

No.

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. 2125 No. in Register Book 3480

Received at Head Office 29<sup>th</sup> March 1928

Surveyor's Report on the New Engines, Boilers, and Auxiliary  
Machinery of the ~~Single Triple~~ <sup>Single Triple</sup> ~~Twin Quadruple~~ Screw S/S TILAPA

Official No. 149670 Port of Registry Liverpool.

Registered Owners Messrs Elders & Lyffers Ltd.  
31-32 Bow Street, Covent Garden, London

Engines Built by Cammell Laird & Co., Ltd.  
at Birkenhead.

Main Boilers Built by Cammell Laird & Co., Ltd.  
at Birkenhead.

Donkey " "   
at

Date of Completion 14/3/28

First Visit 16/4/26. Last Visit 15/3/28 Total Visits 134

The particulars of this vessel are similar to those on  
the sister ship Casuarina (See report book No 1787)  
unless otherwise stated in this book H.S.





## TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diar. of 1st Reduction Pinion

Width

Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion

Width

Pitch of Teeth

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" Motors "

" " 1st Reduction Shaft

" " 2nd "

" " Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

Knots. Propeller Revs. per min.

S.H.P.

Makers of Turbines

" Generators

" Motors

" Reduction Gears

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

## DESCRIPTION OF INSTALLATION.



SHAFTHING.

Are the Crank Shafts Built or Solid? *Built*

No. of Lengths in each *Three* Angle of Cranks *120°*

Diar. by Rule *15.33* Actual *16 7/8"* In Way of Webs *16 3/8"*

" of Crank Pins *16 1/8"* Length between Webs *17 1/4"*

Greatest Width of Crank Webs *3 1/4"* Thickness *10 1/2"*

Least " " *30 1/8"* " " *10 1/4"*

Diar. of ~~Keys~~ <sup>DOWELS</sup> in Crank Webs *Two 2' Dia.* Length *8"*

" Dowels in Crank Pins *One 2' Length 7 1/4"* Screwed or Plain *Plain*

No. of Bolts each Coupling *6* Diar. at Mid Length *3 3/8"* Diar. of Pitch Circle *23 1/4"*

Greatest Distance from Edge of Main Bearing to Crank Web *1 1/2"*

Type of Thrust Blocks *Mitchell*

No. " Rings *One ahead and one astern*

Diar. of Thrust Shafts at bottom of Collars *16 3/4"* No. of Collars *One*

" " Forward Coupling *15 3/8"* At Aft Coupling *15 3/8"*

Diar. of Intermediate Shafting by Rule *14.56* Actual *15 3/8"* No. of Lengths *Five*

No. of Bolts, each Coupling *6* Diar. at Mid Length *3 3/8"* Diar. of Pitch Circle *23 1/4"*

Diar. of Propeller Shafts by Rule *16.02* Actual *16 7/8"* At Couplings *15 7/8"*

Are Propeller Shafts fitted with Continuous Brass Liners?

Diar. over Liners *18 1/2"* Length of After Bearings *5'-9 1/2"*

Of what Material are the After Bearings composed?

*Lignum vital.*

Are Means provided for lubricating the After Bearings with Oil?

*No*

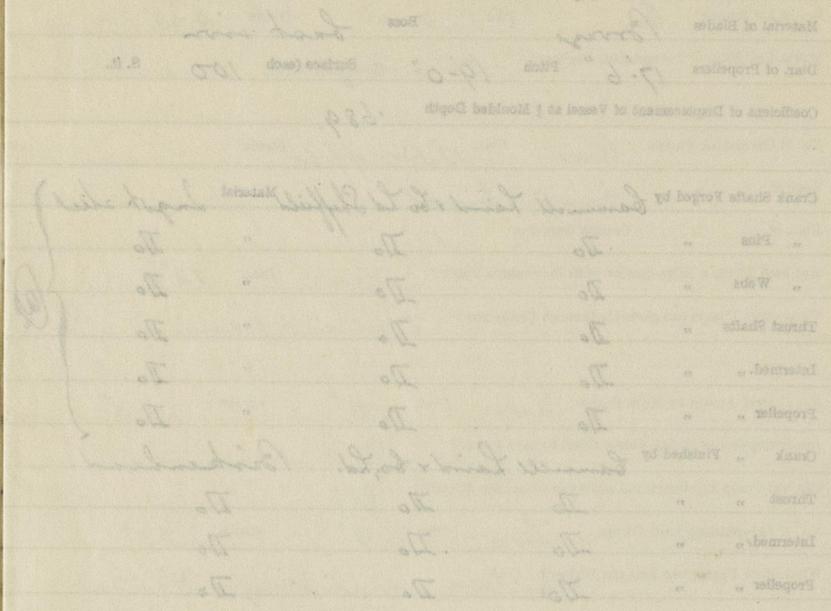
" " to prevent Sea Water entering the Stern Tubes?

