

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

11 JUN 1947

Date of writing Report 14th May 1947 When handed in at Local Office 9.6.47 Port of GlasgowNo. in Survey held at Glasgow Date, First Survey 1.10.46 Last Survey 3rd June 1947

Reg. Book. 87883 on the M. V. "LA HAGUE" (Number of Visits 33)

Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 13436 Tons {Gross 402 Net 224}

Owners French Government (Ministère de la Marine) Port belonging to Nantes French

Electrical Installation fitted by Harland & Wolff Contract No. 13436 When fitted 1947

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. Wiring only Gy.C. Yes Sub.Sig. No

Have plans been submitted and approved Yes System of Distribution two wire

Heating 220 Power 220 Direct or Alternating Current, Lighting D.C. Power D.C. Voltage of supply for Lighting 220

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 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 Sindams, 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 construction as per Rule Yes, including accessibility of parts Yes Is the frame effectually earthed 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 Triple pole circuit

breakers fitted with O/C and R/C trips also preference tripping for non-essential circuits

and for each outgoing circuit Double pole circuit breaker or double pole switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 16

ammeters 2 voltmeters — synchronising devices For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection Yes

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 Full load, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yes

have they been tested under working conditions, and at what current did they operate 15% Full load

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 Yes

state maximum fall of pressure between bus bars and any point under maximum load 6.5 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 Yes

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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. Clipped to tray, woodwork, or metal work protected by plating 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 effectually bushed. Yes and with what material. Lead, or brass ferrules Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes Emergency Supply, state position. Top of engine room at fore end and method of control. Double pole circuit breaker fitted with 0/4 and N/V trips 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. No, if so, how are they protected. —

and where are the controlling switches fitted. —, 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. Yes

are the frames effectually earthed. Yes, are heaters in the accommodation of the convection type. Yes 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. — Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. Yes 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. —, are all fuses of the cartridge type. —

