

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

126 AUG 1943

Date of writing Report 10-8-43 When handed in at Local Office 21/8/43 Port of Belfast

No. in Survey held at Belfast Date, First Survey 24 March Last Survey 9 Aug 1943
Reg. Book. (Number of Visits 20)

32615 on the M.V. "Samanco" Tons Gross 8335.59 Net 4844.94

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1156 When built 1943

Owners Pacific Steam Navigation Co. Port belonging to Liverpool

Electrical Installation fitted by Harland & Wolff Ltd. Contract No. 1156 When fitted 1943

Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. no (Radio Fitted)

Have plans been submitted and approved yes System of Distribution two wire system Voltage of supply for Lighting 220

Heating 220 Power 220 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity - Prime Movers,

has the governing been tested and found as per Rule when full 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 yes, are they level compounded under working conditions yes,

if not compound wound state distance between generators - and from switchboard - Where more than one generator is fitted are they

arranged to run in parallel yes, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

negative 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 No 1 generator Motor Room Port No 2 & 3 generators - - - - - at floor level

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 Motor Room aft at Main Deck level

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 sindango, 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 1800 amp D.P.

circuit breaker with overload time lags, reverse current trip and

equaliser switch

and for each outgoing circuit circuits over 150 amp capacity - D.P. circuit breaker with over-

load and time lags Under 150 amp capacity, - D.P. or S.P. knife switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 3

ammeters 2 voltmeters - 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 2 earth lamps with 2 S.P. switches & D.P. fuses

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 yes If circuit breakers are provided for the generators, at what overload current did they open when tested 1700 A, are the reversed current

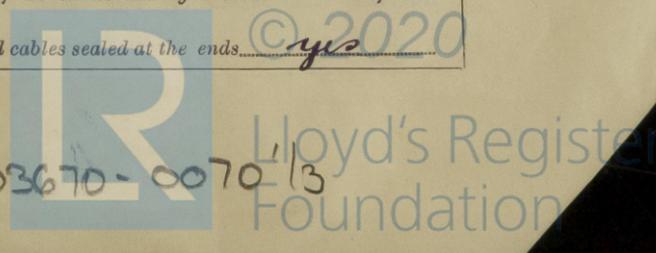
protection devices connected on the pole opposite to the equaliser connection yes, have they been tested under working conditions, and at what current

did they operate 170 A 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 5.8 V, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets yes Are paper insulated and varnished cambric insulated cables sealed at the ends yes



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with insulating compound yes waterproof insulating tape yes. 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-covered cables are run in pipes along open decks
Lead-covered cables are clipped to plating and bulkheads on Navigating Bridge, Accommodation and Motor Room.

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule yes. 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 yes and with what material lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule -. Emergency Supply, state position - and method of control -.

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 yes. Secondary Batteries, are they constructed and fitted as per Rule -, are they adequately ventilated - what is the battery capacity in ampere hours -.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present yes, if so, how are they protected Flameproof type fittings in magazines, lead covered cables run in conduit and where are the controlling switches fitted outside compartments, are all fittings suitably ventilated yes, are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of 1, whether fixed or portable portable 10" signalling projector, are their fittings as per Rule yes. Heating and Cooking, is the general construction as per Rule yes, are the frames effectually earthed yes, are heaters in the accommodation of the convection type yes. Motors, are all motors constructed and installed as per Rule yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil yes, if situated near unprotected combustible material state minimum distance from same horizontally - and vertically -. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment yes. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing yes. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule yes. Control Gear and Resistances, are they constructed and fitted as per Rule yes. 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 -. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships -. Are the cables lead covered as per Rule - with exception of steering gear open conduit. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule yes, are they suitably stored in dry situations yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	250	222	1125	350	DIESEL ENGINE	POOL DIESEL	ABOVE 150° F.
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 GENERATOR	250	2	91.093	1125	1248	170	VARNISHED CAMBRIC	LEAD COVERED
" " EQUALISER		1	"	-	624	85	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