*No*

If so, what Type is adopted?

*✓*

SKETCH OF CRANK SHAFT.



J. E. B. C. No 3518 H.B.







## BOILERS.

Works No. *924 I. II. III. IV.*

No. of Boilers *Four* Type *Multitubular circular return tube*

Single or Double-ended *Single ended.*

No. of Furnaces in each *Four*

Type of Furnaces *Leighton's Corrugated*

Date when Plan approved *22/4/26.*

Approved Working Pressure *210 lbs<sup>o</sup>*

Hydraulic Test Pressure *365 lbs<sup>o</sup>*

Date of Hydraulic Test *I-23/12/26. II-14/6/27. III-23/6/27. IV-28/7/27.*

„ when Safety Valves set *1<sup>st</sup> March 1928.*

Pressure at which Valves were set *215 lbs<sup>o</sup>*

Date of Accumulation Test *1<sup>st</sup> March 1928.*

Maximum Pressure under Accumulation Test *225 lbs<sup>o</sup>*

System of Draught *Forced draught (Howdens)*

Can Boilers be worked separately? *Yes*

Makers of Plates *David Colville & Sons. ✓*

„ Stay Bars *David Colville & Sons. ✓*

„ Rivets *The Rivet Bolt & Nut Co. ✓*

„ Furnaces *The Leeds Forge Co., Ltd. ✓*

Greatest Internal Diam. of Boilers *16'-0"*

„ „ Length „ *11'-9"*

Square Feet of Heating Surface each Boiler *2900<sup>f</sup>*

„ „ Grate „ „ *71<sup>f</sup>*

No. of Safety Valves each Boiler *Two* Rule Diam. *2<sup>3</sup>/<sub>4</sub>* Actual *2<sup>3</sup>/<sub>4</sub> High lift.*

Are the Safety Valves fitted with Easing Gear? *Yes*

No. of Pressure Gauges, each Boiler *One* No. of Water Gauges *Two*

„ Test Cocks „ *✓* „ Salinometer Cocks *One*



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *Back gauge fitted to shell*  
*Front " mounted on pillar*

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? *Connected by pipes*

Are these Pipes connected to Boilers by Cocks or Valves? *Cocks*

Are Blow-off Cocks or Valves fitted on Boiler Shells? *Valves*

No. of Strakes of Shell Plating in each Boiler *One*

Plates in each Strake *Two*

Thickness of Shell Plates Approved  *$\frac{3}{16}$ "*

in Boilers  *$\frac{1}{16}$ "*

Are the Rivets Iron or Steel? *Steel*

Are the Longitudinal Seams Butt or Lap Joints? *Butt*

Are the Butt Straps Single or Double? *Double*

Are the Double Butt Straps of equal width? *Yes*

Thickness of outside Butt Straps  *$\frac{1}{4}$ "*

inside  *$\frac{1}{8}$ "*

Are Longitudinal Seams Hand or Machine Riveted? *Machine*

Are they Single, Double, or Treble Riveted? *Treble*

No. of Rivets in a Pitch *Five*

Diar. of Rivet Holes  *$\frac{15}{16}$ "* Pitch  *$10\frac{3}{16}$ "*

No. of Rows of Rivets in Centre Circumferential Seams *✓*

Are these Seams Hand or Machine Riveted? *✓*

Diar. of Rivet Holes *✓* Pitch *✓*

No. of Rows of Rivets in Front End Circumferential Seams *Two*

Are these Seams Hand or Machine riveted? *Machine*

Diar. of Rivet Holes  *$\frac{15}{16}$ "* Pitch *4"*

No. of Rows of Rivets in Back End Circumferential Seams *Two*

Are these Seams Hand or Machine Riveted? *Machine*

Diar. of Rivet Holes  *$\frac{15}{16}$ "* Pitch *4"*

Size of Manholes in Shell *16" x 12"*

Dimensions of Compensating Rings *3'-2 1/2" x 2'-11 1/2" x 1 15/32" (Flanged)*



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Thickness of End Plates in Steam Space Approved  $1\frac{1}{8}$ "

