

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office **13 AUG 1951**

Date of writing Report **1st August 1951**. When handed in at Local Office **10th August 1951**. Port of **Gothenburg**

Survey held at **Uddevalla** Date, First Survey **2nd April** Last Survey **6th July 1951**
(Number of Visits **7**)

No. in Reg. Book **91089** on the **Twin Screw Motor Tanker "I.S.L.A.S. G.E.O.R.G.I.A.S"** Tons **Gross 9893 Net 5634**

Built at **Uddevalla** By whom built **Uddevallavarvet A-B** Yard No. **113** When built **1951**

Owners **Yacimientos Petroliferos Fiscales** Port belonging to **Buenos Aires**

Electrical Installation fitted by **Uddevallavarvet A-B** Gen. Nos. **164481, 164482, 164483, 164484** When fitted **1951**

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**

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

Heating **---** Power **220** Direct or Alternating Current, Lighting **D.C.** Power **D.C.** 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, fore and aft** Steam driven

generator: **ER floor** 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 **fitted on 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**

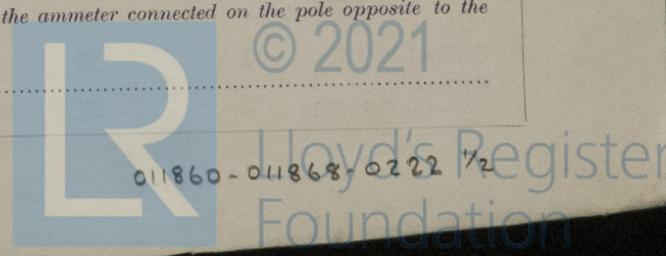
with overload and reversed current trips and a single pole equaliser switch

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 For 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 - meters**



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 **6.4 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 **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 about 3.5 Met

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, armoring 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 ~~unarmoured~~ 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 **Flame-proof fittings (Marlume FP 6445) and gas-tight 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 **1** 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 supplied** **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	30	115	260	1100	Diesel engine	Diesel oil Above 150° F.	
ROTARY TRANSFORMER	2	25	115	218	2900	Electric motor	---	

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 Sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	320	4	185	1391	1496	78	Paper	Lead covered & armoured
" " EQUALISER		4	185	---	1496	78	"	" "
STEAM ENGINE DRIVEN GENERATOR	100	2	95	435	484	32	"	" "
" " " " EQUAL.		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.

DESCRIPTION	KILOWATTS	No. In Parallel Per Pole	Sectional Area Sq. mm.	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH (lead plus return feet).	INSULATED WITH	HOW PROTECTED.	
AUX. SWITCHBOARDS AND SECTION BOARDS								
Engine room purifiers and transfer pump		1	25	100	102	130	Paper	Lead covered & armoured
Engine room pumps and Provision refr. mch		1	25	90	102	45	"	" "
Engine room workshop motors		1	10	20	38	90	Rubber	" "
Fans aft		1	25	87	102	65	Paper	" "
Fans amidship		1	25	30	102	600	"	" "
Refrigerating compressor		1	16	50		200	"	" "

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION	No.	Sectional Area Sq. mm.	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH (lead plus return feet).	INSULATED WITH	HOW PROTECTED.	
WIRELESS	1	35	50	126	700	Paper	Lead covered & armoured
NAVIGATION LIGHTS	1	2.5	4	13	725	Rubber	" "
LIGHTING XXXXXXXXXX							
Boat deck, Officers' accommodation	1	6	23	29	190	"	" "
Boat deck, Crew accommodation	1	4	14	21	160	"	" "
Poop deck, Passengers' accomm., starboard	1	4	16.5	21	140	"	" "
Poop deck, Passengers' accomm., port	1	4	16.5	21	100	"	" "
Poop deck, Passengers' accomm., aft	1	6	23	29	170	"	" "
Section board amidship	1	70	118	200	600	Paper	" "
Engine room, starboard	1	6	17.5	29	90	Rubber	" "
Engine room, port	1	6	17.5	29	25	"	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.	Sectional Area Sq. mm.	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH (lead plus return feet).	INSULATED WITH	HOW PROTECTED.		
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	Rubber	" "
Manceuvring compressor	2	73	1	120	282	282	60	Paper	" "
Turning motor	2	15	1	16	63	78	50	"	" "
Sanitary pump	1	5	1	6	21.1	29	80	Rubber	" "
Purifier	3	7	1	16	28	48	30	"	" "
Hydrofor pump	2	2	1	4	9.1	21	110	"	" "
Refr. compressor, provision	3	4.1 KW	1	6	22	29	10	"	" "
Cooling water pumps for the refrigerating machinery	3	0.7 KW	1	6	4.2	29	220	"	" "

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.

H. Sjöström Electrical Engineers. Date ... *6. 8. 51*

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.

**UDDEVÄLLAVARVET
 AKTIEBOLAG**

Builder's Signature. Date

Olof Sjöström

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *M/T "Islas Malvinas" and M/T "Islas Orcadas", Gothenburg F.E.Reports Nos.1766 and 1815 resp.*

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 to my satisfaction 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 28-8-51 OSM

Total Capacity of Generators *1410* Kilowatts.

The amount of Fee	Kr. 2200 :-	{ When applied for, <i>10/B.</i> 19 <i>51</i>
Travelling Expenses (if any) Kr. ---		

Anders Sjöström
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 31 AUG 1951**

Assigned *See Mch. F.E. Rpt.*

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