are they of an approved type. — Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. — Are the cables lead covered as per Rule. — 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	3	225	222	1014	420	I.C. engine	oil	above 150°F
EMERGENCY	1	10	220	45.5	1000	I.C. engine	oil	above 150°F
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	225	2	61/.103	1014	1080	110	V.C.	L.C.
" " EQUALISER	—	1	61/.103	—	540	55	"	"
EMERGENCY GENERATOR	10	1	19/.052	45.5	64	30	Rubber	L.C.
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							
MASTERBOARD AFT (CARGO WINCHES)	1	61/.103	360	540	250	V.C.	L.C.
" FORD (CARGO WINCHES)	1	61/.103	310	540	470	"	"
" MIDSHIP (HEATING)	1	37/.093	313	343	180	"	"
" " (VENTILATION & LIGHTING)	1	19/.083	158	191	180	"	"
" " (DOMESTIC)	1	37/.083	324	343	180	"	"
" MOTOR ROOM AUXILIARIES	1	61/.103	490	540	210	"	"
" REFRIG. MACHINERY	1	61/.103	450	540	150	"	"
ENGINE ROOM SMALL MOTORS D.B. M.1.	1	19/.052	58	64	120	Rubber	"
WORKSHOP MOTORS D.B. M.2.	1	7/.064	18	46	150	"	"
MOTOR ROOM VENTILATION D.B. F.3.	1	19/.052	50	64	60	"	"
CARGO HOLD VENT FANS FORD D.B. F.1.	1	21/.052	32	37	370	"	"
SHELTER DK. PORT FORD HEATING D.B. H.6	1	7/.064	32	37	250	"	"
SHELTER DK. PORT APT. HEATING D.B. H.7	1	21/.0145	35	37	80	PYROTEK CABLE	"
SHELTER DK. STAR FORD HEATING D.B. H.8	1	21/.0145	37	37	120	"	"
SHELTER DK. STAR APT. HEATING D.B. H.9	1	21/.0145	45	57	150	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/.064	25	46	360	Rubber	L.C.
NAVIGATION LIGHTS & D.B.1.	1	7/.064	15	46	360	"	"
LIGHTING AND HEATING							
LUB. OIL HEATER D.B. M.3	1	19/.083	164	191	30	V.C.	"
FUEL OIL HEATER D.B. M.4	1	19/.072	136	157	80	"	"
CARGO LIGHTING D.B. C.1.	1	19/.052	40	64	150	Rubber	"
MOTOR ROOM LIGHTING FORD.	1	7/.052	18	37	250	"	"
CALORIFIER.	1	19/.064	118	135	100	V.C.	"
MOTOR ROOM LIGHTING AFT.	1	7/.052	22	37	80	Rubber	"
LIGHTING D.B. NO. 1 & NAV. IND.	1	21/.0045	15	15	200	Pyrotek Cable	"
LIGHTING BOAT DECK D.B. NO. 2	1	21/.0045	5	15	180	"	"
" BRIDGE DK. PORT & STAR NO. 3 & 4	1	21/.0045	8	15	170	"	"
" SHELTER " " " NO. 5 & 6	1	21/.0045	10	15	160	"	"
BOAT & NAV. DK. PORT HEATING D.B. H.1.	1	21/.0145	31	57	200	"	"
" " " STARBD. " D.B. H.2	1	21/.0145	36	57	200	"	"
BRIDGE DK. PORT " D.B. H.3	1	21/.0145	30	57	40	"	"
" " FORD " D.B. H.4	1	21/.0145	34	57	150	"	"
" " STARBD. " D.B. H.5	1	21/.0145	44	57	180	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
LUB. OIL PUMPS.	2	66	1	37/.083	247	296	100	V.C.	L.C.
AIR COMPRESSORS	2	47	1	37/.103	177	385	180	"	"
STEERING GEAR	2	25	1	19/.072	101	157	600	"	"
TURNING GEAR	1	12	1	19/.052	48	64	60	Rubber	"
F.O. TRANSFER PUMPS	2	4 1/2	1	7/.036	18	24	100	"	"
WINDLASS.	1	40	1	19/.083	153	199	180	V.C.	"
S.W. CIRC. PUMPS	2	27	1	19/.064	103	135	120	"	"
GENERAL SERVICE PUMP	1	21	1	19/.052	82	104	60	"	"
F.W. CIRC. PUMP	1	21	1	19/.052	82	104	80	"	"
SANITARY & FIRE PUMP	1	18	1	19/.052	70	104	60	"	"
BALLAST PUMP	1	18	1	19/.052	70	104	90	"	"
BILGE PUMP	1	12	1	19/.052	47	64	100	Rubber	"
DOMESTIC F.W. PUMPS	2	4 1/2	1	7/.036	18	24	120	"	"
VAPOUR EXTRACTION FAN	1	4 1/2	1	7/.036	18.5	24	120	"	"
LIFTING GEAR	1	5	1	7/.036	21.5	24	180	"	"
REFRIG. COMPRESSORS	3	42	1	19/.083	165	191	120	V.C.	"
R/F SPACE FANS NOS. 1 & 2	2	9	1	7/.052	36.3	37	170	Rubber	"
S.W. PUMPS	2	5	1	7/.026	21.6	24	60	"	"
COMPRESSOR DOMESTIC	1	4	1	7/.036	17	24	60	"	"
BRINE PUMPS	2	2 1/2	1	7/.029	10.8	15	60	"	"
BRINE PUMP DOMESTIC	1	1 1/2	1	3/.036	6.8	10	30	"	"
S.W. PUMP DOMESTIC	1	1	1	3/.036	5.1	10	50	"	"
R/F MACH. SPACE VENT FAN	1	1	1	3/.036	4.6	10	210	"	"
WINCHES 3 TON	2	26	1	19/.064	106	151	320	V.C.	"
WINCHES 5 TON & 5/10 TON	10	43	1	19/.083	177	225	160	"	"
R/F SPACE FANS NOS. 1 & 2.	2	1.55	1	7/.029	8.5	15	320	Rubber	"
CARGO HOLD FANS	14	1	1	3/.036	4.6	10	240	"	"

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

Agallen
Governor Secretary

Electrical Engineers.

Date 29-5-47

COMPASSES.

Minimum distance between electric generators or motors and standard compass.

7 feet

(W/T. SET.)

Minimum distance between electric generators or motors and steering compass.

12 feet

(W/T. SET.)

The nearest cables to the compasses are as follows:—

A cable carrying .1 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 15 Ampères 4 feet from standard compass 10 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,

Agallen
Governor Secretary

Builder's Signature.

Date 29-5-47

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 11-11-46

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 conditions and found satisfactory.
The materials and workmanship are good.

Total Capacity of Generators 685 Kilowatts.

4/5 GLASGOW £61.14.0

The amount of Fee ... £ 77 : 2 : 6

1/5 BELFAST £15.8.6

Travelling Expenses (if any) £ :

When applied for.

10 JUN 1947

When received.

121 10

Surveyor to Lloyd's Register of Shipping.

J. C. Wright

Committee's Minute

Assigned

5m. 4.38.—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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