

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 29th July 1940 When handed in at Local Office 5 AUG 1940 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 17th June Last Survey 25th July, 1940
Reg. Book. Supph. (Number of Visits...)90203 on the M.V. "TOWER GRANGE" Tons { Gross 533.6
Net 307.2

Built at Sunderland By whom built Wm. Douglass & Co. Ltd. Yard No. 660 When built 1940

Owners Tower S.S. Co. Ltd. Port belonging to London

Electrical Installation fitted by Campbell & Johnson, Ltd. Contract No. 660 When fitted 1940

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

Have plans been submitted and approved No System of Distribution Single wire Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting No Power No 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 No Are turbine emergency governors fitted with a

trip switch as per Rule Generators, are they compound wound No, are they level compounded under working conditions No

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 No 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 Have certificates of

test for machines under 100 kw. been supplied No and the results found as per rule No Are the lubricating arrangements and the construction

of the generators as per rule No Position of Generators Engine room starboard side aft

is the ventilation in way of generators satisfactory No are they clear of inflammable material No, 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 No, are the bedplates and frames earthed No and the prime movers and generators in metallic

contact No Switchboards, where are main switchboards placed Engine room starboard side on

aft bulkhead near gunnery

are they in accessible positions, free from inflammable gases and acid fumes No, are they protected from mechanical injury and damage from water, steam

and oil No, if situated near unprotected combustible material state distance from same horizontally and vertically, what insulation

material is used for the panels Sincomp, 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 Is the frame effectually earthed No

Is the construction as per Rule No, including accessibility of parts No, absence of fuses on the back of the board No, individual fuses

to pilot and earth lamps, voltmeters, etc. No locking of screws and nuts No, labelling of apparatus and fuses No, fuses on the "dead"

side of switches No Description of Main Switchgear for each generator and arrangement of equaliser switches Double pole

circuit breaker with overload trip on each pole and time

lag device

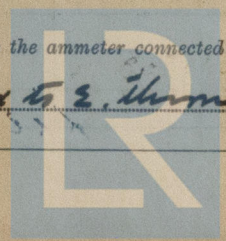
and for each outgoing circuit Single pole double throw knife switch and double

pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule 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 Earth lamps connected to 2 through fuses only



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and where are the controlling switches fitted. _____, are all fittings suitably ventilated. Y
are all fittings and accessories constructed and installed as per Rule. Y 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. Y and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water,
steam and oil. Y, if situated near unprotected combustible material state minimum distance from same horizontally. _____ and vertically. _____
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. Y Control Gear and Resistances, are they constructed and
fitted as per Rule. Y 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. _____ If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof
type. _____ Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. Y, are they suitably stored in dry
situations. Y Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory. Y

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	15	110	136	450	Single cylinder Steam engine		
EMERGENCY ...								
ROTARY TRANSFORMER								

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 GENERATORS	2 x 15	1	19/113	136	191	80790	V.C.	L.C.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

[illegible]

WIRELESS
NAVIGATION LIGHTS & Cape's Ltg. S.B.	1	7/0.44	15	31	350	V.I.R.	to h.g. amount	
LIGHTING AND HEATING	1	7/0.44	10	31	350	V.I.R.	to h.g. amount	
Sleeper Ltg. S.B.	1	7/0.44	30	46	500	V.I.R.	to h.g. amount	
Engine Ltg. S.B.	1	7/0.44	12	31	140	V.I.R.	to h.g. amount	
Crew Off Ltg. S.B.	1	7/0.44	10	31	350	V.I.R.	to h.g. amount	
Engine Room Ltg. S.B.	1	7/0.44	25	31	160	V.I.R.	to h.g. amount	

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.										
Oil Burning Fan	1	5	1	7/064	41.5	46	170	V.I.R.	In t. g. command			
Heavy Dragnet Fan	1	1.3	1	7/036	12.3	24	210	V.I.R.	In t. g. command			
Oil Separator	2	3	1	7/044	25.1	31	150	V.I.R.	In t. g. command			
Pressing Pump	1	1.5	1	7/036	13.5	24	160	V.I.R.	In t. g. command			
Engine Room Crane	1	3	1	7/044	25	31	120	V.I.R.	In t. g. command			
Workshop Motor	1	2	1	7/044	17	31	160	V.I.R.	In t. g. command			
Refrig. Mch.	1	24.1	1	7/052	174.9	37	500	V.I.R.	In t. g. command			

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.

CAMPBELL & ISHERWOOD LTD

John Muir

Electrical Engineers.

Date *22 Aug 1940*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *124 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* feet from standard compass *7* feet from steering compass.

A cable carrying *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.

WILLIAM DOXFORD & SONS, Limited,

W. D. D.

Builder's Signature.

Date *5/8/40*

Is this installation a duplicate of a previous case *Yes*

If so, state name of vessel *"Pentney Hill"*

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 inspection the equipment was run under working conditions, the governing regulation and compensating of the generating sets were tested, the overload trips of the circuit breakers were operated and adjusted, the insulation resistance of all circuits was measured and the space gas was examined. This equipment is in my opinion suitable for a closed vessel.

Noted

L. J.

9/8/40

Total Capacity of Generators *30* Kilowatts.

The amount of Fee ... £ *22: 10* : —

When applied for,

2 AUG 1940

Travelling Expenses (if any) £ : :

When received,

14 August 1940

R. J. 8/18

Santinson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 13 AUG 1940

Assigned

See Id J.C. 32937



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2m, 10.38.—Transfer. (MADE IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)