" " " " in Boilers  $1\frac{1}{8}$ "

Pitch of Steam Space Stays  $16\frac{11}{16}$ " Vertically by  $17\frac{1}{2}$ " Horizontally

Diar. " " " Approved  $3\frac{1}{8}$ " Threads per Inch 6

" " " " in Boilers  $3\frac{1}{8}$ " " 6.

Material of " " " Steel

How are Stays Secured? Nuts & washers inside and outside.

Diar. and Thickness of Loose Washers on End Plates  $1\frac{1}{2}$ " by  $\frac{13}{16}$ "

" " Riveted " " " ✓

Width " " Doubling Strips " ✓

Thickness of Middle Back End Plates Approved  $15\frac{1}{16}$ "

" " " " in Boilers  $15\frac{1}{16}$ "

Thickness of Doublings in Wide Spaces between Fireboxes ✓

Pitch of Stays at " " "  $14\frac{3}{4}$ "

Diar. of Stays Approved  $1\frac{7}{8}$ " Threads per Inch 9

" " in Boilers  $1\frac{7}{8}$ " " 9

Material " Steel

Are Stays fitted with Nuts outside? Yes

Thickness of Back End Plates at Bottom Approved  $15\frac{1}{16}$ "

" " " " in Boilers  $15\frac{1}{16}$ "

Pitch of Stays at Wide Spaces between Fireboxes  $14\frac{3}{4}$ "

Thickness of Doublings in " " ✓

Thickness of Front End Plates at Bottom Approved  $1\frac{1}{32}$ "

" " " " in Boilers  $1\frac{1}{32}$ "

No. of Longitudinal Stays in Spaces between Furnaces One



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Diar. of Stays Approved  $3\frac{1}{8}$ " Threads per Inch 6

" " in Boilers  $3\frac{1}{8}$ " 6.

Material " Steel

Thickness of Front Tube Plates Approved  $\frac{1}{32}$ "

" " " " in Boilers  $\frac{1}{32}$ "

Pitch of Stay Tubes at Spaces between Stacks of Tubes 14"

Thickness of Doublings in " " "

" Stay Tubes at " " "  $\frac{7}{16}$ "

Are Stay Tubes fitted with Nuts at Front End? Yes

Thickness of Back Tube Plates Approved  $\frac{13}{16}$ "

" " " in Boilers  $\frac{13}{16}$ "

Pitch of Stay Tubes in Back Tube Plates  $7\frac{1}{4}$ " Vertically by  $7\frac{1}{2}$ " Horizontally

" Plain "  $3\frac{5}{8}$ " "  $3\frac{3}{4}$ "

Thickness of Stay Tubes Between  $\frac{5}{16}$ " Top Margin  $\frac{3}{8}$ " Side & bottom margin  $\frac{7}{16}$ "  
and Two to Two corner stays in each box  $\frac{1}{2}$ "

" Plain " No. 8 S.W.G.

External Diar. of Tubes Stay tubes  $2\frac{1}{2}$ " swelled to  $2\frac{3}{4}$ " at front ends  
Plain "  $2\frac{1}{2}$ " "  $2\frac{9}{16}$ "

Material " Iron

Thickness of Furnace Plates Approved  $\frac{19}{32}$ "

" " " in Boilers  $\frac{19}{32}$ "

Smallest outside Diar. of Furnaces  $3'-6\frac{3}{4}"$

Length between Tube Plates  $7'-10"$

Width of Combustion Chambers (Front to Back)  $3'-0\frac{9}{32}"$  (Mean)

Thickness of " " Tops Approved  $\frac{5}{8}$ "

" " " in Boilers  $\frac{5}{8}$ "

Pitch of Screwed Stays in C.C. Tops 8"



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Diar. of Screwed Stays Approved  $1\frac{5}{8}$ " Threads per Inch 9

" " " in Boilers  $1\frac{5}{8}$

Material " " Steel

Thickness of Combustion Chamber Sides Approved  $\frac{5}{8}$ "

