

# REPORT ON ELECTRICAL EQUIPMENT.

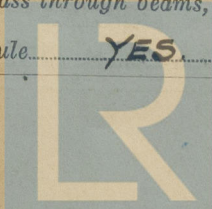
(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.

- 2 AUG 1950

Date of writing Report 31-7-1950 When handed in at Local Office 1-8-1950 Port of WEST HARTLEPOOL  
 No. in Survey held at WEST HARTLEPOOL Date, First Survey 21.3.50 Last Survey 21.7.1950  
 Reg. Book. (No. of Visits 19)  
36438 on the M.V. "ALTAIR"  
 Built at WEST HARTLEPOOL By whom built W. GRAY & CO LTD. Yard No. 1236 When built 1950  
 Owners N. V. VAN NIEVELT, GOUDRIAAN & CO. Port belonging to ROTTERDAM  
 Installation fitted by W. GRAY & CO. LTD. When fitted 1950  
 Is vessel equipped for carrying Petroleum in bulk NO Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. — Radar YES

Plans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 220  
 Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency —  
 Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch — Generators, are they compound wound YES, and level compounded under working conditions YES, if not compound wound state distance between generators — and from switchboard — Are the generators 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  
 Position of Generators FORE & AFT, PORT SIDE, ON STARTING PLATFORM LEVEL  
 is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where are main switchboards placed ADJACENT TO E.R. FOREWARD BULKHEAD AND FACING AFT, ON STARTING PLATFORM LEVEL  
 are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES, what insulation is used for the panels SINDANYO, EBONY FINISH, 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 construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear for each generator and arrangement of equaliser switches TRIPLE POLE AIR BREAK CIRCUIT BREAKER WITH OVERLOADS AND TIME DELAYS ON TWO POLES, REVERSE CURRENT TRIP, NO-VOLT COIL AND THIRD POLE COUPLED TO EQUALISER  
 and the switch and fuse gear (or circuit breakers) for each outgoing circuit DOUBLE POLE AIR BREAK CIRCUIT BREAKER WITH OVERLOADS AND TIME DELAYS. DOUBLE POLE SINGLE THROW QUICK BREAK KNIFE SWITCH AND DOUBLE POLE FUSES  
 Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 3 ammeters 2 voltmeters 1 OHMMETER devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided EARTH LAMPS COUPLED TO 'EARTH' THRO' SWITCHES AND FUSES, ALSO CENTRE INFINITY OHMMETER  
 Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES make of fuses SIEMENS 'Z' TYPE, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate 10%, and at what current do the reversed current protective devices operate 10%  
 Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule YES  
 Cables, are they insulated and protected as per Rule 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 < 13.2 v, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets YES Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 any cables laid under machines or floorplates YES, if so, are they adequately protected YES Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit — or of the "HR" type — State how the cables are supported or protected CABLES IN ENGINE ROOM CLIPPED TO SOLID STEEL AND PERFORATED TRAY PLATES. TWEEN DECKS V.I.R CABLES IN PLUMBERS PIPE. 'ROCBESTOS' CABLE CLIPPED TO PERFORATED TRAY PLATE IN GALLEY. L.C. CABLES IN ACCOMMODATION CLEATED TO WOOD GROUNDS  
 Are all lead sheaths, armouring and conduits effectually bonded and earthed 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 Refrigerated chambers, are the cables and fittings as per Rule YES



© 2020

Lloyd's Register  
Foundation

002051-002061-0051/4



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. **YES**. Emergency Supply, state position

### 50KW GENERATOR SITUATED ON BULKHEAD DECK.

Navigation Lamps, are they separately wired **YES**, controlled by separate double pole switches 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**. Is an alternative supply provided **YES**.

Secondary Batteries, are they constructed and fitted as per Rule **—**, are they adequately ventilated **—**, state 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 any 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**.

Searchlight Lamps, No. of **—**, whether fixed or portable **—**, are they of the carbon arc or of the filament type **—**.

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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil **YES**.

Are motors coupled to oil fuel transfer and 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 **—**.

