

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23 DEC 1946

Received at London Office.....

Date of writing Report..... 25-11-1946 When handed in at Local Office..... 20/12/1946 Port of..... Belfast.

No. in Survey held at..... Belfast Date, First Survey..... 20th August Last Survey..... 16-12-1946  
Reg. Book..... 88511 on the..... MV "PATELLA" (Number of Visits..... 19)

Built at..... Belfast By whom built..... Harland & Wolff Ltd. Yard No..... 1316 When built..... 1946  
Owners..... Anglo Saxon Petroleum Co Ltd. Port belonging to..... London Tons {Gross..... 8247 Net..... 4121

Electrical Installation fitted by..... Harland & Wolff Ltd. Contract No..... 1316 When fitted..... 1946

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

Have plans been submitted and approved..... yes System of Distribution..... Two Wire Voltage of supply for Lighting..... 110

Heating..... Power..... 110 Direct or Alternating Current, Lighting..... direct Power..... direct 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..... 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..... no, 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..... 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..... Motor Room Tank Top Starboard

..... 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 Platform Starboard

..... 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..... Black Sandango, 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.....

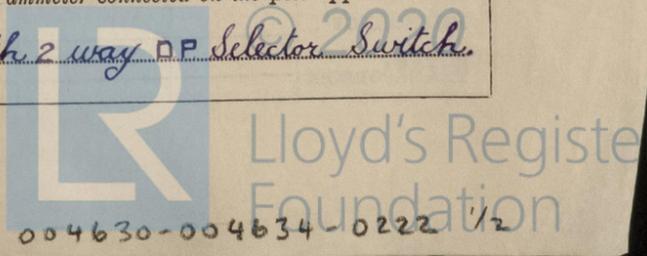
..... 300 Amp. Double Pole Knife Switch with 300 Amp. Fuse on Each Pole

..... and for each outgoing circuit..... Double Pole Change-over-Switch with Fuse on each Pole

..... Are compartments containing switchboards composed of fire-resisting material or lined as per Rule..... yes Instruments on main switchboard..... 2

ammeters..... 2 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..... 2 Lamp System With 2 way DP Selector Switch



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, 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 6.6 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 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 yes, if so, are they adequately protected yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered no Pyrotex or lead in conduit. State how the cables are supported and protected Main Runs (Pyrotex) in inverted No. 8 Channels under gangways Machinery Spaces (Pyrotex) on Perforated Metal Plating. Lighting Cables (Lead Covered) Clipped to Bulkheads. 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 effectively bushed yes and with what material Lead Bushes. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes. 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 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, 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 & Gas-tight Fittings where necessary See list after 20/47 and where are the controlling switches fitted Non Dangerous Positions, 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, 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 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 —. 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 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 yes, are all fuses of the cartridge type yes are they of an approved type yes. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type —. 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 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	30	110	273	675	Steam Engine.		
	1	30	110	273	675	Diesel Engine.	oil. 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. in.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	0.2	273	296	70	Mineral Insulated	Copper Sheathed
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
Midship Masterboard	2	0.15	253	246	524	Mineral Insulated	Copper Sheathed	
Section Box No 1	1	0.0145	36	57	148	"	"	"
" " No 2	1	0.06	73	135	148	"	"	"
" " No 3	1	0.0225	42	75	54	"	"	"
" " No 4	1	0.0225	58	75	54	"	"	"
" " No 5	1	0.03	57	87	100	"	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	0.06	25	135	72	Mineral Insulated	Copper Sheathed
NAVIGATION LIGHTS D.B. No 1	1	0.0045	8	15	70	"	"
LIGHTING AND HEATING Dist. Box No 1 (Floodlighting)	1	0.01	8	42	70	Mineral Insulated	Copper Sheathed
" " No 2	1	0.01	13	42	40	"	"
" " No 3	1	0.01	19	50	—	"	"
" " No 4	1	0.007	25	28	—	"	"
" " No 5	1	0.007	8	28	52	Mineral Insulated	Copper Sheathed
" " No 6	1	0.0145	20	57	200	"	"
" " No 7	1	0.0145	20	57	6	"	"
" " No 8	1	0.0145	20	57	128	"	"
" " No 9	1	0.0145	20	57	88	"	"
" " No 10	1	0.0145	20	57	128	"	"
" " No 11	1	0.007	13	28	36	"	"
" " No 12	1	0.0045	8	15	36	"	"
" " No 13	1	0.0045	7	15	172	"	"
" " No 14	1	0.007	7	28	24	"	"
" " No 15	1	0.0045	4	15	180	"	"
" " No 16	1	0.0045	4	15	100	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Turning Motor	1	10	1	0.03	80	87	108	Mineral Insulated Copper Sheathed
Vint Fans	2	4	1	0.0145	32	57	148	" " "
Fuel Oil Pump	1	1.75	1	0.007	14	28	128	" " "
Lub. Oil Purifier	1	2	1	0.007	16	28	46	" " "
Fuel Oil Purifier	1	2.5	1	0.01	20	42	58	" " "
Lathe	1	1.5	1	0.007	12	28	64	" " "
Drilling Machine	1	2	1	0.007	16	28	44	" " "
Grinding Machine	1	3	1	0.01	24	42	36	" " "
Boat Davits	4	2	1	0.007	16	28	228	" " "
Refrig. M/ by Exhaust Fan	1	0.5	1	0.002	4	5	32	" " "

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 Nov. 27<sup>th</sup> 1946

**COMPASSES.**

Minimum distance between electric generators or motors and standard compass 25 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 0.16 Ampères on ~~feet from~~ standard compass 10 feet from steering compass.

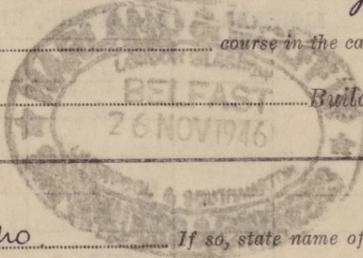
A cable carrying 0.16 Ampères 10 feet from standard compass on ~~feet from~~ steering compass.

A cable carrying 40 Ampères 8 feet from standard compass 8 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

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 equipment of the vessel has been fitted on board under special survey tested under full working conditions and found satisfactory. Materials and workmanship are good.

Noted Hru 22.1.47

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... £ 36 : - : { When applied for, 20/12/1946  
 Travelling Expenses (if any) £ : : { When received, .....19.....

R. I. Hutchinson  
 Surveyor to Lloyd's Register of Shipping.

FRI. 24 JAN 1947

Committee's Minute

Assigned For minute see T.E. Kelly Rpt

2m.10.38.—Transfer. (MADE IN ENGLAND.)  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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