

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office..... MAR 13 1941

Date of writing Report..... 14 March 1941 When handed in at Local Office..... 10 March 1941 Port of Harbourpool

No. in Survey held at West Harbourpool Date, First Survey 31st Dec, 40 Last Survey 3rd March, 1941
Reg. Book. Suppt. (Number of Visits..... 7)

88516 on the S.S. "IKARNA" Tons { Gross... 6793.06
Net... 3969.29

Built at West Harbourpool By whom built Com. Swaney & Co., Ltd Yard No. 1106 When built 1941

Owners British India Steam Nav. Co., Ltd Port belonging to London

Electrical Installation fitted by The Lumsden & Co. Eng. Co., Ltd Contract No. 1106 When fitted 1941

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

Have plans been submitted and approved Yes System of Distribution Double wire Voltage of supply for Lighting 110

Heating 110 Power 110 Direct or Alternating Current, Lighting Yes Power Yes If Alternating Current state frequency 50 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 46 and from switchboard 46 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 Yes 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 aft

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 Yes and vertically Yes, 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

raised platform beside engine room side 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 Yes and vertically Yes, what insulation

material is used for the panels Slate, if of synthetic insulating material is it an Approved Type Yes, 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

quick break knife switch and double pole fuses.

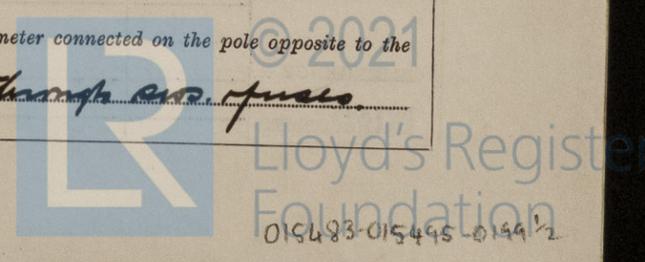
and for each outgoing circuit Single pole three way knife switch and double

pole fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Three

ammeters Three voltmeters Three synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection Yes Earth Testing, state means provided Flamps coupled to E through ear fuses.



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

Cables, are they insulated and protected as per the appropriate Tables of the Rules Y, if otherwise than as per Rule are they of an approved type Y, state maximum fall of pressure between bus bars and any point under maximum load 5.5 bar, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Y. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends Y with insulating compound Y or waterproof insulating tape Y. 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 Y, are cables laid under machines or floorplates Y, if so, are they adequately protected Y. Are cables in machinery spaces, galleys, laundries, etc., lead covered Y or run in conduit Y. State how the cables are supported and protected H.R.B. cables run on deck in galv. pipe and clipped to surfaces in engine room; sub. circuits in machinery spaces wired with L.C.B. cable clipped to surfaces; L.C.B. cables clipped on wood grounds or on surfaces in accommodation.

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

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

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Y. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present Y, if so, how are they protected Y.

are all fittings suitably ventilated Y, are all fittings and accessories constructed and installed as per Rule Y. Searchlight Lamps, No. of Y, whether fixed or portable Y, are their fittings as per Rule Y. Heating and Cooking, is the general construction as per Rule Y, are the frames effectually earthed Y, are heaters in the accommodation of the convection type Y. 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 Y and vertically Y.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Y. 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 Y. 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 Y, are all fuses of the cartridge type Y, are they of an approved type Y. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type Y. 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.

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 ...	3	30	110	273	680	Single expansion steam engines		
EMERGENCY ...								
ROTARY TRANSFORMER								

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 GENERATORS ...	3x30	1	57/183	273	296	481	V.C.	L.C.B.
" " EQUALISER ...						40 36		
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Officers' Htg. S.B. feed:-	1	7/064	28	46	192	V.I.R.	H.R.B.	
Engineers' Htg. S.B. feed:-	1	7/064	23	46	72	V.I.R.	H.R.B.	
Officers' Htg. S.B. feed:-	2	19/064	160	166	192	V.I.R.	H.R.B.	
Engineers' Htg. S.B. feed:-	2	19/064	150	166	72	V.I.R.	H.R.B.	
Cargo Htg. S.B. feed:-	1	19/064	47	83	72	V.I.R.	H.R.B.	
Refining S.B. feed:-	1	7/064	35	46	60	V.I.R.	H.R.B.	
Exhaust Room S.B. feed:-	1	7/064	37	46	60	V.I.R.	H.R.B.	
Workshop S.B. feed:-	1	7/064		46	60	V.I.R.	H.R.B.	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...								
WIRELESS ...	1	7/064	20	31	382	V.I.R.	H.R.B. & L.C.B.	
NAVIGATION LIGHTS ...	1	7/064	13	46	382	V.I.R.	H.R.B. & L.C.B.	
LIGHTING AND HEATING ...								
Off. Htg. S.B.	1	7/064	19	46	432	V.I.R.	H.R.B.	
3 cables off Officer's Htg. S.B.	1	7/036	10,612	24	15,678	V.I.R.	L.C.B.	
2 cables off Engineer's Htg. S.B.	1	7/036	1412	24	17,84	V.I.R.	L.C.B.	
3 cables off Officer's Htg. S.B.	1	19/064	43,652	83	15,678	V.I.R.	L.C.B.	
2 cables off Engineer's Htg. S.B.	1	19/064	82,68	83	14,84	V.I.R.	L.C.B.	
2 cables off Cargo Htg. S.B.	1	7/064	27,20	46	12,15	V.I.R.	Lead H.R.B. & L.C.B.	
Engine Room Htg. S.B. & L.C.B.	1	7/064	30	46		V.I.R.	H.R.B.	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Engine Room Vent Fans	3	2	1	7/064	18	31	30,600	V.I.R. L.C.B. & H.R.B.
Oil Separator	1	5	1	7/064	4.75	31	45	V.I.R. L.C.B. & H.R.B.
Refining Htg. S.B.	1	3	1	7/064	25	31	8	V.I.R. H.R.B.
Cargo Htg. S.B.	1	1	1	3/086	9	12	230	V.I.R. H.R.B.
Fan	1	6000	1	3/029	5	7.8	40	V.I.R. H.R.B.
Auto cleaning motor	1	0.75	1	7/029	7	18.2	130	V.I.R. L.C.B. & H.R.B.
Drill off Workshop S.B.	*		1	7/064		31		V.I.R. L.C.B. & H.R.B.
Lathe	*		1	7/064		31		V.I.R. L.C.B. & H.R.B.
Note & circuits wired for drill and lathe motors to be fitted as future date.								

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.

Messrs Sunderland Forge & Eng Works Electrical Engineers. Date 3. 3. 1941
Albany.

COMPASSES. *The unmentioned deviations are those due to the electrical equipment described herein only.*

Minimum distance between electric generators or motors and standard compass 112 feet

Minimum distance between electric generators or motors and steering compass 106 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 his degrees on every course in the case of the

standard compass, and his degrees on every course in the case of the steering compass.

Ho. S. Simpson Builder's Signature. Date 6. 3. 41

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

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 fitted under special
survey. The materials used and the workmanship are good.
On completion the equipment was run under working
conditions with satisfactory results and the insulation
resistance of all circuits was measured and found good.
This equipment is in my opinion suitable for a steam
vessel.

Noted
17/3/41

Total Capacity of Generators 90 Kilowatts.

The amount of Fee ... £ 31 : 10 : { When applied for,19.....

Travelling Expenses (if any) £ : : { When received,19.....

Dantson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 18 MAR 1941

Assigned See H.M. 7E 18121

2m.10.35.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