Have certificates of test for motors under 100 BHP intended for essential sea 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 **—**. 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 an Approved Cartridge Type **—**, make of fuse **—**. 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 **—**. E.S.D., if fitted state make **MARINE INSTRUMENTS**, location of transmitter **FRAMES 140-141 P.** and receiver **FRAMES 140-141 S.**

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2.	BROWN-BOVERI	160	220	730	375	DIESEL.	STORK (Nos: 5698-9/1948).
	1	BROWN-BOVERI	50	220	227	1000	DIESEL.	STORK (No: 5872-1949).
EMERGENCY ROTARY TRANSFORMER								

### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	160	2	37/103	730	816	70	V.C.	L.C. & B.
" " EQUALISER	160	1	37/103	365	408	35	V.C.	L.C. & B.
	160	2	37/103	730	816	110	V.C.	L.C. & B.
		1	37/103	365	408	55	V.C.	L.C. & B.
EMERGENCY GENERATOR.	50		37/072	227	260	70	V.C.	L.C. & B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR.								

### MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.								
AUX. SWITCHBOARD TO GENERAL LGHTS. S.B.1.	1	19/083	104.36	118.	102	V.I.R.	PLUMBERS PIPE.	
S.B.1 TO CAPTAIN'S BRIDGE D.B.2	1	7/029	11.06	15	231	V.I.R.	L.C.	
S.B.1 TO PROM. DECK. PORT D.B.3	1	7/029	12.96	15	123	V.I.R.	L.C.	
S.B.1 TO PROM. DECK AFT END. D.B.4	1	3/036	5.19	10	123	V.I.R.	L.C.	
S.B.1 TO PROM. DECK STBD. D.B.5	1	7/029	10.76	15	96	V.I.R.	L.C.	
S.B.1 TO BRIDGE DECK PORT. D.B.6	1	7/029	14.59	15	96	V.I.R.	L.C.	
S.B.1 TO BRIDGE DECK STBD. D.B.7	1	7/036	13.89	24	9	V.I.R.	L.C.	
S.B.1 TO UPPER DECK PORT. D.B.8	1	7/029	11.47	15	72	V.I.R.	CONDUIT.	
S.B.1 TO UPPER DECK STBD. D.B.9	1	3/036	8.36	10	33	V.I.R.	CONDUIT.	
S.B.1 TO FORECASTLE D.B.10	1	3/029	2.72	5	615	V.I.R.	PLUMBERS PIPE.	
S.B.1 TO AFTER LIGHTING. S.B.8	1	7/029	13.36	15	387	V.I.R.	CONDUIT.	
S.B.8 TO UPPER DECK AFT. D.B.11	1	3/036	8.18	10	9	V.I.R.	L.C.	

### M. V. "ALTAIR".

No. in Register Book. 36438.

### LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	No. in Parallel per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
MAIN SWITCHBOARD TO EMIGRANTS. D.B.42	1	19/083	95.5	118	480	V.I.R.	PLUMBERS PIPE.
MAIN SWITCHBOARD TO 'TWEEN DECK. D.B.43	1	19/083	99.65	118	480	V.I.R.	PLUMBERS PIPE.
MAIN SWITCHBOARD TO AFT HEATING D.B.45	1	37/103	163.6	240	495	V.I.R.	PLUMBERS PIPE.
AUX. SWITCHBOARD TO RADAR.	1	7/036	16	24	294	V.I.R.	CONDUIT.
AUX. SWITCHBOARD TO WIRELESS.	1	19/064	15	83	330	V.I.R.	PLUMBERS PIPE.
D.B.19 TO SWITCHBOARD FOR TESTING.	1	3/029	2	5	28	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO AUX. SWITCHBOARD.	2	37/083		368	270	V.I.R.	PLUMBERS PIPE.
D.B.43 TO 10 GAL. BOILER PANTRY	1	7/052	31.25	37	176	V.I.R.	L.C.
D.B.43 TO HOT PRESS PANTRY.	1	7/052	31.7	37	176	V.I.R.	L.C.
D.B.43 TO 4 GAL. COFFEE MACHINE	1	7/029	12.5	15	176	V.I.R.	L.C.
D.B.43 TO PANTRY SOCKET OUTLET.	1	7/029	10	15	176	V.I.R.	L.C.
D.B.43 TO COLD CABINET IN BAR.	1	3/036	4.2	10	24	V.I.R.	L.C.
D.B.43 TO BAR SOCKET OUTLET.	1	7/029	10	15	40	V.I.R.	L.C.
D.B.45 TO HOT WATER TANK CREW SPACE.	1	19/083	81.8	118	168	V.I.R.	PLUMBERS PIPE.
D.B.45 TO HOT WATER TANK EMIGRANT ACC.	1	19/083	81.8	118	90	V.I.R.	L.C.
D.B.15 TO COLD CABINET.	1	3/029	2.8	5	74	V.I.R.	L.C.
D.B.15 TO 2 GAL. COFFEE MACHINE.	1	3/036	6.3	10	74	V.I.R.	L.C.
D.B.15 TO 5 GAL. BOILER.	1	7/036	20.4	24	74	V.I.R.	L.C.
D.B.15 TO HOT PRESS.	1	7/036	22.7	24	74	V.I.R.	L.C.
D.B.16 TO HOT PRESS.	1	7/036	20	24	44	V.I.R.	L.C.
D.B.16 TO 2 GAL. COFFEE MACHINE.	1	3/036	6.3	10	44	V.I.R.	L.C.
D.B.16 TO 5 GAL. BOILER.	1	7/036	20.4	24	44	V.I.R.	L.C.
D.B.17 TO BAR REFRIG.	1	3/036	4.2	10	46	V.I.R.	L.C.
D.B.17 TO PASS: COLD CABINET.	1	3/029	2.8	5	56	V.I.R.	L.C.
D.B.17 TO HOT PRESS.	1	7/036	22.7	24	60	V.I.R.	L.C.
D.B.17 TO 5 GAL. BOILER	1	7/036	20.4	24	60	V.I.R.	L.C.
D.B.17 TO 2 GAL. COFFEE BOILER.	1	3/036	6.3	10	60	V.I.R.	L.C.

SUPPLY FAN. GALLEY & STORE ROOM	1	0.75	1	3/036	4.2	10	88	V.I.R.	L.C.
EXHAUST FAN.	1	1.5	1	3/036	7.5	10	148	V.I.R.	L.C.
EXHAUST FAN.	1	0.3	1	3/029	1.9	5	122	V.I.R.	L.C.
EXHAUST FAN.	1	0.75	1	3/036	4.2	10	96	V.I.R.	L.C.
EXHAUST FAN GALLEY & SALOON ENTRY	1	0.3	1	3/029	1.9	5	52	V.I.R.	L.C.
SUPPLY FAN.	1	1.5	1	3/036	7.5	10	52	V.I.R.	L.C.
EXHAUST FAN.	1	0.3	1	3/029	1.9	5	65	V.I.R.	L.C.
EXHAUST FAN.	1	0.75	1	3/036	4.2	10	32	V.I.R.	L.C.
5 TON CRANE.	1	7.5	1	7/044	30	31	72	V.I.R.	L.C. & B.
TURNING GEAR.	1	8.5	1	7/052	34	37	213	V.I.R.	L.C. & B.
LATHE	1	5.0	1	7/036	21	24	60	V.I.R.	L.C. & B.
PLANING MACHINE.	1	2.0	1	3/036	9	10	69	V.I.R.	L.C. & B.
DRILLING MACHINE	1	1.0	1	3/036	5	10	69	V.I.R.	L.C. & B.
GRINDING MACHINE.	1	1.0	1	3/036	5	10	9	V.I.R.	L.C. & B.
REFRIG. MACHINERY.	1		1	7/044	22	31	75	V.I.R.	L.C. & B.

STREAMLINE FILTER 24 KW.	1	24KW	1	19/083	109	118	36	V.I.R.	L.C. & B.
--------------------------	---	------	---	--------	-----	-----	----	--------	-----------

*Am. Billo.*



## M.V. "ALTAIR"

No. in Register Book - 36438.

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

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 Contractors. Date.

## COMPASSES.

Have the compasses been adjusted under working conditions.

