

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....28 NOV 1928

Date of writing Report 9.11.28 When handed in at Local Office 26.11.28 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 3.10.28 Last Survey 14.11.1928  
Reg. Book. (Number of Visits.....)

91379. on the S.S. PRINCESS NORAH. Tons {Gross  
Net

Built at GOVAN. By whom built THE FAIRFIELD S.B. CO. LTD Yard No. 682. When built 1928

Owners THE CANADIAN PACIFIC RY. CO. LTD Port belonging to VANCOUVER

Electric Light Installation fitted by THE FAIRFIELD S.B. CO. LTD Contract No. 682. When fitted 1928.

System of Distribution TWO WIRE

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.

Direct or Alternating Current, Lighting DIRECT Power DIRECT

If alternating current system, state frequency of periods per second \_\_\_\_\_

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off YES

Generators, do they comply with the requirements regarding rating YES, are they compound wound YES

are they over compounded 5 per cent. YES, if not compound wound state distance between each generator \_\_\_\_\_

Where more than one generator is fitted are they arranged to run in parallel NO, is an adjustable regulating resistance fitted in series with each shunt field YES

Are all terminals accessible, clearly marked, and furnished with sockets YES, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched YES

Are the lubricating arrangements of the generators as per Rule YES

Position of Generators IN ENGINE ROOM HOLD LEVEL, FORWARD STARBOARD

is the ventilation in way of the generators satisfactory YES, are they clear of all inflammable material YES

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators \_\_\_\_\_ and \_\_\_\_\_, are the generators protected from mechanical injury and damage from water, steam or oil YES

are their axes of rotation fore and aft YES

Earthing, are the bedplates and frames of the generating plant efficiently earthed YES are the prime movers and their respective generators in metallic contact YES

Main Switch Boards, where placed ON SWITCHBOARD PLATFORM IN ENGINE ROOM FORWARD STARBOARD

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard IN SAME COMP

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes YES

are they protected from mechanical injury and damage from water, steam or oil YES, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards \_\_\_\_\_ and \_\_\_\_\_

are they constructed wholly of durable, non-ignitable non-absorbent materials YES, is all insulation of high dielectric strength and of permanently high insulation resistance YES, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework \_\_\_\_\_

and is the frame effectively earthed YES. Are the fittings as per Rule regarding:— spacing or shielding of live parts

YES, accessibility of all parts YES, absence of fuses on back of board YES, proportion of omnibus bars YES, individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches EACH GENERATOR HAS A

500 AMP. D.P. SWITCH & TWO 500 AMP. D.P. FUSES, CONNECTED TO SEPARATE POSITIVE & COMMON NEGATIVE BUS-BARS

ONE OF THE SWITCHES BEING A CHANGE-OVER-SWITCH FOR SHORE SUPPLY TO SWITCHBOARD.

EACH OUTGOING CIRCUIT HAS A S.P. CHANGE-OVER-SWITCH AND TWO S.P. HAND GUARD FUSES.

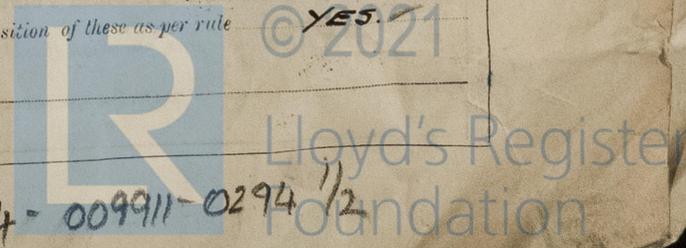
Instruments on main switchboard TWO ammeters TWO voltmeters \_\_\_\_\_ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system EARTH LAMPS

WITH SWITCHES & FUSES

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES



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**Cables:** Single, twin, concentric, or multicore SINGLE are the cables insulated and protected as per Tables IV or V of the Rules YES.

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 4.13 VOLTS

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets WOPARAP YES

**Paper Insulated Cables,** If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound NONE

**Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage YES

**Support and Protection of Cables,** state how the cables are supported and protected MAIN CABLES: LEAD, ARM & BRAIDED, SUPPORTED ON S.I TRAYS OR BULKHEAD BY GALV. IRON CLIPS. BRANCH CABLES V.I.R. IN GALV. CONDUIT FOR ENGINE RM. BOILER RM & PUBLIC RMs. OTHER BRANCH CABLES V.I.R. IN CASING OR LEAD, COV. & BRAIDED SUPPORTED ON BEAMS OR S.I TRAYS BY BRASS CLIPS.

