

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 23 AUG 1946
Received at London Office

Date of writing Report.....19..... When handed in at Local Office. 21 AUG 1946 Port of SUNDERLAND

No. in Survey held at SUNDERLAND Date, First Survey 24-6-46 Last Survey 13-8-1946
Reg. Book. (Number of Visits.....7.....)

87304 on the S/S HESPERIDES Ex EMPIRE LONGSTONE Tons Gross 5125 Net 2850

Built at SOUTHWICK By whom built SHIPBUILDING CORP LTD Yard No. 9 When built 1946

Owners BRITISH-SOUTH AMERICAN STEAM NAV. CO LTD Port belonging to LONDON

Electrical Installation fitted by SUNDERLAND FORCE & ENGINEERING CO. LTD Contract No. 9 When fitted 1946

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

Have plans been submitted and approved YES System of Distribution TWO WIRE INSULATED 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 - 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 ENGINE ROOM STBD. IN AND OUTBOARD

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 ENGINE ROOM STBD. ON ENGINEERS STORE

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 EBONY SANDAKYO, 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 Q.B.

SWITCH AND DOUBLE POLE FUSE

and for each outgoing circuit DOUBLE POLE, DOUBLE THROW Q.B SWITCH AND DOUBLE POLE FUSE

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

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 CONNECTED TO "E" THROUGH SWITCHES AND 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

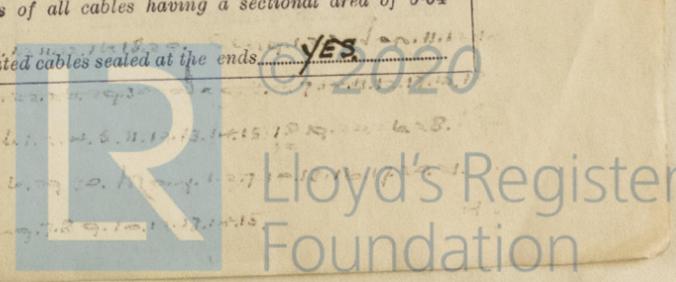
did they operate - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

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 16V, are the ends of all cables having a sectional area of 0.8

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends YES

5 2810-500500-1662 00



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 —, 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. V.I.R. CABLES IN CONDUIT AND WROUGHT IRON PIPES. LEAD COVERED CABLES CLIPPED TO WOOD GROUNDS IN ACCOMMODATION.

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 —, 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 —.

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 —.

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 —, 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	2	15	110	136	560	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	2 x 15	1	19/083	136	191	30/36	V.C.	L.C.
" " 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							
SALOON SECTION BOARD	1	19/064	67	83	224	V.I.R.	CONDUIT
ENGINEERS ACCOM. SECTION BOARD	1	19/064	54	83	410	"	"
AFT	1	19/083	40	18	224	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	16	46	300	V.I.R.	CONDUIT
NAVIGATION LIGHTS	1	7/064	12	46	292	"	"
LIGHTING AND HEATING	ALTERNATE SUPPLY FROM SALOON SECTION BOARD.						
ENGINE ROOM LIGHTING DIS. FUSE BOARD	1	7/064	30	46	24	V.I.R.	CONDUIT
AFT ACCOM.	1	7/036	20	24	19	"	"
MIDSHIP ACCOM.	1	7/036	14	24	28	"	"
"	1	7/036	14	24	12	"	"
BRIDGE ACCOM.	1	7/036	8	24	42	"	"
CARGO CONNECTION BOXES	1	7/044	12	31	300	"	"
"	1	7/036	9	24	200	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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.			
REFRIGERATOR	1	2.5	1	7/064	19	46	332	V.I.R.	CONDUIT.
ENGINE ROOM VENT FANS	2	2	1	7/064	15	46	496	"	"
THERMOTANK BRIDGE	1	3	1	7/064	26	46	340	"	"
" MIDSHIPS	1	3	1	7/064	26	46	97	"	"
" AFT	1	3	1	7/064	26	46	452	"	"

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.

Sunderland Forge Eng. Co. Ltd. Electrical Engineers. Date 16-8-1946
J. J. Gurney

COMPASSES.

Minimum distance between electric generators or motors and standard compass 35 FEET
 Minimum distance between electric generators or motors and steering compass 30 FEET
 The nearest cables to the compasses are as follows:—
 A cable carrying .14 Ampères INSIDE feet from standard compass feet from steering compass.
 A cable carrying .14 Ampères feet from standard compass INSIDE 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.

For and on behalf of SHIPBUILDING CORPORATION LTD. (Wear Branch)
JOSEPH PHILLIPS & SONS LTD. Builder's Signature. Date 19-8-46
 Director
 JOHN MANAGING DIRECTOR

Is this installation a duplicate of a previous case YES If so, state name of vessel MARSHALL
 Plans. Are approved plans forwarded herewith If not, state date of approval 13-3-45
 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 in conformity with the
Society's Rules and Regulations, and the arrangements are in accordance with, or
equivalent to, those shown on the approved plans.
Materials used are of good quality and the workmanship is satisfactory.
On completion, the Insulation resistance of the Installation was over Rule
requirements, and the Generators operated on Load and Governor tests, with
satisfactory results.
The equipment as installed is, in my opinion, suitable for a Classed
vessel.

Notes
J. J.
30/8/46

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 22 : 10 : 2 When applied for, 21 AUG 1946
SPECIFICATION 5 12/6
 Travelling Expenses (if any) £ : : When received,19.....

A. A. Pimentel
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned In minute see J. C. Kelly Rpt

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.)