Builder's Signature. Date.

Have the foregoing descriptions and schedules been verified and found correct.

Is this installation a duplicate of a previous case. If so, state name of vessel.

Plans. Are approved plans forwarded herewith. If not, state date of approval.

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

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

MAIN	2	BROWN-BOYER	160	220	730	375	DIESEL	STORK (No. 5698-3/1948)
	1	BROWN-BOYER	50	220	227	1000	DIESEL	STORK (No. 5872-1949)
EMERGENCY								
ROTARY								
TRANSFORMER								

## GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	160	2	37/103	730	816	70	V.C.	L.C. & B.
" " EQUALISER	160	1	37/103	365	408	35	V.C.	L.C. & B.
	160	2	37/103	730	816	110	V.C.	L.C. & B.
		1	37/103	365	408	55	V.C.	L.C. & B.
EMERGENCY GENERATOR.	50		37/072	227	260	70	V.C.	L.C. & B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR.								

## MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.								
AUX. SWITCHBOARD TO GENERAL LGHTG. S.B.1.	1	19/083	104.36	118.	102	V.I.R.	PLUMBERS PIPE.	
S.B.1 TO CAPTAIN'S BRIDGE D.B.2	1	7/029	11.06	15	231	V.I.R.	L.C.	
S.B.1 TO PROM. DECK PORT D.B.3	1	7/029	12.96	15	123	V.I.R.	L.C.	
S.B.1 TO PROM. DECK AFT END. D.B.4	1	3/036	5.19	10	123	V.I.R.	L.C.	
S.B.1 TO PROM. DECK STBD. D.B.5	1	7/029	10.76	15	96	V.I.R.	L.C.	
S.B.1 TO BRIDGE DECK PORT. D.B.6	1	7/029	14.59	15	96	V.I.R.	L.C.	
S.B.1 TO BRIDGE DECK STBD. D.B.7	1	7/036	13.89	24	9	V.I.R.	L.C.	
S.B.1 TO UPPER DECK PORT. D.B.8	1	7/029	11.47	15	72	V.I.R.	CONDUIT.	
S.B.1 TO UPPER DECK STBD. D.B.9	1	3/036	8.36	10	33	V.I.R.	CONDUIT.	
S.B.1 TO FORECASTLE D.B.10	1	3/029	2.72	5	615	V.I.R.	PLUMBERS PIPE.	
S.B.1 TO AFTER LIGHTING. S.B.8	1	7/029	13.36	15	387	V.I.R.	CONDUIT.	
S.B.8 TO UPPER DECK AFT. D.B.11	1	3/036	8.18	10	9	V.I.R.	L.C.	

