

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 11th Sept. 42 , When handed in at Local Office 19 SEP 1942 Received at London Office 21 SEP 1942No. in Survey held at Sunderland Date, First Survey 10th Aug. Last Survey 18th Sept. 1942
Reg. Book. 74995 on the M.V. "HARDINGHAM" Port of Sunderland (Number of Visits 8)Built at Sunderland By whom built Wm. Dwyer & Co. Ltd. Yard No. 692 When built 1942
Owners Sawland S. S. Co. Ltd. Port belonging to London Tons {Gross 72.69
Net 50.41Electrical Installation fitted by Campbell & Sherrwood Ltd. Contract No. 692 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. Yes Sub.Sig. YesHave plans been submitted and approved Yes System of Distribution Two wire insulated Voltage of supply for Lighting 110
Heating 110 Power 110 Direct 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 Yes Generators, are they compound wound Yes, are they level compounded under working conditions Yes,
if not compound wound state distance between generators Yes and from switchboard Yes 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 Engine room starboard side aft
Yes 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 Yes and vertically Yes, 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 starboard side on
aft bulkheadare 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 Yes and vertically Yes, what insulation
material is used for the panels "Economy Linclump", 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 Is the frame effectually earthed YesIs 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
circuit breaker with overload trip and time lag device
on each pole.and for each outgoing circuit Double pole double throw quick break knife
switch and double pole fuse.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Two
ammeters Two voltmeters Two 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 Edamps coupled to E through rws. 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 200 A. 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 Yes Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YesCables, 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 Some "Pyrotinax" cables fitted
state maximum fall of pressure between bus bars and any point under maximum load 4.44 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

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	136.5	600	Single cylinder steam engine		
EMERGENCY ...								
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA- TED 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\$	2415	1	19.083	1365	191	961.06	V.C.	L.C.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

[illegible]

	7/064	15	46	300	V.L.R.	In h.g. conduit L.C.B.
WIRELESS	1	7/064	10	31/42	410	V.R/VL do. do.
NAVIGATION LIGHTS						
LIGHTING AND HEATING						
Saloon Stg. ab.	1	7/064	19	42	8	V.C. L.C.B.
Capt's Stg. ab.	1	7/036	6	28	40	do. L.C.B.
Flourlights ab.	1	7/036	12	28	70	do. L.C.B.
Sondin	1	3/036	10	10	16	V.I.R. L.C.B.
Engns' Port. ab.	1	7/064	8	42	52	V.C. L.C.B.
Engns' Std. ab.	1	7/064	8	31	8	V.I.R. In h.g. conduit
Sailing Tank	1	3/036	3	10	40	do. L.C.B.
Engine W.T.	1	3/036	—	10	40	do. L.C.B.
Engns Rm. Stg. ab.	1	7/064	30	46	36	do. In h.g. conduit
Aft Stg. ab.	1	7/064	10	31	400	do. do.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Oil Burning Fan	1	5	1	7/064	42	46	150	V.L.R.	In h. g. and unit
Priming Pump	1	1 1/2	1	7/064	18.5	31	120	do.	do.
Oil Separator	2	3	1	7/064	25.1	31	150	do.	do.
9 ft. Crane	1	3	1	7/064	27	31	100	do.	do.
Workshop motor	1	2	1	7/064	17	31	180	do.	do.
Refin. M/c.	2	301	1	7/064	25.9	46	300	do.	do.
Refin. Fan	1	3 1/2	1	7/064	29.7	31	200	do.	do.
E. R. Fans	2	3/4	1	7/064	7	31	20/180	do.	do.

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.

GAMPBELL & ISHERWOOD, LTD.

Electrical Engineers.

Date 16th Sept 1942

COMPASSES.

Minimum distance between electric generators or motors and standard compass 122 feet

Minimum distance between electric generators or motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying 14 Ampères on the ~~main~~ standard compass 7 feet from steering compass.

A cable carrying 14 Ampères 7 feet from standard compass on the ~~main~~ 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.

WILLIAM DOXFORD & SONS, Limited.

Builder's Signature.

Date 12/9/42

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 29/6/42 & 18/5/42

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 under special survey. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results, the protective devices of the circuit breakers were adjusted and operated and the insulation resistance of all circuits was measured and found satisfactory. This equipment is in my opinion suitable for a classed vessel.

Noted

L.H.

22/9/42

Total Capacity of Generators *20* Kilowatts.

The amount of Fee ... £ 22 : 10 : 17 SEP 1942

Travelling Expenses (if any) £ : : When received.

Committee's Minute

FRL 25 SEP 1942

Assigned

See Mtd. J.E. 33488

Santeron

Surveyor to Lloyd's Register of Shipping.



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