

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 27 APR 1946

Date of writing Report 20th Feb 1946 When handed in at Local Office 1946 Port of SYDNEY, N.S.W.

No. in Survey held at Rhodes & Sydney, N.S.W., Date, First Survey 5th Feb Last Survey 19th Feb 1946
Reg. Book. (Number of Visits)

on the T.S.M.S. "T AND JONG OEBAN" Tons Gross 195 Net 98

Built at Rhodes, N.S.W., By whom built Commonwealth Government Shipbuilding Estab. No. 4 Yard No. 65 When built 1946

Owners { Nederlandsche Koloniale Petroleum Maat Schappij (N.K.P.M.) Port belonging to The Hague

Electrical Installation fitted by J.W. Bartholemew & Sons Pty. Ltd., Contract No. --- When fitted 1946

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 System of Distribution Two wire Voltage of supply for Lighting 110

Heating --- Power --- Direct or Alternating Current, Lighting D.C. Power --- 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 Yes 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 ---

if not compound wound state distance between generators 6 ft. and from switchboard 9 ft. 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

--- 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 Yes and the results found as per rule --- Are the lubricating arrangements and the construction

of the generators as per rule Yes Position of Generators After end of engine room

---, 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 --- and vertically ---, 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 near after bulkhead

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 --- and vertically ---, what insulation

material is used for the panels "Misco-lite" 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 --- 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

D.P. Double-throw quick-break knife switch

and for each outgoing circuit D.P. Fuses (Slydlock, 50 amps)

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

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



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Switches, ~~Circuit Breakers~~ and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled as per Rule No, are the reversed current protection devices connected on the pole opposite to the equaliser connection ---, have they been tested under working conditions ---. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes. Cables, are they insulated and protected as per the appropriate Tables of the Rules Yes, if otherwise than as per Rule are they of an approved type ---, state maximum fall of pressure between bus bars and any point under maximum load Nil, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets ---. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends --- with insulating compound --- or waterproof insulating tape ---. 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 Yes, are cables laid under machines or floorplates No, if so, are they adequately protected ---. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit ---. State how the cables are supported and protected Lead sheathed cables supported by clips to perforated metal trays.

From junction box in Engine room to forward forward lights, V.I.R. cables in W.T. screwed conduits led through forward hold, efficiently supported

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule ---. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectually bushed --- and with what material ---. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule ---. Emergency Supply, state position 110V Battery

in steel casings p. & s. of poop deck and method of control Manual D.P. switches with automatic casing. cut outs & D.P. Fuses. Navigation Lamps, are they separately wired Yes controlled by separate double pole switches Yes and fuses Yes. Are the switches and fuses in a position accessible only to the officers on watch Yes, is an automatic indicator fitted No. Secondary Batteries, are they constructed and fitted as per Rule Yes, are they adequately ventilated Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weather proof Yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present No, if so, how are they protected ---

and where are the controlling switches fitted ---, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of One, whether fixed or portable fixed, are their fittings as per Rule Yes. 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 --- and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil ---, 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 ---. Control Gear and Resistances, are they constructed and fitted as per Rule ---. Lightning Conductors, where required are they fitted as per Rule Yes. 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~~ ^{not} the vessel is for open sea service have spares been provided as per Rule Lamps only, are they suitably stored in dry situations Yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory Yes.

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 Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	4	120	33.3	1000	Three "V" Belts from starbd. Main Engine Shaft		
	1	4	110	37	1000	Three "V" Belts from Aux. Engine Counter Shaft		
EMERGENCY						Main & Auxiliary Engines	Light Diesel oil 215° F	
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TED 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 GENERATOR (Cruising)	4	1	7/.064	33.3	46 ✓	30	V.I.R.	W.T. Conduit
" " EQUALISER								
Aux. Generator	4	1	7/.064	37	46 ✓	20	V.I.R.	W.T. Conduit
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULA-TED WITH.	HOW PROTECTED.
AUX. SWITCHBOARDS AND SECTION BOARDS						
Poop deck Alleyway	1	7/.064	17	46 ✓	40	Rubber Lead sheathed
Oil Purifier in Engine Room	1	7/.036	10	24 ✓	30	" " "
Bridge Deck & Navigation:-						
from Engine Room to Main Dist. Board	1	7/.064	10	46 ✓	40	" " "
from Main Dist. Board to Sub board in Chart House.	1	7/.036	10	24 ✓	40	" " "

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULA-TED WITH.	HOW PROTECTED.
WIRELESS not fitted, circuit provided.	1	7/.036	8	24 ✓	20	Rubber Lead sheathed
NAVIGATION LIGHTS	1	3/.036	10	10 ✓	200	" " "
LIGHTING AND HEATING Port Accomdn.	1	3/.036	8	10 ✓	120	" " "
Starbd. "	1	3/.036	7	10 ✓	100	" " "
Crews "	1	3/.036	3	10 ✓	50	" " "
Engine Room	1	3/.036	6	10 ✓	40	" " "
Cluster & Ford. Stores	1	3/.036	6	10 ✓	200	V.I.R. in W.T. Conduit through hold.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULA-TED WITH.	HOW PROTECTED.
Circuit for Refrig. Motor (Motor not fitted)	1		3/.036	10	40 ✓	Rubber	Lead sheathed
Circuit for Transfer pump Motor, motor not fitted	1		3/.036	10	30 ✓	"	" "

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.

J. W. BARTHOLOMEW AND SONS P.L.C. LIMITED

[Signature]
 Sect.

Electrical Engineers.

Date 21/2/46.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 27 feet.

Minimum distance between electric generators or motors and steering compass 20 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 0.4 Ampères within feet from standard compass within feet from steering compass.

A cable carrying 2 Ampères 3 feet from standard compass 6 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 any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

The above certified by Messrs Hay & Smith
 Marine Surveyors & Compass Adjusters

Builder's Signature.

Date

[Signature]

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical installation of this vessel was built under the supervision of the Commonwealth Government, Ministry of Munitions, and the materials and workmanship are good. It has now been examined generally and all circuits megger tested. Installation examined and tested under working conditions and all found satisfactory.

Total Capacity of Generators 8 Kilowatts.

The amount of Fee £	:	:	When applied for,
		19.....
Travelling Expenses (if any) £	:	:	When received,
		19.....

[Signature]
 Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 31 MAY 1946

Assigned

[Signature]
 See minute
 on p. 11

The Surveyors are requested not to write on or below the space for Committee's Minute.



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