

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-9 MAR 1925

Received at London Office

Date of writing Report 26.2.1925 When handed in at Local Office 7.3.1925 Port of GLASGOW.

No. in Survey held at GLASGOW.
Reg. Book.Date, First Survey 20.1.25 Last Survey 24.2.1925
(Number of Visits 4)

10946 on the S. S. TIEN KWANG.

Built at GLASGOW. By whom built MESSRS YARROW & CO Yard No. 1497 When built 1925.

Owners THE ANGLO SAXON PETROLEUM CO Port belonging to LONDON.

Electric Light Installation fitted by THE KNOWSLEY ELECT. CO LTD Contract No. 1497 When fitted 1925.

System of Distribution 2 WIRE INSULATED. ✓
Pressure of supply for Lighting 110 ✓ volts, Heating volts, Power volts.

Direct or Alternating Current, Lighting DIRECT. ✓ Power

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

Generators, do they comply with the requirements regarding overload, are they compound wound Yes ✓

Are they over compounded 5 per cent. ? , 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 and clearly marked Yes , are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited Yes Are the lubricating arrangements of the generators as per Rule

Position of Generators In Engine room.

Is the ventilation in way of the generators satisfactory Yes , are they clear of all inflammable material Yes

Are they 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 axis 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 AT AFT BULKHEAD CENTRE LINE ENGINE ROOM MAIN DECK.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

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, incombustible 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 connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework YES. , and is the

frame effectively earthed YES. Are the following fittings as per Rule, viz.:— 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 CHANGE-OVER SWITCH

3 DOUBLE POLE FUSES FOR EACH GENERATOR, WITH CONNECTION TO ONE SIDE OF CHANGE-OVER SWITCH-

OTHER SIDE OF SWITCH TO SHORE SUPPLY. COMMON CONNECTION TO BUS BARS.

Instruments on main switchboard ONE ammeters ONE voltmeters - synchronising device for paralleling purposes.

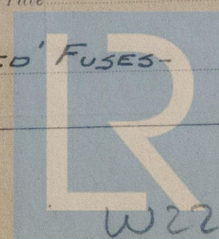
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system TWO EARTH LAMPS,

WITH SWITCHES & FUSES.

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

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

IRONCLAD BOARDS WITH DOUBLE POLE LINK SWITCHES, & DOUBLE POLE 'ZED' FUSES.



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Lloyd's Register

W222 Foundation

Insulation of Cables, state type of cables, single or twin *SINGLE* are the cables insulated and protected as per Tables III or IV of the Rules *Yes*.

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load *2 1/2 %*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets *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 *—*

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 *ON MAIN DECK. GALVANISED CONDUIT.*
ON UPPER DECK. LEAD COVERED.

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

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

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 Positions, 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 *LEAD.*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *—*
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 *Yes*

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*. are separate screens provided for the use of oil and electric side lights
are separate oil lanterns provided for the mast head lights and side lights

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 *—*
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected
ALL FITTINGS GAS TIGHT.
LEAD CABLES RUN IN GALVANISED GASTIGHT CONDUIT
where are the controlling switches situated OUTSIDE SPACE.

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 *—*, are their live parts insulated from the frame or case *—*, are their fittings as per Rule

Motors, are their working parts readily accessible *—*, are the coils self-contained and readily removable for replacement *—*,
are the brushes, brush holders, terminals and lubricating arrangements as per Rule *—*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material
are they protected from mechanical injury and damage from water, steam or oil *—* are their axis of rotation fore and aft *—*
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 as per Rule

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

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 *Yes*.

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

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No of	RATED AT			Revs. per Min.	DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.	
MAIN ...	1	8	110	73	500	6" x 5" Steam Engine	Paraffin		
AUXILIARY ...	1	8	110	73	870	Gardner Oil			
EMERGENCY ...									
Motor Generator	1	4	220/110	23/36.3	1075	Motor.			
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	.06 ✓	19	.064	70	25	V. I. R.	LEAD. 1/4 TUBING.
	AUXILIARY GENERATOR	2	.06 ✓	19	.064	70	10	V. I. R.	
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS ...								
	ENGINE ROOM ...								
	BOILER ROOM ...								
	MOTOR GENERATOR TO MAIN BOARD	2	.022 ✓	7	.064	35	8	V. I. R.	LEAD. 1/4 TUBING.
	SHORE SUPPLY TO MOTOR GENERATOR	2	.01 ✓	7	.044	20	120	V. I. R.	LEAD. PART 1/4 TUBING.
	WIRELESS ...	2	.01 ✓	7	.044	25	260	V. I. R.	LEAD.
	SEARCHLIGHT ...	2	.001 ✓	3	.029	.5	70	V. I. R.	
	MASTHEAD LIGHT...	4	.001 ✓	3	.029	1	70	V. I. R.	
	SIDE LIGHTS...	2	.001 ✓	3	.029	.25	25	V. I. R.	
	COMPASS LIGHTS ...								
	POOP LIGHTS ...								
	CARGO LIGHTS ...								
	ARC LAMPS ...								
	HEATERS ...								

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead 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 ...								
	WORKSHOP MOTOR ...								
	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.

The KNOWSLEY ELECTRICAL CO. Ltd.

1061 Argyle Street,

GLASGOW.

Electrical Engineers.

Date

3/3/25

COMPASSES.

Distance between electric generators or motors and standard compass

140 ft.

Distance between electric generators or motors and steering compass

180 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 18 Ampères 14 feet from standard compass 12 feet from steering compass.

A cable carrying 6 Ampères 10 feet from standard compass 10 feet from steering compass.

A cable carrying 5 Ampères m feet from standard compass m 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

any

course in the case of the standard

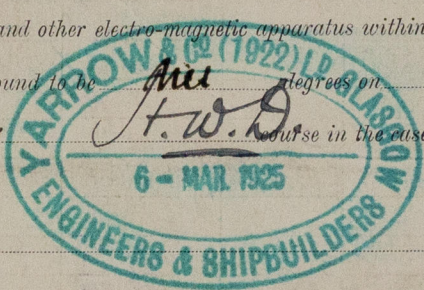
compass, and

nil

degrees on

any

course in the case of the steering compass.



Builder's Signature.

Date

6/3/25.

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

S. S. Shu Kwang.

General Remarks

(State quality of workmanship, opinions as to class, &c.)

This installation has been

fitted on board under special survey. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

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

J. W. D.
9/3/25

Total Capacity of Generators

16

Kilowatts

8 K.W. Steam
8 " Oil

The amount of Fee ...

£16.10.0

When applied for,

9 MAR 1925

from London

Travelling Expenses (if any) £

When received,

9/3/25

J. C. Rankin.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 24. Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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