" " " " in Boilers  $\frac{5}{8}$ "

Pitch of Screwed Stays in C.C. Sides  $7\frac{1}{4}$ " Vertically by  $8\frac{5}{8}$ " Horizontally

Diar. " " Approved  $1\frac{5}{8}$ " Threads per Inch 9

" " " in Boilers  $1\frac{5}{8}$ "

Material " " Steel

Thickness of Combustion Chamber Backs Approved  $\frac{11}{16}$ "

" " " " in Boilers  $\frac{11}{16}$ "

Pitch of Screwed Stays in C.C. Backs  $8$ " Vertically by  $8\frac{1}{2}$ " Horizontally

Diar. " " Approved  $1\frac{5}{8}$ " Threads per Inch 9  
 Has 1/2" corner 2/8"  
 Margin 1/8"  
 Between 1/4"

" " " in Boilers

Material " " Steel

Are all Screwed Stays fitted with Nuts inside C.C.? Yes

Thickness of Combustion Chamber Bottoms  $1\frac{1}{32}$ " (Spencer wrapper)

No. of Girders over each Wing Chamber Four

" " " Centre " Two

Depth and Thickness of Girders Two plates 9" by  $\frac{7}{8}$ " thick

Material of Girders Steel plate

No. of Stays in each Three

No. of Tubes, each Boiler 462 including 306 plain & 156 stay tubes

Size of Lower Manholes Three 16" X 12"

## VERTICAL DONKEY BOILERS

No. of Boilers

Type

General Int. Diam.

Height

Height of Boiler Crown above the Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Boilers

Description of Stays in Boiler Crowns

Diam. of Stay Holes

Width of Girders

Height of Tanker Crown above the Grate

Are Tanker Crowns Flat or Dished?

Internal Radius of Dished Crowns

No. of Crown Stays

Material

Internal Diam. of Tanker at Top

Bottom

Thickness of Plates

No. of Water Tubes

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Superheating Tank

Boiling surface, each Boiler

Grate surface

DESCRIPTION OF SUPERHEATERS:

Where situated?

Which Boilers are connected to the superheaters?

Are superheaters of the kind of which Boilers are working?

No. of safety Valves on each superheater

Date of Hydrostatic Test

Testing on Trial



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## VERTICAL DONKEY BOILERS.

No. of Boilers      Type

Greatest Int. Diar.      Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends      Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes      Pitch      Width of Overlap

Height of Firebox Crown above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns      Thickness of Plates

No. of Crown Stays      Diar.      Material

External Diar. of Firebox at Top      Bottom      Thickness of Plates

No. of Water Tubes      Ext. Diar.      Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler      Grate Surface

## SUPERHEATERS.

Description of Superheaters

Where situated?

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on each Superheater      Diar.

Are      "      "      fitted with Easing Gear?

Date of Hydraulic Test      Test Pressure

Date when Safety Valves set      Pressure on Valves

## MAIN STEAM PIPES

No. of Pipes

Material

Length, Width or Diameter

Internal Diar.

Thickness

How are Pipes joined?

Date of Hydraulic Test

Test Pressure

No. of Pipes

Material

Length, Width or Diameter

Internal Diar.

Thickness

How are Pipes joined?

Date of Hydraulic Test

Test Pressure



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## MAIN STEAM PIPES.

No. of Lengths	One	Two	Two
Material	Steel	Steel	Steel
Brazed, Welded or Seamless	Seamless	Seamless	Seamless
Internal Diam.	9½"	7"	7"
Thickness	$\frac{11}{32}$ "	$\frac{7}{32}$ "	$\frac{7}{32}$ "
How are Flanges secured?	Screwed with vanishing thread	Screwed with vanishing thread	Screwed with vanishing thread
Date of Hydraulic Test	12/11/27	12/8/27	16/11/27
Test Pressure	630 lbs. <sup>sq.</sup>	630 lbs. <sup>sq.</sup>	630 lbs. <sup>sq.</sup>

No. of Lengths	Four	Two	Two
Material	Steel	Steel	Steel
Brazed, Welded or Seamless	Seamless	Seamless	Seamless
Internal Diam.	5½"	5½"	5½"
Thickness	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "
How are Flanges secured?	Screwed with vanishing thread	Screwed with vanishing thread	Screwed with vanishing thread
Date of Hydraulic Test	16/6/27	22/7/27	12/11/27
Test Pressure	630 lbs. <sup>sq.</sup>	630 lbs. <sup>sq.</sup>	630 lbs. <sup>sq.</sup>

No. of Lengths	
Material	
Brazed, Welded or Seamless	
Internal Diam.	
Thickness	
How are Flanges secured?	
Date of Hydraulic Test	
Test Pressure	

## EVAPORATORS



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## EVAPORATORS.

