

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 18 OCT 1945
Received at London Office.....

Date of writing Report. 6th Oct. 1945 When handed in at Local Office..... Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 14th Aug Last Survey 11th Oct. 1945
Reg. Book. (Number of Visits.....)37438 on the M.V. "EMPIRE SENLAC" Tons { Gross.....
Net.....

Built at Sunderland By whom built J. L. Thompson & Sons, Ltd. Yard No. 642 When built 1945

Owners Ministry of War Transport Port belonging to Sunderland

Electrical Installation fitted by The Sunderland Engineering Co. Ltd. Contract No. 642 When fitted 1945

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

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

Heating..... Power 110 Direct or 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..... 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. Engine room starboard side on main

circle, 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 starboard side forward

on bulkhead near generating sets

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. 'Economy Linings', 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

quick break knife switch and double pole fuse

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

equaliser connection..... Earth Testing, state means provided. E lamps connected to E through series of 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. Yes

state maximum fall of pressure between bus bars and any point under maximum load. 6.6v., are the ends of all cables having a sectional area of 0.01

square inch and above provided with soldering sockets. Yes Are paper insulated and varnished cambric insulated cables sealed at the ends. 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..... Control Gear and Resistances, are they constructed and fitted as per Rule..... 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....., are they suitably stored in dry situations..... Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory.....

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	640	Single cylinder steam engine	—	—
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR DATA.								
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.	Gale.			
MAIN GENERATORS	<i>2 x 50</i>	<i>1</i>	<i>37/085</i>	<i>275</i>	<i>296</i>	<i>30</i>	<i>V.C.</i>	<i>L.C.</i>
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR								

[illegible]

LIGHTING AND HEATING, ETC., CHARGES.		1904.		1905.		1906.		1907.	
WIRELESS	...	1	7.064	20	75	130	V.C.	L.C.	
NAVIGATION LIGHTS	...	1	7.036	2.7	24	130	W.E.	L.C.	
LIGHTING AND HEATING									
W.T.	1	7.064	20	75	130	V.C.	L.C.	
...	...	1	7.036	17.3	24	130	W.E.	L.C.	
...	...	1	7.036	14.4	24	90	W.E.	L.C.	
...	...	1	7.052	27.9	57	80	V.C.	L.C.	
...	...	1	7.036	18.8	24	80	W.E.	L.C.	
...	...	1	7.036	10	24	130	W.E.	L.C.	
...	...	1	7.044	7.8	31	110	W.E.	L.C.	
...	...	1	7.044	7.8	31	82	W.E.	L.C.	
...	...	1	7.044	11.5	31	130	W.E.	L.C.	
...	...	1	7.044	16.8	31	64	W.E.	L.C.	
...	...	1	7.036	4.3	24	64	W.E.	L.C.	
...	...	1	7.036	10	24	12	W.E.	L.C.	
...	...	1	7.064	18.18	75	24.760	V.C.	L.C.	
...	...	1	7.036	—	24	1300	W.E.	L.C.A.B.	

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Oil Separators	2	3	1	7/0444	25.1	31 ✓	28/74	W.E.	L.C.
Powering Pump	1	1 1/2	1	7/0444	13.5	31 ✓	104	W.E.	L.C.
Crane	1	3	1	7/0444	27	31 ✓	120	W.E.	L.C.
Workshop	1	2	1	7/0336	17	24 ✓	24	W.E.	L.C.
Vent. Fan (off mid. duct.)	1	3	1	7/0444	26	31 ✓	36	W.E.	L.C.
Vent. Fan (off aft. duct.)	1	3	1	7/052	26	57 ✓	92	V.C.	L.C.

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 & Co Ltd. Electrical Engineers. Date 8 - 10 - 1945.
N.S. Gurney

COMPASSES.

Minimum distance between electric generators or motors and standard compass 167 feet

Minimum distance between electric generators or motors and steering compass 165 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères on the ~~feet from~~ standard compass 7 feet from steering compass.

A cable carrying 0.14 Ampères 7 feet from standard compass on the ~~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.

JOSEPH R. THOMPSON & SONS, LIMITED.

R.N. Thompson

Builder's Signature.

Date 12/10/45.

Is this installation a duplicate of a previous case Yes If so, state name of vessel 'Empire Arrow'

Plans. Are approved plans forwarded herewith No If not, state date of approval 18/6/45 : 18/6/45

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 material

equipment of this vessel has been visited under special survey in accordance with the approved plans and with the Surveyor's letters. The materials used and the workmanship are good. On completion the equipment was operated under working conditions with satisfactory results and the insulation resistance of all circuits measured and found good. This equipment is in my opinion suitable for a classed vessel intended to carry petroleum in bulk.

Noted

Rev 9.11.43

Total Capacity of Generators 60 Kilowatts.

The amount of Fee £ 55 : 12/6 : When applied for, 19

(Inst. Spang) Travelling Expenses (if any) £ : : When received, 19

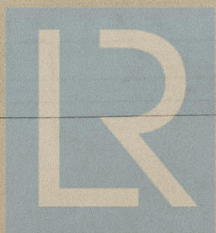
D. Harrison

Surveyor to Lloyd's Register of Shipping.

FRI. 16 NOV 1945

Committee's Minute See F.E. machy. rpt.

Assigned



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