

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 AUG 1950

Received at London Office.....

Date of writing Report 11th Aug. 1950. When handed in at Local Office 22nd Aug. 1950. Port of GOTHENBURG.

Survey held at Uddevalla Date, First Survey 18th February Last Survey 19th July 1950.
No. in Reg. Book. (Number of Visits) 7

36036 on the m.s. "ISLAS MALVINAS" Tons {Gross 9822
Net 5565

Built at Uddevalla By whom built Uddevallavarvet AB Yard No. 111 When built 1950

Owners Argentine Government (Yacimientos Petroliferos Fiscales) Port belonging to Buenos Aires Gen.

Electrical Installation fitted by Uddevallavarvet AB Contract No 164473-4-5 When fitted 1950

Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D. F. Yes E. S. D. Yes Gy. C. Yes Radar Yes Sub-stg. Yes

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

Heating -- Power 220 v Direct or Alternating Current, Lighting DC Power DC 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 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 E.R. floor. Port and starboard side, fore- and 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 -- 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 On a platform aft in the engine room. 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 Steatit, 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 A double pole circuit breaker

with overload and reversed current trips and a single pole equaliser switch. and for each outgoing circuit A double pole switch and a fuse on each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard for 110 V 3
" 220 V 16

ammeters 3 voltmeters 5 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 Ohm-metres



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 Yes have they been tested under working conditions Yes **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 ---, 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 Yes with insulating compound --- or 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 Yes, (only ab. 3,5 M. if so, are they adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit --- State how the cables are supported and protected Supported by metal clips. All cables lead sheathed. Main cables armoured or steel wire braided.

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 **Alternative Lighting**, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes **Emergency Supply**, state position In a separate room on Boat deck and method of control A double pole switch with overload current trips

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 ---

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 fittings (Maxlume FP 6445) and gastight piping.

and where are the controlling switches fitted accommodations amidships, 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 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 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 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 Not suppl **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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	4	320	230	1391	600	Diesel engines	Diesel oil	above 150° F
Steam generator	1	100	230	435	450	Steam engine	--	--
EMERGENCY	1	20 30	115	260	1100	Diesel engine	Diesel oil	above 150° F
ROTARY TRANSFORMER	2	25	115	218	2900	El. motor	--	--



GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return) M.	INSULATED WITH	HOW PROTECTED.
		No. in Parallel Per Pole	Sectional Area Sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	320	4	185	1391 ✓	1496	78	Paper	Lead covered & armoured
" " EQUALISER		4	185	-	1496	78	"	- " -
Steam eng. driven generator	100	2	95	435 ✓	484	32	"	- " -
- " - equaliser		2	95	-	484	32	"	- " -
EMERGENCY GENERATOR	30	2	50	260 ✓	318	30	"	- " -
ROTARY TRANSFORMER: MOTOR ..	30	1	50	156 ✓	159	60	"	- " -
" " GENERATOR ..	25	1	95	227 ✓	242	85	"	- " -

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
E.R. purifiers and transf. pump	1	25	100 ✓	102	130	Paper	Lead covered & armoured	
E.R. pumps and Prov. ref. machy	1	25	90 ✓	102	45	"	- " -	
E.R. workshop motors	1	10	20 ✓	38	90	Rubber	- " -	
Fans aft	1	25	87 ✓	102	65	Paper	- " -	
Fans amidship	1	25	30 ✓	102	600	"	- " -	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	35	50 ✓	126	700	Paper	Lead covered & armoured	
NAVIGATION LIGHTS	1	2,5	4 ✓	13	725	Rubber	- " -	
LIGHTING AND HEATING								
Boat deck, offic. accomodation	1	6	23 ✓	29	190	"	- " -	
- " - , crew accomodation	1	4	14 ✓	21	160	"	- " -	
Poop deck, passenger acc. starb.	1	4	16,5 ✓	21	140	"	- " -	
- " - port	1	4	16,5 ✓	21	100	"	- " -	
- " - aft	1	6	23 ✓	29	170	"	- " -	
Section board amidship	2	70	118 ✓	200	600	Paper	- " -	
Engine room starboard	1	6	17,5 ✓	29	90	Rubber	- " -	
- " - port	1	6	17,5 ✓	29	25	"	- " -	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.							
Steering engine	2	14 KW	1	25	80 ✓	102	210	Paper	Lead covered & armoured
Scavenge air blower	4	250	4	95	884 ✓	968	85	"	- " -
Main cooling water pump	3	65	1	120	228 ✓	282	150	"	- " -
Main lubricating oil pump	3	55	1	95	194 ✓	242	190	"	- " -
Ballast pump	1	20	1	16	78 ✓	78	100	"	- " -
Transfer pump	1	9	1	16	36,5 ✓	48	30	"	- " -
Booster pump	3	1	1	1,5	4,9 ✓	8	7	"	- " -
Manoeuvring compressor	2	73	1	120	282 ✓	282	60	"	- " -
Turning motor	2	15	1	16	63 ✓	78	50	"	- " -
Sanitary pump	1	5	1	6	20 ✓	29	80	Rubber	- " -
Purifiers	3	7	1	16	28 ✓	48	30	"	- " -
Hydrofor pump	2	2	1	4	9,1 ✓	21	110	"	- " -
Refr. compressor, provision	3	3,7KW	1	6	20 ✓	29	80	"	- " -
Cool. water pumps for RM	3	0,7KW	1	6	4,2 ✓	29	6	"	- " -



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0045.2/2

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.

W. J. P. Schuman Electrical Engineers. Date *18.8.50*

COMPASSES.

Minimum distance between electric generators or motors and standard compass 15 feet
 Minimum distance between electric generators or motors and steering compass 16 feet

The nearest cables to the compasses are as follows:—

twin
 A/cable carrying 10 Ampères 8 feet from standard compass 12 feet from steering compass.
 twin
 A/cable carrying 0.5 Ampères 3 feet from standard compass 4 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 0 degrees on every course in the case of the standard compass, and 0 degrees on every course in the case of the steering compass.

UDDEVALLAVARVET
AKTIEBODAG
Anders Sjögren Builder's Signature. Date *18.8.50*

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.)

This electrical installation has been fitted in the vessel under my inspection and has been tested and found satisfactory.

The workmanship is good and the Rule requirements have been complied with.

Lloyd's and Makers certificates in respect of generators and motors are attached.

Noted See 18/9/50

Total Capacity of Generators 1410 Kilowatts.

The amount of Fee Kr. 1845:00
 Travelling Expenses (if any) Kr. —

When applied for,	22/8.1950.
When received	— 19. —

Anders Sjögren
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 22 SEP 1950

Assigned *See F.E. mchly. spt.*

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



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