DESCRIPTION.	No. in Parallel per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
MAIN SWITCHBOARD TO MIDSHIP WINCHES. D.B.31	1	37/103	204	240	393	V.I.R.	PLUMBERS PIPE.
MAIN SWITCHBOARD TO AFTER WINCHES D.B.32	2	37/072	236	304	489	V.I.R.	PLUMBERS PIPE.
MAIN SWITCHBOARD TO GALLEY D.B.33	2	37/072	275	304	265	V.I.R.	PLUMBERS PIPE.
D.B.33 TO 4WAY BOARD FOR RANGE.	1	19/064	71.65	83	9.	V.I.R.	L.C.
D.B.33 TO 4WAY BOARD FOR RANGE.	1	19/064	71.65	83	15	V.I.R.	L.C.
D.B.33 TO 4WAY BOARD FOR RANGE.	1	19/064	71.65	83	15	V.I.R.	L.C.
D.B.33 TO BAKERS OVEN.	1	7/036	15.9	24	60	V.I.R.	L.C.
D.B.33 TO 10 GAL. BOILER.	1	7/064	35	46	12	V.I.R.	L.C.
D.B.33 TO POTATO PEELER.	1	3/029	3	5	44	V.I.R.	L.C.
D.B.33 TO DOUGH MIXER.	1	3/029	3	5	38	V.I.R.	L.C.
D.B.33 TO MINCER.	1	3/029	3	5	84	V.I.R.	L.C.
4WAY BOARDS TO 3.75 KW OVENS.		7/036	17.05	24	33/27/21	V.C.	ASBESTOS.
4WAY BOARDS TO 4 KW BOILING PLATES.		7/036	18.2	30	33/27/21	V.C.	ASBESTOS.
4WAY BOARDS TO 4 KW BOILING PLATES.		7/036	18.2	30	33/27/21	V.C.	ASBESTOS.
4WAY BOARDS TO 4 KW BOILING PLATES.		7/036	18.2	30	33/27/21	V.C.	ASBESTOS.
MAIN SWITCHBOARD TO OIL HEATERS. D.B.34	1	37/103	182	240	132	V.I.R.	L.C. & B.
D.B.34 TO LUB. OIL HEATERS. 18 K.W. (2 OFF)	1	19/083	82	118	66/66	V.I.R.	L.C. & B.
D.B.34 TO LUB. OIL PURIFIER.	1	7/029	9	15	18	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO DRINKING WATER D.B.35	1	19/083	82	118	45	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO COOLING PUMPS. D.B.36	1	37/083	160	184	78	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO LUB. OIL PUMPS. D.B.37	1	37/103	228	240	198	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO STREAMLINE FILTER D.B.38	1	37/103	193.8	240	219	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO F.O. PUMPS. D.B.39	1	19/083	89	118	171	V.I.R.	L.C. & B.
MAIN SWITCHBOARD TO F.W. PUMPS. D.B.40	1	19/083	87	118	129	V.I.R.	L.C. & B.
AUX. SWITCHBOARD TO EMIGRANT S.B.10	1	7/036	19.36	24	114	V.I.R.	L.C.
S.B.10 TO TW. DK. ACCOM. LGHTG. D.B.41	1	7/029	10.36	15	9	V.I.R.	L.C.
S.B.10 TO MECH. VENTS. D.B.44	1	7/029	9	15	9	V.I.R.	L.C.

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
EXHAUST FAN.	1	0.3	1	3/029	1.9	5	90	V.I.R. L.C.
SUPPLY FAN. GALLEY & STORE ROOM	1	0.75	1	3/036	4.2	10	88	V.I.R. L.C.
EXHAUST FAN.	1	1.5	1	3/036	7.5	10	148	V.I.R. L.C.
EXHAUST FAN.	1	0.3	1	3/029	1.9	5	122	V.I.R. L.C.
EXHAUST FAN.	1	0.75	1	3/036	4.2	10	96	V.I.R. L.C.
EXHAUST FAN GALLEY & SALOON ENTRY	1	0.3	1	3/029	1.9	5	52	V.I.R. L.C.
SUPPLY FAN.	1	1.5	1	3/036	7.5	10	52	V.I.R. L.C.
EXHAUST FAN.	1	0.3	1	3/029	1.9	5	65	V.I.R. L.C.
EXHAUST FAN.	1	0.75	1	3/036	4.2	10	32	V.I.R. L.C.
5 TON CRANE.	1	7.5	1	7/044	30	31	72	V.I.R. L.C. & B.
TURNING GEAR.	1	8.5	1	7/052	34	37	213	V.I.R. L.C. & B.
LATHE	1	5.0	1	7/036	21	24	60	V.I.R. L.C. & B.
PLANING MACHINE.	1	2.0	1	3/036	9	10	69	V.I.R. L.C. & B.
DRILLING MACHINE	1	1.0	1	3/036	5	10	69	V.I.R. L.C. & B.
GRINDING MACHINE.	1	1.0	1	3/036	5	10	9	V.I.R. L.C. & B.
REFRIG. MACHINERY.	1		1	7/044	22	31	75	V.I.R. L.C. & B.

## ENGINE ROOM HEATERS.

STREAMLINE FILTER 24 KW.	1	24KW	1	19/083	109	118	36	V.I.R. L.C. & B.
--------------------------	---	------	---	--------	-----	-----	----	------------------



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 Contractors. Date

#### COMPASSES.

Have the compasses been adjusted under working conditions.

Builder's Signature. Date

Have the foregoing descriptions and schedules been verified and found correct.

