

AUG 12 1940

Rpt. 13.

No. 16883

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 29<sup>th</sup> July 1940 When handed in at Local Office 1-8-40 Port of Middlesbrough

No. in Survey held at South Bank Date, First Survey 28<sup>th</sup> June Last Survey 24<sup>th</sup> July 1940  
Reg. Book. (Number of Visits 4)

85258 on the S.S. "TUDOR PRINCE" Tons { Gross 1913.72  
Net 919.51

Built at South Bank By whom built Smith's Dock Co. Ltd. Yard No. 1068 When built 1940

Owners Princess Line Ltd. Port belonging to London

Electrical Installation fitted by Richard P. ... Contract No. 1068 When fitted 1940

Is vessel fitted for carrying Petroleum in bulk no 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 double wire Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting yes Power yes If Alternating Current state frequency Prime Movers,

has the governing been tested and found efficient when the whole 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 no and from switchboard no 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

positive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing no 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 up

no, 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 no and vertically no, 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

after bulkhead near gunwale

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 no and vertically no, what insulation

material is used for the panels none, if of synthetic insulating material is it an Approved Type no, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule yes 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

double throw switch and double pole fuse.

and for each outgoing circuit double pole single throw switch and double pole

fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule no Instruments on main switchboard two

ammeters two voltmeters no synchronising devices no For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection no Earth Testing, state means provided Elamps connected to E through wire from

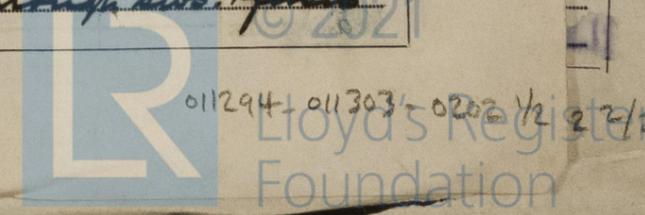
no

no

no

no

no



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Switches, Circuit Breakers and Fuses, are they as per Rule 7/0, are the fuses an approved type 7/0, are all fuses labelled as per Rule 7/0, are the reversed current protection devices connected on the pole opposite to the equaliser connection 7/0, have they been tested under working conditions 7/0. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule 7/0.

Cables, are they insulated and protected as per the appropriate Tables of the Rules 7/0, if otherwise than as per Rule are they of an approved type 7/0. state maximum fall of pressure between bus bars and any point under maximum load 5.38 are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets 7/0. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends 7/0.

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 7/0, are cables laid under machines or floorplates 7/0, if so, are they adequately protected 7/0. Are cables in machinery spaces, galleys, laundries etc., lead covered 7/0 or run in conduit 7/0. State how the cables are supported and protected 7/0. L.C.A.B. cables clipped to bulkheads in machinery spaces; L.C.A.B. clipped to plate in forward berthing spaces and run in galvanized pipe or duct to mainmast; L.C.B. cables clipped to wood grounds in accommodation.

Are all lead sheaths, armoring and conduits effectually bonded and earthed 7/0. Refrigerated chambers, are the cables and fittings as per Rule 7/0. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands 7/0, where unarmoured cables pass through beams, etc., are the holes effectively bushed 7/0 and with what material Lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 7/0. Emergency Supply, state position 7/0 and method of control 7/0.

Navigation Lamps, are they separately wired 7/0 controlled by separate double pole switches 7/0 and fuses 7/0. Are the switches and fuses in a position accessible only to the officers on watch 7/0, is an automatic indicator fitted 7/0. Secondary Batteries, are they constructed and fitted as per Rule 7/0, are they adequately ventilated 7/0.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof 7/0. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present 7/0, if so, how are they protected 7/0. Wegim airtight fitting bolts in apertures in bunker sides, cables outside bunkers

are all fittings suitably ventilated 7/0, and where are the controlling switches fitted On the engine room. Searchlight Lamps, No. of 7/0, whether fixed or portable 7/0, are all fittings and accessories constructed and installed as per Rule 7/0. Heating and Cooking, is the general construction as per Rule 7/0, are their fittings as per Rule 7/0.