If cables are run in wood casings, are the casings and caps secured by screws YES, are the cap screws of brass YES, are the cables run in separate grooves YES. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII YES

**Refrigerated Chambers,** if lights are fitted, are the cables and fittings in accordance with the special requirements YES

**Joints in Cables,** state if any, and how made, insulated, and protected NONE

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands YES

**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed YES state the material of which the bushes are made SHEET LEAD

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas NONE

are their connections made as per Rule \_\_\_\_\_

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule YES

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven NONE

**Navigation Lamps,** are these separately wired YES, controlled by separate switch and separate fuses YES, are the fuses double pole YES, are the switches and fuses grouped in a position accessible only to the officers on watch YES, has each navigation lamp an automatic indicator as per Rule YES

**Secondary Batteries,** are they constructed and fitted as per Rule YES

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight YES, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected NONE, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected NONE, how are the cables led \_\_\_\_\_, where are the controlling switches situated \_\_\_\_\_

**Searchlight Lamps, No. of** ONE, whether fixed or portable FIXED, are their fittings as per Rule YES

**Are Lamps,** other than searchlight lamps, No. of NONE are their live parts insulated from the frame or case \_\_\_\_\_, are their fittings as per Rule \_\_\_\_\_

**Motors,** are their working parts readily accessible YES, are the coils self-contained and readily removable for replacement YES, are the brushes, brush holders, terminals and lubricating arrangements as per Rule YES, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material YES, are they protected from mechanical injury and damage from water, steam or oil YES are their axes of rotation fore and aft YES, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type \_\_\_\_\_, if not of this type, state distance of the combustible material horizontally or vertically above the motors \_\_\_\_\_ and \_\_\_\_\_

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule YES

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule YES

**Ships carrying Oil having a Flash Point less than 150 F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings \_\_\_\_\_

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office \_\_\_\_\_

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	45	110	410	475	2-CYL. STEAM ENGINE		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Load and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	0.74350	91	.103	410	40	PURE RUBBER	LEAD COVERED & BRAWDED
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
8	ENGINE ROOM & BOILER RM.	2	0.02214	7	.064	41	64	D°	LEAD, ARMoured & BRAWDED
	BOILER ROOM								
2	ACCOMMODATION BOAT DECK	2	0.0462	7	.052	28	272	D°	D°
3	D° FROM DE "	2	0.07592	19	.072	64.6	204	D°	D°
4	D° UPPER " FOR "	2	0.02214	7	.064	41.2	200	D°	D°
5	D° " " AFT	2	0.02840	19	.044	44.2	238	D°	D°
7	D° MAIN " FOR "	2	0.0462	7	.052	24	214	D°	D°
6	D° " " AFT	2	0.06000	19	.064	45	228	D°	D°
10	POLICE LIGHTING	2	0.01462	7	.052	12	130	D°	D°
1	NAVIGATION	2	0.00455	7	.029	2.8	314	D°	D°
	L.P. CHARGING	2	0.00455	7	.029	5	20	D°	D°
	WIRELESS	2	0.0462	7	.052	10	280	D°	D°
	SEARCHLIGHT	2	0.06000	19	.064	60	324	D°	D°
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
9	CARGO LIGHTS	2	0.01462	7	.052	22.2	114	D°	D°
12	HEATERS UPPER DEK	2	0.24650	37	.093	131.0	132	D°	D°
11	HEATERS PROM DE	2	0.10090	19	.083	102.3	172	D°	D°

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Load and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
13	WORKSHOP MOTOR	8	0.0462	7	.052	25	130	PURE RUBBER	LEAD, ARMoured & BRAWDED
	VENTILATING FANS								

All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
 The foregoing is a correct description.

*E. Kinnes*

Electrical Engineers.

Date *23/11/28*

COMPASSES.

Distance between electric generators or motors and standard compass *28 FEET FROM W/T CONVERTER*

Distance between electric generators or motors and steering compass *26 " " " "*

The nearest cables to the compasses are as follows:—

A cable carrying *-18* Amperes *IN* feet from standard compass ~~feet from steering compass.~~

A cable carrying *-18* Amperes ~~feet from standard compass~~ *IN* feet from steering compass.

A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power. *40.*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *40.*

The maximum deviation due to electric currents was found to be *nil* degrees on *any* course in the case of the standard

compass, and *nil* degrees on *any* course in the case of the steering compass.

THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.

*A. J. Hudson* MANAGER

Builder's Signature.

Date *23/11/28*

Is this installation a duplicate of a previous case *No.* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *This installation has been tested on board under special survey. Tested under full working conditions and found satisfactory. The materials and workmanship were found to be good and sound.*

It is submitted that this vessel is eligible for THE RECORD. Elec Light.

*(Signature)*  
*28/11/28*

Total Capacity of Generators *90* Kilowatts.

The amount of Fee ... £ *31-0-0* : *22-11-28*

Travelling Expenses (if any) £ : : *25-1-19*

*J. S. Rankin*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 27 NOV 1928*

Assigned *Elec Light*

*A.G.*  
*26/11/28*

Im. 127.—Transfer. (The Surveys are requested not to write on or below the space for Committee's Minute.)



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