

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 26 JAN 1932

Date of writing Report 10 When handed in at Local Office 14/11/32 Port of NEWCASTLE ON TYNE.

No. in Survey held at NORTH SHIELDS & WALLSEND. Date, First Survey 15 July Last Survey 21<sup>st</sup> Jan 1932  
Reg. Book. (Number of Visits.....)

38305 on the M.V. WELLFIELD.

Tons { Gross  
Net

Built at NEWCASTLE ON TYNE By whom built TYNE IRON. S. B. CO. LTD Yard No. - When built 1924.

Owners FIELD TANK S. S. CO. LTD. Port belonging to NEWCASTLE

Electric Light Installation fitted by CAMPBELL & ISHERWOOD LTD Contract No. - When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk YES.

### System of Distribution *Direct*

Pressure of supply for Lighting 110 volts, Heating - volts, Power 110 volts.

Direct or Alternating Current, Lighting *Direct* Power *Direct*.

If alternating current system, state frequency of periods per second -

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off *Yes*

Generators, do they comply with the requirements regarding rating *Yes*, are they compound wound *Yes*

are they over compounded 5 per cent., if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel *No*, is an adjustable regulating resistance fitted in series with each shunt field *No*

Are all terminals accessible, clearly marked, and furnished with sockets *Yes*, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched *Yes* Are the lubricating arrangements of the generators as per Rule *Yes*

Position of Generators *On flat over thrust recess*, is the ventilation in way of the generators satisfactory *Yes*, are they clear of all inflammable material *Yes*

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators - and - are the generators protected from mechanical injury and damage from water, steam or oil *Yes*

are their axes of rotation fore and aft *Yes*

Earthing, are the bedplates and frames of the generating plant efficiently earthed *Yes* are the prime movers and their respective generators in metallic contact *Yes*

Main Switch Boards, where placed *On flat over thrust recess*

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes *Yes*

are they protected from mechanical injury and damage from water, steam or oil *Yes*, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards - and -

are they constructed wholly of durable, non-ignitable non-absorbent materials *Yes*, is all insulation of high dielectric strength and of permanently high insulation resistance *Yes*

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework - and is the frame effectively earthed *Yes*

Are the fittings as per Rule regarding: - spacing or shielding of live parts *Yes*, accessibility of all parts *Yes*, absence of fuses on back of board *Yes*, proportion of omnibus bars *Yes*, individual fuses to voltmeter, pilot or earth lamp *Yes*, connections of switches *Yes*

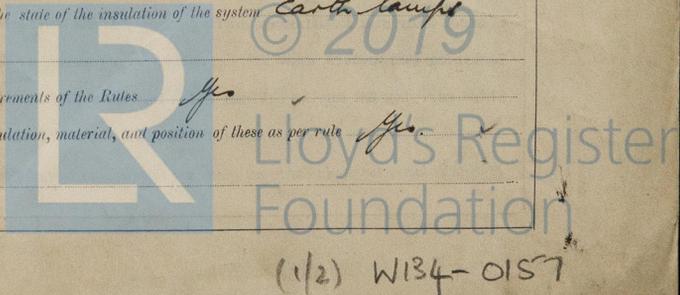
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches *D.P. switch and fuses for each generator. D.P. Change-Over switches & fuses for each outgoing circuit.*

Instruments on main switchboard 2 ammeters 2 voltmeters - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system *Earth lamps with fuses*

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules *Yes*

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule *Yes*



**Cables:** Single, twin, concentric, or multicore Single & Twin are the cables insulated and protected as per Tables IV or V of the Rules Yes

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 4.9 volts.

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

**Paper Insulated Cables.** If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound —

**Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage. Yes

**Support and Protection of Cables,** state how the cables are supported and protected In Machinery spaces: L.C. Braided in Pipe, and L.C. A Braided clipped up. Along gangways: L.C. A Braided on plate. In Accommodation: L.C. Braided supported by brass clips.  
If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

**Refrigerated Chambers,** if lights are fitted, are the cables and fittings in accordance with the special requirements —

**Joints in Cables,** state if any, and how made, insulated, and protected Yes for forward main at top of engine room. Soldered legs in C.I. Box.

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas —  
—, are their connections made as per Rule —

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule Yes

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven —

**Navigation Lamps,** are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes  
are the switches and fuses grouped in a position accessible only to the officers on watch Yes  
has each navigation lamp an automatic indicator as per Rule Yes

**Secondary Batteries,** are they constructed and fitted as per Rule —

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes  
are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected —  
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Yes in Pump Room.  
Special gaslight fittings only accessible from outside.  
In galvanized iron pipe wholly outside pump room.  
where are the controlling switches situated in midship saloon alleyway.

**Searchlight Lamps, No. of** —, whether fixed or portable —, are their fittings as per Rule —

**Arc Lamps,** other than searchlight lamps, No. of — are their live parts insulated from the frame or case —, are their fittings as per Rule —

**Motors,** are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes  
are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes  
are they protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes  
if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type —, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule Yes

**Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings. Yes  
If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office 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	2.	10	110	91	350	S.C. Steam Engine.		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	.1	19	.083	91	118	32	V.I.R.	L.C. Braided
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	.01	7	.044	19	31	6	do	L.C. A Braided.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION AFT.	1	.007	7	.036	15	24	80	do	L.C. A Braided
do MIDSHIP & FWD	1	.04	19	.052	28	64	700	do	do
NAVIGATION	1	.007	7	.036	4	24	740	do	do
WIRELESS	1	.01	7	.044	15	31	740	do	L.C. A Braided
SEARCHLIGHT									
MASTHEAD LIGHT	1	.002	3	.029	.36	7.8	280	do	L.C. A Braided.
SIDE LIGHTS	1	.002	3	.029	.36	7.8	50	do	L.C. Braided
COMPASS LIGHTS	1	.002	3	.029	.18	7.8	20	do	do
STEER LIGHT	1	.002	3	.029	.36	7.8	800	do	L.C. A Braided
FLOOD LIGHTS	1	.002	3	.029	2.7	7.8	230	do	do
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	1	1	.01	7	.044	27	31	60	V.I.R.	L.C. Braided in Pipe
WORKSHOP MOTOR										
VENTILATING FANS										
REFRIG.	1	1	.01	7	.044	27	31	30	do	L.C. A Braided
OIL PURIFIER	1	1	.01	7	.044	17.6	31	140	do	do
do	2.	1	.01	7	.044	11.6	31	140	do	do

All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
 The foregoing is a correct description.

CAMPBELL & ISHERWOOD, LTD

per Thos Meade Electrical Engineers.

Date 8th Jan 1931

COMPASSES.

Distance between electric generators or motors and standard compass 265 feet approx:  
 Distance between electric generators or motors and steering compass 250 feet approx:  
 The nearest cables to the compasses are as follows:—  
 A cable carrying 18 Ampères in feet from standard compass 5 feet from steering compass.  
 A cable carrying 18 Ampères 5 feet from standard compass in feet from steering compass.  
 A cable carrying 4 Ampères 10 feet from standard compass 10 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, opinions as to class, &c.) This vessel has been completely  
revised under special survey, new main switchboard and distribution  
boards fitted. Dynamos completely rewound and new starters for the motors  
fitted.  
The whole installation tested under working conditions and found satisfactory.  
The materials and workmanship have been found to be good and sound.

Total Capacity of Generators 20 Kilowatts.

The amount of Fee ... £ 15 : 15 : 0 When applied for, 25 JAN 1932

Travelling Expenses (if any) £ : : When received, 13/5/1932

L. C. Clayton  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Minute on  
other R/L No 87999



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 Foundation

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Lloyd's Register