LIGHTING AND HEATING

DIST. BOX	Nº 15	Heating, Shelter Dk.	1	191.052	71	104	15	VARNISHED CAMBRIC	LEAD COVERED
"	"	Nº 16 booking, M' board R ^m	1	71.052	48	57	10	"	"
"	"	Nº 17 bargo Lighting Aft.	1	"	15	"	190	"	"
"	"	Nº 18 Heating, brew ^r Acc ⁿ	1	191.083	123	191	340	"	"
"	"	Nº 19 " " "	1	"	126	"	"	"	"
"	"	Nº 20 Lighting " "	1	71.044	18	42	350	"	"
"	"	Nº 21 booking " "	1	191.064	66	135	340	"	"
S. & F. BOX	Nº 24	Motor Room Ltg.	1	71.044	14	42	15	"	"
"	"	Nº 26 " " "	1	"	10	"	190	"	"
"	"	Nº 27 " " "	1	"	125	"	190	"	"



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MANOEUVRING COMPRESSORS	2	100	1	191.083	118	191	190	"	"
	2	100	1	371.103	380	385	90	"	"

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
MASTERBOARD A Winches	1	611.093	375	464	420	VARNISHED CAMBRIC	LEAD COVERED
" B Lighting	1	191.064	102	135	50	"	"
" B hooking	1	371.093	296	343	50	"	"
" B Heating	1	1271.093	752	815	50	"	"
" C Winches	1	611.093	310	464	210	"	"
" D Motor Room	1	911.093	482	624	160	"	"
STEERING GEAR CONTROL PANEL	1	371.083	135	296	380	"	"
DIG. FUSE PANEL M & G coils	1	191.083	98	191	100	"	"
" " 7 coil	1	71.044	35	42	190	"	"
S & F BOX N° 23 Workshop Motors	1	71.044	27	42	130	"	"
" " N° 25 Small "	1	71.064	65	75	100	"	"
DIST. " N° 28 Acc ⁿ Vent Fans	1	71.064	21	75	50	"	"
S & F. " N° 29 Motor R ^m " "	1	71.064	52	75	40	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	191.052	30	104	290	VARNISHED CAMBRIC	LEAD COVERED
NAVIGATION LIGHTS <i>hooking - steering gear light.</i>	1	31.029	1	5	620	RUBBER	"
LIGHTING AND HEATING							
S & F BOX N° 1 Navigation etc.	1	71.064	25	75	310	VARNISHED CAMBRIC	"
DIST. " N° H2 Heating bapt. Ridge	1	191.052	70	104	220	"	"
" " N° H3 " Boat Dk	1	191.064	101	135	210	"	"
" " N° 4 Lighting " "	1	71.044	14	42	210	"	"
" " N° 5 " Forecastle	1	71.052	13	57	480	"	"
" " N° 6 bargo Ltg. Ford	1	71.064	19	75	360	"	"
" " N° 7 " Shelter Dk	1	71.064	31	75	160	"	"
" " N° 8 hooking Pantry	1	191.044	66	87	150	"	"
" " N° H9 Heating Shelter Dk	1	191.052	72	104	150	"	"
" " N° 10 Lighting " "	1	71.052	14	57	160	"	"
" " N° 11 " " "	1	71.044	14	42	70	"	"
" " N° 12 " " "	1	"	"	"	100	"	"
" " N° H13 Heating " "	1	191.052	83	104	60	"	"
" " N° H14 " " "	1	191.064	103	135	100	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
MANOEUVRING COMPRESSORS	2	47	1	191.083	176	191	130	VARNISHED CAMBRIC LEAD COVERED
LUB. OIL PUMPS <i>Oil</i>	2	100	1	371.103	280	285	70	" " " 1 HP. RATING.
WINDLASS	1	48	1	371.072	185	261	45	" " " 1 HP.
WARPING WINCH	1	43	1	191.083	160	199	200	" " " 1/2 HP.
3 TON "	6	35	1	191.064	132	151	60	" " " 1/2 HP.
7 TON "	2	47	1	191.083	176	225	50	" " " 1/2 HP.
10 TON "	2	47	1	"	"	"	"	" " " 1/2 HP.
STEERING MOTOR	1	35	1	371.083	134	296	15	" " " "
MAIN S.W. CIRC. PUMPS	2	38	1	191.083	145	191	20	" " " "
" F.W. " "	2	27	1	191.052	102	184	30	" " " "
BALLAST PUMP	1	33	1	191.083	126	191	50	" " " "
BILGE "	1	15	1	71.064	59	75	60	" " " "
TURNING MOTOR	1	15	1	"	"	"	70	" " " "
F.O. TRANSFER PUMP	1	6	1	71.044	25.8	42	180	" " " "
AUX. S.W. PUMP	1	6	1	"	"	"	70	" " " "
" F.W. " "	1	5	1	"	20.1	"	90	" " " "
DOMESTIC F.W. PUMP	1	5	1	"	"	"	100	" " " "
F.O. SERVICE PUMP (STAND-BY)	1	2.5	1	71.029	11	15	40	RUBBER " " " "
PURIFIED F.O. PUMP	1	"	1	"	"	"	70	" " " "
OIL PURIFIERS	3	3	1	"	12.3	"	30	" " " "
LATHE	1	2	1	31.036	9	10	30	" " " "
GRINDER	1	"	1	"	"	"	25	" " " "
DRILL	1	"	1	"	"	"	"	" " " "
GENERATOR SUMP PUMP	1	0.75	1	"	4	"	30	" " " "
F.O. BLOWER MOTOR	1	2	1	"	9	"	140	" " " "
MOTOR R ^m VENT FANS	2	4	1	71.036	17	28	160	VARNISHED CAMBRIC " " " "
VAPOUR EXTRACTION FAN	1	4.5	1	"	19	"	120	" " " "
ACCOMM ⁿ VENT FANS	3	2.5	1	71.029	11	15	150	RUBBER VARNISHED CAMBRIC " " " "
DOMESTIC REFRIG. MOTOR	1	4	1	71.036	17	28	180	" " " "

