

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 11 JUN 1931

Date of writing Report 13th May 1931 when handed in at Local Office 10 Port of SHANGHAI

No. in Survey held at SHANGHAI Date, First Survey 28th Feb. '31 Last Survey 6th May, 1931.
 (Number of Visits.....)

Reg. Book. on the Twin Screw Motor Vessel "HO KWANG" Tons { Gross 685
 Net 383

Built at SHANGHAI By whom built New Eng. & Shipbldg. Wks Yard No. 687 When built 1931.

Owners Asiatic Petroleum Co. (North China) Ltd Port belonging to SHANGHAI

Electric Light Installation fitted by New Eng. & Shipbuilding Works, Ltd. Contract No. 688 When fitted 1931.

System of Distribution Two Wire ✓

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 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 Forward End of Engine Room ✓

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 No ✓

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 Forward End Engine Room ✓

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 same compartment ✓

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 Yes ✓

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 1 1/4" x 1/8" ✓, individual fuses to voltmeter, pilot or earth lamp Yes ✓, connections of switches To Omnibus Bars ✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P. Bobbin Fuses ✓

D.P. Linked Switch for Generators, D.P. Fuses and Linked Switches for each outgoing Circuit, ✓

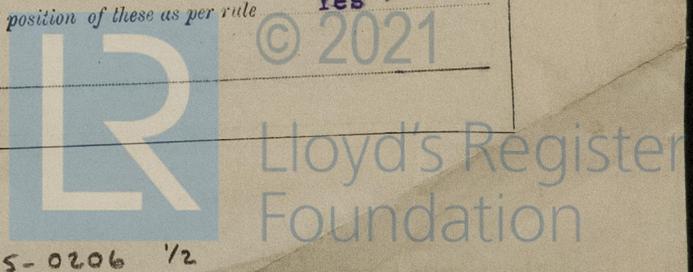
Generators do not run in parallel ✓

Instruments on main switchboard One ✓ ammeters One ✓ voltmeters No ✓ 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 Leakage Indicator ✓

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 ✓



Cables: Single, twin, concentric, or multicore Twin 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 Nil

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 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 Clipped lead covered and conduit pipes

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 VIII 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 & 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 Lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Bedplates Bolted to Hull

are their connections made as per Rule Yes

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 -

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 No

Secondary Batteries, are they constructed and fitted as per Rule Not Fitted

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 No

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Gas tight

connections ✓, how are the cables led In conduit on Deck

where are the controlling switches situated In Engine Room

Searchlight Lamps, No. of -, whether fixed or portable -, are their fittings as per Rule -

Arc 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 axes 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 and fitted as per Rule -

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 Yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office None supplied

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY		WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Mtn.	Fuel Used.	Flash Point of Fuel.		
MAIN	...	4.433	110	40.3	1000	Vertical Single Cylinder	Heavy Oil		
AUXILIARY	...	3.025	110	27.5	480	Steam Engine			
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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	0.02214	7	.064	40.3	10	Rubber	Conduit Pipes
	EQUALISER CONNECTIONS	-	-	-	-	-	-	-	-
	AUXILIARY GENERATOR	2	0.02214	7	.064	27.5	15	Rubber	Conduit Pipes
	EMERGENCY GENERATOR	-	-	-	-	-	-	-	-
	ROTARY TRANSFORMER...	-	-	-	-	-	-	-	-
	AUXILIARY SWITCHBOARDS	-	-	-	-	-	-	-	-
	ENGINE ROOM	2	0.00455	7	.029	6	15	Rubber	Conduit Pipes
	BOILER ROOM	-	-	-	-	-	-	-	-
	ACCOMMODATION Forward.	2	0.01046	7	.044	13	200	Twin Lead	Covered in Conduit Pipes
	Navigation	2	0.00299	3	.036	2	200	" "	" "
	Accommodation Aft	2	0.00299	3	.036	5	20	" "	" "
	Pump Room	2	0.00152	1	.044	.7	60	" "	" "
	WIRELESS	-	-	-	-	-	-	-	-
	SEARCHLIGHT	-	-	-	-	-	-	-	-
	MASTHEAD LIGHT...	2	0.00152	1	.044	.6	75	Twin Lead Covered	In Navigation Circuit
	SIDE LIGHTS	2	0.00152	1	.044	.6	40	" "	" "
	COMPASS LIGHTS	2	0.00152	1	.044	.6	20	" "	" "
	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. Amps.	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	...							
	(a) MOTOR GENERATOR	...							
	(b) MAIN MOTOR	...							
	WORKSHOP MOTOR	...							
	VENTILATING FANS	...							

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

THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

H. Smith Electrical Engineers. Date 14th May 1931

COMPASSES.

Distance between electric generators ~~or motors~~ and standard compass **124'-0"**
 Distance between electric generators ~~or motors~~ and steering compass **36'-0"**
 The nearest cables to the compasses are as follows:—
 A cable carrying **2** Ampères **-** feet from standard compass **6** feet from steering compass.
 A cable carrying **-** Ampères **-** feet from standard compass **-** 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 **Nil** course in the case of the standard compass, and **Nil** degrees on **Nil** course in the case of the steering compass.

THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

H. Smith Builder's Signature. Date 14th May 1931

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.)

The Electric Light installation of this vessel has been fitted in accordance with the Rules. The materials and workmanship have been found good. The installation on completion examined and tested under full working conditions and found satisfactory.

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

om.
17/6/31.
J. L. Brooke Smith

Total Capacity of Generators **7.4** Kilowatts.

The amount of Fee ...	£ 200.00	:	When applied for,	8-5	19.31.
Travelling Expenses (if any) £	:	:	When received,	12-5-31.	

J. L. Brooke Smith
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 26 JUN 1931**
 Assigned Elec. Light

1m.127.—Transfer. (The Surveys are requested not to write on or below the space for Committee's Minute.)