builder's Signature.

Date

Govan Secretary.

Is this installation a duplicate of a previous case No If so, state name of vessel _____

Plans. Are approved plans forwarded herewith Yes If not, state date of approval _____

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith Generators Adm. supply and tested M/cs.

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) (application has been made for test certificates)

The electrical equipment of this vessel has been installed under the supervision of, and classed by the British Corporation. Plans of the electrical installation have been examined and found to comply with the rules of this society. The installation was examined and tested under working conditions and found satisfactory.

The materials and workmanship are good.

Noted

JRM 9.5.46

Total Capacity of Generators 60 Kilowatts.

(See London letter of 2.4.46)

The amount of Fee ... £ 11 : 0 : _____

Travelling Expenses (if any) £ _____

When applied for,19.....
 When received,19.....

J. C. Wright

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 10 MAY 1946

Assigned See G.L. No. 70619

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.)



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