

Rpt. 13.

No. 4559

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 JAN 1937

Received at London Office

29 JAN 1937

Date of writing Report

18

When handed in at Local Office

19

Port of

HULL

No. in Survey held at

Hull.

Date, First Survey

30/12/36

Last Survey

22/1/37

1937

Reg. Book.

(Number of Visits.....4.....)

69055 on the

Steam Crawler "ST NIDAN"

Tons

Gross 564.50

Net 209.75

Built at

Beverly

By whom built

Book, Melton & Gemmel L^{td}

Yard No. 620

When built 1937

Owners

Thomas Hamling & Co., L^{td}

Port belonging to

Hull.

Electric Light Installation fitted by

Humber Shipwright Co., L^{td}

Contract No.

When fitted

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Two Wire Insulated.

Pressure of supply for Lighting

100

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

Direct

Power

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 temperature rise

Yes

are they compound wound

Yes

are they over compounded 5 per cent.

Yes

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

Yes.

Have certificates of test results for machines under 100 kw. been submitted and

approved Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

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

Starboard side of engine room.

in way of the generators satisfactory

Yes

are they clear of all inflammable material

Yes.

is the ventilation

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

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

Beside generator.

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.

is it of an approved type

Yes

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other

non-hygroscopic insulating material, and the slab similarly insulated from its framework

Yes

is the non-hygroscopic insulating material of an approved

type

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.

temperature rise of

omnibus bars

Yes.

individual fuses to voltmeter, pilot or earth lamp

Yes.

are moving parts of switches alive in the

"off" position

No

are all screws and nuts securing connections effectively locked

Yes.

are any fuses fitted on the live side of

switches

No.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Double pole linked switch for generator. Outgoing circuits controlled by double pole switches.

Are turbine driven generators fitted with emergency trip switch as per rule

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

Yes.

Instruments on main switchboard

Two

ammeters

Two.

voltage

synchronising device for paralleling purposes.

For compound machines is the ammeter connected on the opposite pole to equaliser connection

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

Yes.

Earth lamps.

Switches, Circuit Breakers and Fusible Cut-outs.

do these comply with the requirements of the Rules

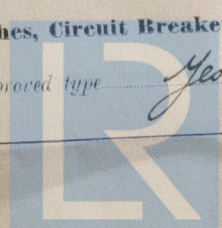
Yes

are the fusible cutouts of an approved type

Yes.

have the reversed

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Lloyd's Register Foundation

current protection devices been tested under working conditions

Joint Boxes, Section and Distribution Boards, is the

construction, protection, insulation, material, and position of these as per rule

Cables: Single, twin, concentric, or multicore are the cables insulated and protected as per Tables IV, V, X or XI of the Rules

If the cables are insulated otherwise than as per Rule, are they of an approved type

Fall of Pressure, state maximum between bus bars and

any point of the installation under maximum load

Cable Sockets, are the ends of all cables having a sectional

area of 0.04 square inch and above provided with soldering sockets

Paper Insulated and Varnished Cambric Insulated Cables,

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound, or waterproof insulating tape

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

Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit

Support and Protection of Cables, state how the cables are supported and protected

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

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements

Joints in Cables, state if any, and how made, insulated, and protected

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

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed

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

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

Navigation Lamps, are these separately wired, controlled by separate switch and separate fuses, are the fuses double pole

are the switches and fuses grouped in a position accessible only to the officers on watch

has each navigation lamp an automatic indicator as per Rule

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

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

are the cables led

where are the controlling switches situated

are all fittings suitably ventilated

are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials

Heating and Cooking Appliances, are they constructed and fitted as per Rule, are air heaters constructed and fitted as per Rule

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, are the coils self-contained and readily removable for replacement

are the brushes, brush holders, terminals and lubricating arrangements as per Rule, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material

are they protected from mechanical injury and damage from water, steam or oil, are their axes of rotation fore and aft, 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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing

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

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

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

are all fuses of the filled cartridge type, are they of an approved type

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts (Each)	Volts.	Amperes (Each)	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	Two	5.5	100	55	350	Steam Engine (direct coupled)		
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	0.06	19	0.064	72	83	132	V.R.	Braided 2 in conduit
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	0.007	7	0.036	10	24	8	"	Braided
BOILER ROOM	1	0.0015	7	0.044		6.1	100	"	L.C. armoured & braided
AUXILIARY SWITCHBOARDS									
Wheelhouse	1	0.01	7	0.044	23	31	164	"	"
Margation	1	0.0045	7	0.029	6	18.2	164	"	"
ACCOMMODATION									
" Off Deck	1	0.007	7	0.036	17	24	36	"	"
" Forecastle	1	0.007	7	0.036	6	24	300	"	"
Off deck lighting	1	0.0045	7	0.029		18.2	36	"	"
WIRELESS	1	0.007	7	0.036	16	24	88	"	"
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.0015	1	0.044	0.4	6.1	280	"	"
SIDE LIGHTS	1	0.0017	40	0.0076	0.4	5	36	"	Cab Type
COMPASS LIGHTS	1	0.0017	40	0.0076	0.4	5	24	"	"
POOP LIGHTS	1	0.0015	1	0.044	0.4	6.1	160	"	L.C. armoured & braided
CARGO LIGHTS	1	0.0017	40	0.0076	2	5	70	"	Cab Type
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 Nominal 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										
WORKSHOP MOTOR										
VENTILATING FANS										
Coal-lift oil pump	1	1	0.003	3	0.036	7	12	40 ft.	V.R.	L.C. armoured & braided

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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

THE HUMBER SHIPWRIGHT CO LTD
ST ANDREW'S DOCK, HULL

Electrical Engineers.

Date

Jan 6th 1937

COMPASSES.

Distance between electric generators or motors and standard compass

70 ft
65 ft.

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 0.32 Ampères 6 feet from standard compass feet from steering compass.

A cable carrying 0.32 Ampères feet from standard compass 6 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

No

degrees on

any

course in the case of the standard

compass, and

No

degrees on

any.

course in the case of the steering compass.

COOK, WELTON & GEMMELL LTD.

A. D. Camper
CHIEF DRAUGHTSMAN.

Builder's Signature.

Date

Jan 8th 1937

Is this installation a duplicate of a previous case

Yes.

If so, state name of vessel

"St Nectan"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The electrical installation of

this vessel has been fitted on board under special survey, tried under working conditions and found satisfactory

Noted

Yhr

30.1.37

Total Capacity of Generators 11. Kilowatts.

The amount of Fee £4. £5 : 10. :

When applied for,

28 JAN 1937

When received,

11.2.37 12/2

Travelling Expenses (if any) £ :

J. A. Orle

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 2 FEB 1937

Assigned

See Incl 56, 47559



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Foundation