Is this installation a duplicate of a previous case. If so, state name of vessel.

Plans. Are approved plans forwarded herewith. If not, state date of approval.

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

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

Total Capacity of Generators. Kilowatts.

The amount of Fee ... £ : When applied for,

19

When received,

19

Travelling Expenses (if any) £ :

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 1 SEP 1950

Assigned

#### LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.		CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	In the Circuit.	Rule.			
S.B. 8 TO POOP DECK	D.B. 12	1	3/036	5.18	10	30	V.I.R.	L.C.
AUX. SWITCHBOARD TO NAVIGATION	D.B. 1	1	7/036	22.45	24	330	V.I.R.	CONDUIT.
AUX. SWITCHBOARD TO E.R. LGHTG.	S.B. 2	1	7/064	38.12	46	288	V.I.R.	PLUMBERS PIPE.
S.B. 2 TO ENG. RM. LIGHTING.	D.B. 13	1	7/036	14.24	24	15	V.I.R.	L.C.A. & B.
S.B. 2 TO ENG. RM. LIGHTING.	D.B. 14	1	7/044	23.88	31	9	V.I.R.	L.C.A. & B.
MAIN SWITCHBOARD TO PANTRY POWER	S.B. 3.	1	19/083	98.9	118	255	V.I.R.	PLUMBERS PIPE.
S.B. 3 TO OFFICERS PANTRY	D.B. 15	1	19/052	52.2	64	114	V.I.R.	L.C.
S.B. 3 TO CREWS PANTRY	D.B. 16	1	19/044	46.7	53	374	V.I.R.	PLUMBERS PIPE.
MAIN SWITCHBOARD TO PASS. PANTRY	D.B. 17	1	19/064	56.4	83	274	V.I.R.	PLUMBERS PIPE.
AUX. SWITCHBOARD TO MECH. YENT.	S.B. 9	1	19/064	69.2	83	102	V.I.R.	PLUMBERS PIPE.
S.B. 9 TO MECH. YENTS AFT.	D.B. 18.	1	7/029	15	15	374	V.I.R.	CONDUIT.
AUX. SWITCHBOARD TO WORKSHOP	D.B. 19	1	19/083	106	118	300	V.I.R.	PLUMBERS PIPE.
AUX. SWITCHBOARD TO CARGO LGHTG.	S.B. 4.	1	19/083	86.63	118	102	V.I.R.	PLUMBERS PIPE.
S.B. 4 TO CARGO FOREMAST.	D.B. 20	1	19/044	45.46	53	471	V.I.R.	PLUMBERS PIPE.
S.B. 4 TO CARGO MAIN MAST	D.B. 21	1	7/064	31.82	46	222	V.I.R.	CONDUIT.
MAIN SWITCHBOARD TO HEATING PROM. DK.	S.B. 5	1	37/103	200.3	240	225	V.I.R.	PLUMBERS PIPE & L.C.
S.B. 5 TO HEATING CAPT. BRIDGE	D.B. 22	1	19/052	54.8	64	69	V.I.R.	L.C.
S.B. 5 TO HEATING PROM. DECK PORT.	D.B. 23	1	19/064	77.3	83	9	V.I.R.	L.C.
S.B. 5 TO HEATING PROM. DECK STBD.	D.B. 24	1	19/064	68.2	83	138	V.I.R.	L.C.
MAIN SWITCHBOARD TO HEATING BRIDGE DK.	S.B. 6.	1	37/103	209.4	240	102	V.I.R.	PLUMBERS PIPE.
S.B. 6 TO HEATING BDGE DECK PORT.	D.B. 25	1	19/083	91.2	118	102	V.I.R.	L.C.
S.B. 6 TO HEATING BDGE DECK STBD.	D.B. 26	1	19/064	77.4	83	9	V.I.R.	L.C.
S.B. 6 TO HEATING UPPER DECK	D.B. 27	1	19/044	40.8	53	72	V.I.R.	L.C.
MAIN SWITCHBOARD TO HEATING CREW AFT.	S.B. 7	1	37/103	174.5	240	588	V.I.R.	PLUMBERS PIPE.
S.B. 7 TO HEATING POOP DECK.	D.B. 28	1	19/083	81.9	118	30	V.I.R.	L.C.
S.B. 7 TO HEATING UPPER DECK AFT	D.B. 29	1	19/083	92.6	118	9	V.I.R.	L.C.
MAIN SWITCHBOARD TO FWD WINCHES	D.B. 30	2	37/072	260	304	558	V.I.R.	PLUMBERS PIPE.

