

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

15 OCT 1942

Date of writing Report... 3.10.1942 When handed in at Local Office... 10/10/1942 Port of West HartlepoolNo. in Survey held at West Hartlepool Date, First Survey 18-7-42 Last Survey 1-10-1942
Reg. Book. 84274 on the S/S. "EMPIRE CENTAUR" (Number of Visits... 2)Tons { Gross... 7041.34
Net... 5041.18.Built at West Hartlepool By whom built Wm Gray & Co. Ltd Yard No. 1134 When built 1942Owners The Ministry of War Transport Port belonging to West HartlepoolElectrical Installation fitted by Wm. Gray & Co. Ltd Contract No. 1134 When fitted 1942Is vessel fitted for carrying Petroleum in bulk No 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 110Heating — 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 atrip 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 theyarranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive polepositive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing None fitted Have certificates oftest for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the constructionof the generators as per rule Yes Position of Generators engine room floor level blackboard on boardof main engine, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situatednear unprotected combustible material state distance from same horizontally — and vertically —, are the generators protected from mechanicalinjury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metalliccontact Yes Switchboards, where are main switchboards placed engine room on raised platform abovegeneratorsare they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steamand oil Yes, if situated near unprotected combustible material state distance from same horizontally — and vertically —, what insulationmaterial is used for the panels "Sinduro", if of synthetic insulating material is it an Approved Type Yes, if ofsemi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule — 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 fusesto 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 a double-polesingle throw quick-break knife switch and double-pole fuse. A double-poledouble throw quick break changeover switch for supplying 240 volt from D.G. Generatorand for each outgoing circuit a double-pole 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 Twoammeters Two voltmeters — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection — Earth Testing, state means provided E lamps coupled to E through the fuses.Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled asper Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested —, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what currentdid they operate — 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 —,state maximum fall of pressure between bus bars and any point under maximum load less than 4.4V, are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends None fitted

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	134.3	850	Single Cylinder Steam Engines		
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.					
				Circuit.	Return.				
MAIN GENERATOR ... No. 1.	15	2	19/064	136.3	166	20	V.I.R.	No. 4. Armored Conduit.	
" " EQUIPMENT ... No. 2.	15	2	19/064	136.3	166	20	V.I.R.	No. 4. Armored Conduit.	
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER: MOTOR ...									
" " GENERATOR ...									

[illegible][illegible][illegible]

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 WILLIAM GRAY & CO. LIMITED.

J. S. Simpson
GENERAL MANAGER

Electrical Engineers.

Date 5th Oct. 1942

COMPASSES.

Minimum distance between electric generators or motors and standard compass 146'

Minimum distance between electric generators or motors and steering compass 139'

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Ampères 7 feet from standard compass on the feet from steering compass.

A cable carrying 1/4 Ampères on the feet from standard compass 7 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 WILLIAM GRAY & CO. LIMITED.

Builder's Signature.

Date 5th Oct. 1942

J. S. Simpson
GENERAL MANAGER

Is this installation a duplicate of a previous case? Yes. If so, state name of vessel S/S "Empire Builder"

Plans. Are approved plans forwarded herewith? No. If not, state date of approval 6-11-41

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 in accordance with the approved plans and the Ministry of Shipping Specification and requirements thereto. The materials used are of good quality and design and the workmanship is good. On completion the equipment was operated under load with satisfactory results and the insulation resistance of each circuit was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted
17/10/42

Total Capacity of Generators (2x15) 30 Kilowatts.

The amount of Fee ...	£22. 10. 6	When applied for,
Specification	5-12-6	10/10/1942
Travelling Expenses (if any) £	:	When received,
	:	19.....

S. A. W. Ward
Surveyor to Lloyd's Register of Shipping.

TUE 20 OCT 1942

Committee's Minute

Assigned See fe machy rpt

50.139.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)