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.



Electrical Engineers.

Date Aug 10/43

COMPASSES.

Minimum distance between electric generators or motors and standard compass 42 feet

Minimum distance between electric generators or motors and steering compass 35 "

The nearest cables to the compasses are as follows:—

A cable carrying 0.65 Ampères 8 feet from standard compass 8 feet from steering compass.

A cable carrying 0.65 Ampères 8 feet from standard compass 8 feet from steering compass.

A cable carrying 25 Ampères 10 feet from standard compass 7 feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power yes, and calibrated with O.C. on & off.

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 no degrees on any course in the case of the standard compass, and no degrees on any course in the case of the steering compass.



Builder's Signature.

Date 10-8-43.

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

Plans. Are approved plans forwarded herewith no If not, state date of approval 2/12/42.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith yes.

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 on board under special survey and in accordance with the requirements of the Rules and approved plans, except that no spare armature or standby motor has been supplied for the steering gear. This item was deleted on the instructions of the D.D.M.B.(H) but arrangements have been made by the builder to supply a spare armature within twelve months in accordance with the Secretary's letter of the 17th August 1943.

The installation has been tested under full working conditions and found satisfactory. The materials and workmanship are good.

Noted
J.H.
17/8/43

Total Capacity of Generators 760 Kilowatts.

The amount of Fee ... £63 : 15 : 0
{ 2/3 due Belfast £42-10-0 }
{ 1/3 due Liverpool £21-5-0 }
Travelling Expenses (if any) £ : :

When applied for,19.....
When received,19.....

L. Haffner

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 10 SEP 1943

Assigned

see minute
on J.S. Rpt.

5m. 4.18.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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