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
✓ F.W. COOLING PUMPS.	2	10	1	7/064	40	46	44/62	V.I.R.	L.C.A. & B.
✓ S.W. COOLING PUMPS.	2	10	1	7/064	40	46	34/38	V.I.R.	L.C.A. & B.
✓ LUB. OIL PUMPS.	2	30	1	19/083	114	118	32/48	V.I.R.	L.C.A. & B.
✓ BALLAST PUMP.	1	20	1	19/083	77	118	126	V.I.R.	L.C.A. & B.
HOT WATER PUMP.	1	1.0	1	3/036	5	10	27	V.I.R.	L.C.A. & B.
✓ STEERING GEAR.	1	12.0	1	19/064	48	83	399/579	V.I.R.	L.C.A. & B.
" "			1	19/052	48	64	320	V.I.R.	L.C.
✓ MAIN BILGE PUMP.	1	16.	1	19/064	62	83	126	V.I.R.	L.C.A. & B.
✓ STREAMLINE FILTER PUMP.	1	0.5	1	3/029	2.8	5	30	V.I.R.	L.C.A. & B.
✓ AUX. BILGE PUMP.	1	10	1	7/064	40	46	34	V.I.R.	L.C.A. & B.
✓ F.O. TRANSFER PUMP.	1	10	1	7/064	40	46	32	V.I.R.	L.C.A. & B.
✓ F.O. DAY PUMP.	1	2	1	7/029	9	15	58	V.I.R.	L.C.A. & B.
NOS: 1 & 2 WINCHES.	2	25	1	19/083	102	118	51/63	V.I.R.	CONDUIT.
✓ NOS: 3 & 4 WINCHES	2	25	1	19/083	102	118	51/63	V.I.R.	PLUMBERS PIPE & CONDUIT.
WINDLASS	1	47	1	37/083	178	184	213	V.I.R.	CONDUIT
NOS: 5 & 6 WINCHES	2	25	1	19/083	102	118	63/51	V.I.R.	PLUMBERS PIPE & CONDUIT.
NOS: 7 & 8 WINCHES.	2	25	1	19/083	102	118	63/51	V.I.R.	CONDUIT
NOS: 9 & 10 WINCHES	2	25	1	19/083	102	118	168/159	V.I.R.	PLUMBERS PIPE & CONDUIT.
NOS: 11 & 12 WINCHES	2	25	1	19/083	102	118	171/159	V.I.R.	PLUMBERS PIPE & CONDUIT.
NOS: 13 & 14 WINCHES.	2	25	1	19/083	102	118	63/51	V.I.R.	PLUMBERS PIPE & CONDUIT.
NOS: 15 & 16 WINCHES.	2	25	1	19/083	102	118	63/51	V.I.R.	CONDUIT.
WARPING WINCH.	1	25	1	19/083	102	118	200	V.I.R.	PLUMBERS PIPE.
LUB. OIL PURIFIER.	1	2	1	7/029	9	15	18	V.I.R.	L.C.A. & B.
FUEL OIL PURIFIERS.	2	2	1	7/029	9	15	18/24	V.I.R.	L.C.A. & B.
WATER PUMPS NOS: 1 & 2	2	5	1	7/044	21	31	213/87	V.I.R.	L.C.A. & B.
✓ SANITARY PUMP.	1	10	1	7/064	40	46	48	V.I.R.	L.C.A. & B.
AUX: FRESH WATER PUMP.	1	2.5	1	7/036	11.3	24	72	V.I.R.	L.C.A. & B.
NO. 1 HOLD P & S. FWD. EXH. FANS.	2		1	7/029	5	15	237/183	V.I.R.	CONDUIT.
NO. 2 HOLD P & S. FWD. EXH. FANS	2		1	7/029	5	15	69/54	V.I.R.	CONDUIT
NO. 3 HOLD P & S. FWD. EXH. FANS	2		1	7/029	5	15	261/246	V.I.R.	CONDUIT.
NO. 4 HOLD P & S. AFT. EXH. FANS.	2		1	7/029	5	15	44/32	V.I.R.	CONDUIT.
NO. 5 HOLD P & S. AFT. EXH. FANS	2		1	7/029	5	15	64/56	V.I.R.	CONDUIT.
NO. 1 & 2 SUPPLY FANS (EMIGRANT ACC)	2	0.8	1	3/036	4.5	10	40/46	V.I.R.	L.C.
SUBMERSIBLE PUMP.	1	16	1	19/064	62	83	270	V.I.R.	PLUMBERS PIPE.
SUPPLY FANS P & S OF FUNNEL.	2	4	1	7/036	17	24	120/148	V.I.R.	L.C.



