

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

6 JAN 1950

Received at London Office

Date of writing Report 17<sup>th</sup> DECEMBER 1949 When handed in at Local Office 4 JAN 1950 Port of GLASGOWNo. in Survey held at GREENOCK Date, First Survey 7<sup>th</sup> SEPTEMBER Last Survey 16<sup>th</sup> DECEMBER 1949.

Reg. Book. (No. of Visits 7)

40281 on the 'NORDBO' Tons Gross Net

Built at PORT GLASGOW By whom built W<sup>m</sup> HAMILTON & CO LTD Yard No. 480 When built 1949

Owners Port belonging to

Installation fitted by MESSRS SUNDERLAND FORGE &amp; ENGINEERING CO LTD When fitted 1949

Is vessel equipped for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. YES Radar WIRING ONLY

Plans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 110

Heating 110 Power 110 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 YES 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 Have certificates of

test for machines under 100 kw. been supplied YES and the results found as per Rule YES

Position of Generators STEAM GENERATORS - ON FLAT PORT SIDE OF ENGINE ROOM. DIESEL - PORT SIDE ENGINE ROOM FLOOR 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 STEAM

GENERATORS.

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, 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 YES 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 400 H.P. TRIPLE POLE CIRCUIT BREAKER FITTED WITH

OVERLOAD AND REVERSE CURRENT TRIPS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit D.P. KNIFE PATTERN SWITCHES AND

FUSES.

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

ammeters FOUR voltmeters synchronising 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

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES

make of fuses SIEMENS 'ZED' TYPE, are all fuses labelled YES If circuit breakers are provided for the generators, at what

overload do they operate FULL LOAD, and at what current do the reversed current protective devices operate 10% 15% FL.

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 4.1 VOLTS, 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 No, 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 YES State how the cables are supported or protected MAINS - L.C.B. CABLES CLIPPED

TO STEEL PLATE MACHINERY SPACE - L.C.B. CABLES CLIPPED TO STEELWORK OR TRAY.

ACCOMMODATION - L.C. CABLE CLIPPED TO WOODWORK.

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



Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory..... **YES**

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT			PRIME MOVER.		
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	3	SUNDERLAND FORGE.	40	110	364	640	STEAM	SUNDERLAND FORGE & ENG CO. LTD.
	1	SUNDERLAND FORGE.	40	110	364	800	DIESEL	GLENIFFER.
EMERGENCY ...								
ROTARY								
TRANSFORMER								

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 ... ..	40	2	19/083	364	404	34	V.C.	L.C.F.B.
" " EQUALISER ... ..		1	19/083	-	202	17	V.C.	L.C.F.B.
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER : MOTOR								
" " GENERATOR...								

[illegible]

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet 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.				
NAVIGATION	1	7/.064	30	80	90	V.C.	L.C.
WIRELESS	1	7/.064	15	80	80	V.C.	L.C.
MIDSHIP LIGHTING D.B.	1	7/.044	20	31	56	RUBBER	L.C.
AFT LIGHTING D.B.	1	7/.044	15	31	180	RUBBER	L.C.
FORECASTLE LIGHTING D.B.	1	7/.044	3/6	31	368	RUBBER	L.C.A.B.
ENGINE ROOM LIGHTING D.B. (Port Top)	1	7/.044	9	31	75	RUBBER	L.C.A.B.
ENGINE ROOM AUXILIARIES D.B. N°1	1	7/.064	48	80	30	V.C.	L.C.A.B.
ENGINE ROOM AUXILIARIES D.B. N°2	1	19/.064	91.5	143	50	V.C.	L.C.A.B.
ENGINE ROOM AUXILIARIES D.B. N°3	1	7/.064	64	80	60	V.C.	L.C.A.B.
ENGINE ROOM AUXILIARIES D.B. N°4	1	19/.064	78	143	68	V.C.	L.C.A.B.
REFRIGERATOR D.B.	1	7/.064	47	80	260	V.C.	L.C.A.B.
GALLEY D.B.	1	7/.064	27	80	20	V.C.	L.C.
LAUNDRY D.B.	1	7/.064	35	80	230	V.C.	L.C.A.B.
RADAR.	1	7/.064	20	80	80	V.C.	L.C.
GYRO	1	7/.029	10	15	80	RUBBER	L.C.

ALL IMPORTANT MOTORS TO BE ENUMERATED.			MOTOR CABLES.						
	No.	B.H.P.							
STEERING GEAR MOTOR	1	25	1	19/083	195✓	202	280	V.C.	L.C.A.B.
DOMESTIC REFRIGERATOR	1	5	1	7/064	42✓	80	260	V.C.	L.C.A.B.
PURIFIERS.	3	3.5	1	7/064	29✓	80	25	V.C.	L.C.A.B.
F.W. PUMPS	1	3	1	7/044	25✓	31	260	RUBBER	L.C.A.B.
S.W. PUMPS.	1	3	1	7/044	25✓	31	40	RUBBER	L.C.A.B.
AFT ACCOMMODATION VENT FANS	2	3.75	1	7/064	325✓	80	50	V.C.	L.C.
MIDSHIP ACCOMMODATION VENT FANS	2	1.45	1	7/044	14✓	31	115	RUBBER	L.C.
ENGINE ROOM VENT FANS	2	2.75	1	7/044	24✓	31	80	RUBBER	L.C.A.B.
STANDBY F.W. OR SANITARY PUMP	1	3	1	7/044	25✓	31	40	RUBBER	L.C.A.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.

P.Pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Electrical Contractors.

Date 21.12.49

#### COMPASSES.

Have the compasses been adjusted under working conditions.

YES

WILLIAM HAMILTON & CO., LIMITED.

Builder's Signature.

Date 28 Dec 1949.

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. No If not, state date of approval. 13<sup>TH</sup> JUNE 1949

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 installation of this vessel has been fitted on board under special Survey tested under working conditions and found satisfactory. The quality of materials and workmanship is good.

NOTE - Electrical equipment has been installed in special compartment in centre castle space. This compartment has been constructed in accordance with plans approved on 21<sup>st</sup> January 1949.

Noted Ext 19/1/50.

Total Capacity of Generators 160 Kilowatts.

The amount of Fee ... £ 64 : 0 :

When applied for,  
R. S. G. R. K. 19

Travelling Expenses (if any) £ 1 : 8 :

When received,  
19

Committee's Minute

GLASGOW - 5 JAN 1950

Assigned

SEE ACCOMPANYING MACHINERY REPORT.

J. M. Gardiner.  
Surveyor to Lloyd's Register of Shipping.



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Lloyd's Register  
Foundation