Motors, are all motors constructed and installed as per Rule 7/0 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil 7/0, if situated near unprotected combustible material state minimum distance from same horizontally 7/0 and vertically 7/0.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing 7/0. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule 7/0. Control Gear and Resistances, are they constructed and fitted as per Rule 7/0. Lightning Conductors, where required are they fitted as per Rule 7/0. 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 7/0, are all fuses of the cartridge type 7/0.

are they of an approved type 7/0. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type 7/0. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule 7/0, are they suitably stored in dry situations 7/0. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory 7/0.

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.
MAIN	1	12	110	109	950	Single cylinder steam engine	
EMERGENCY	1	5	110	45.5	1000	Single cylinder diesel engine	Fuel oil above 150°F
ROTARY TRANSFORMER	1	12.5	110	113.5		Steam driven for degaussing only	

1. 12.5 110 113.5 Steam driven for degaussing only fitted 5.41. See Cf. report 53896.

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	12	1	37.064	109	130	36	V.I.R.	L.C.A.B.
" " EQUALISER	5	1	19.024	45.5	53	52	V.I.R.	L.C.A.B.
<u>Auxiliary Generator for degaussing only</u>	12.5				113			
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS ...						
<u>Navigation Section Board feed</u>	7	19.024	42.4	52	160	V.I.R. L.C.A.B.
<u>Supply to Hullhouse etc</u>	7	7.036	13.7	24	188	V.I.R. L.C.A.B.
<u>Eng. &amp; Saloon etc</u>	7	7.036	13.3	24	148	V.I.R. L.C.A.B.
<u>Office etc etc</u>	1	7.036	16.4	24	2	V.I.R. L.C.A.B.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS		1	7.036	20	46	374 V.I.R. L.C.A.B.
NAVIGATION LIGHTS		1	7.036	7	24	440 V.I.R. L.C.A.B.
LIGHTING AND HEATING						
<u>Crew etc etc</u>	1	7.036	10.3	24	328	V.I.R. L.C.A.B.
<u>Off Deck etc etc</u>	1	7.036	25.1	31	160	V.I.R. L.C.A.B.
<u>Fore Deck etc etc</u>	1	7.036	31.6	46	224	V.I.R. L.C.A.B.
<u>Engine Room etc etc</u>	1	7.036	21.5	24	28	V.I.R. L.C.A.B.

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.
<u>Rapid Trip</u>	2	201	1	7.036	17.9	24	150 V.I.R. L.C.A.B.

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.

**RICHARD PICKERSGILL & SONS LTD**

*Richard Pickersgill*

Electrical Engineers.

Date

August 27 1940

**COMPASSES.**

Minimum distance between electric generators or motors and standard compass 44 feet

Minimum distance between electric generators or motors and steering compass 40 feet

The nearest cables to the compasses are as follows:—

A cable carrying 14 Amperes on the feet from standard compass 7 feet from steering compass.

A cable carrying 14 Amperes on the feet from standard compass on the feet from steering compass.

A cable carrying 2 Amperes on the feet from standard compass on the 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 SMITH'S DOCK CO. LTD**

*J.W. Adams* Builder's Signature.

Date 5<sup>th</sup> August 1940

Is this installation a duplicate of a previous case Yes If so, state name of vessel Thames

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 and the workmanship are good. On completion the equipment was run under working conditions, the governing, regulation and compensating of the generating sets were tested, the insulation resistance of all circuits was measured and the spare gear was examined. This equipment is in my opinion suitable for a classed vessel.

*Noted  
L.H.  
12/8/40*

Total Capacity of Generators 17 Kilowatts.

The amount of Fee ... £ 16 : - : { When applied for, 9-8-1940

Travelling Expenses (if any) £ : : { When received, 3-10-1940

*Santerson*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 13 AUG 1940

Assigned See FE made rpl

2m.10.88.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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