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.

for William Gray & Co. Limited.

*J. W. Scott*  
CHIEF DRAUGHTSMAN

Electrical Contractors.

Date 25<sup>th</sup> July 1950

#### COMPASSES.

Have the compasses been adjusted under working conditions

for William Gray & Co. Limited.

*J. W. Scott*  
CHIEF DRAUGHTSMAN

Builder's Signature.

Date 25<sup>th</sup> July 1950

Have the foregoing descriptions and schedules been verified and found correct. YES

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

Plans. Are approved plans forwarded herewith YES. If not, state date of approval —

Certificates. Are certificates of test for motors engaged on essential sea 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 FOR THIS VESSEL HAS BEEN INSTALLED UNDER SPECIAL SURVEY AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE SHOWN ON THE APPROVED PLANS AND THE RULES FOR ELECTRICAL EQUIPMENT.

THE MATERIALS USED ARE OF GOOD QUALITY AND THE WORKMANSHIP IS GOOD.

THE GENERATORS WERE SEEN RUNNING UNDER WORKING CONDITIONS, THE VARIOUS PROTECTIVE DEVICES ON THE CIRCUIT BREAKERS WERE ADJUSTED AND OPERATED WITH SATISFACTORY RESULTS.

TO COMPLETE THE SPECIAL SURVEY THE FOLLOWING WORK REMAINS TO BE DONE:-

1. MAINS TO CREW'S AND EMIGRANTS' HOT WATER TANKS TO BE CONNECTED. ✓
2. EMIGRANTS' ACCOM - STBD SIDE HEATERS AND LIGHTS TO WIRE AND FIT LIGHTS. ✓
3. EMIGRANTS' ACCOM - PORT SIDE PLUGS AND LIGHTS TO CONNECT. ✓
4. EMIGRANTS' ACCOM. D.Bs. - MAINS IN POSITION BUT ALL SUB-CIRCUITS TO CONNECT INTO BOXES. ✓
5. EMIGRANTS' BAR. - CABLE END CONNECTIONS TO BE MADE TO FUSE BOX AND REFRIG. MCHY. ✓
6. GYRO ROOM - BATTERIES TO FIT IN BOX AND RECONNECT. ✓
7. 1 KW HEATERS - ISOLATING SWITCHES TO BE FITTED TO EACH HEATER. ✓
8. INSULATION RESISTANCE OF ALL CIRCUITS TO BE MEASURED. ✓ (SEE COPY OF LETTER SENT TO ROTTERDAM SURVEYORS 24.7.50 ATTACHED.)

SUBJECT TO THE ABOVE WORK BEING COMPLETED, THE VESSEL WILL BE IN MY OPINION, SUITABLE FOR THE CLASS CONTEMPLATED.

SPECIAL NOTATION :- D.F., E.S.D., Gyro C and Radar.

Total Capacity of Generators 370 Kilowatts.

The amount of Fee ... £ 95 : 10 :

When applied for,

19

When received,

19

Travelling Expenses (if any) £ :

*P. H. Willis*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 1 SEP 1950

Assigned

*See F.E. Welch, rpt.*