No. *One* Type *Vertical* *40* Tons per Day  
 Makers *G. J. Weir Ltd.*  
 Working Pressure *15 lbs.* Test Pressure *Shell Boils* Date of Test *5<sup>th</sup>/11/26.*  
 Date of Test of Safety Valves under Steam *1<sup>st</sup> March 1928*

## FEED WATER HEATERS.

No. *One* Type *Low pressure (Direct contact)*  
 Makers *G. J. Weir Ltd.*  
 Working Pressure *20 lbs.* Test Pressure *40 lbs* Date of Test *5<sup>th</sup>/11/26.*

## FEED WATER FILTERS.

No. *One* Type *Pressure* *Lead pipe*  
 Size *4" Bore*  
 Makers *Meyers Hocking & Co. Ltd.*  
 Working Pressure *210 lbs.* Test Pressure *505 lbs.* Date of Test *27/9/26*

## LIST OF DONKEY PUMPS.

PUMP.	No.	MAKERS.	SIZE.
MAIN FEED.	2	WEIRS	9' x 12' x 24'
AUX. Do.	1	Do.	5½' x 8' x 12'
GENERAL SERVICE.	1	Do.	8' x 10½' x 18'
BALLAST.	1	Do.	11' x 9' x 21'
SANITARY.	1	Do.	6' x 6' x 12'
FRESH WATER.	1	Do.	4' x 3½' x 8'
REFRIG. CIRCULATING	1	Do.	10' x 9' x 24'



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LIST OF SPARE GEAR FOR PUMPS

No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
" Coupling Bolts 2	" Main Bearing Bolts 2	" Valve Chest
" Junk Ring Bolts 12	" Feed Pump Valves 2	" Bilge Pump Valves 1 Set
" H.P. Piston Rings 1 Set	" I.P. Piston Rings 1 Set	" L.P. Piston Rings No
" " Springs 1	" " Springs 1 Set	" " Springs No
" Safety Valve " 2	" Fire Bars	" Feed Check Valves 2
" Piston Rods 2	" Connecting Rods No	" Valve Spindles 2
" Air Pump Rods 1	" Air Pump Buckets No	" Air Pump Valves 1 Set
" Cir. " 1	" Cir. " 1	" Cir. " No
" Crank Shafts 1	" Crank Pin Bushes 1 Set	" Crosshead Bushes 1 Set
" Propeller Shafts 1	" Propellers 1	" Propeller Blades 1 Blade
" Boiler Tubes	" Condenser Tubes 50	" Condenser Ferrules 50

OTHER ARTICLES OF SPARE GEAR:--

7 Propeller Blade Studs & Nuts  
 7 Riding pieces for Thrust (Mach.)

REVERBERATORS

No. of Machines	Capacity of each	Description
1	1000	...
2	500	...
3	250	...
4	125	...
5	62.5	...
6	31.25	...
7	15.625	...
8	7.8125	...
9	3.90625	...
10	1.953125	...



## REFRIGERATORS.

No. of Machines *One* Capacity of each *Hall's No 15A.*Makers *J. & E. Hall Ltd. Eastford.*Description *One Duplex C.O.<sup>2</sup> Horizontal  
Marine type.*No. of Steam Cylinders, each Machine *2* No. of Compressors *2* No. of Cranks *2*

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines

or Independently

*One air pump worked off the Refrigerating Machine. One Keiro's independent circulating water pump. Two Hall's Duplex Brine pumps (Steam driven), and four circulating air fans electrically driven.*

System of Refrigeration

*air circulation*

Insulation

*granulated cork*

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated

Spaces?

*Yes*

Are all Pipes, Air Trunks, &amp;c., well secured and protected from risk of damage?

*Yes*

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

*Yes*

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

*Yes*

Date of Test under Working Conditions

*8<sup>th</sup> March 1928.*

## RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after <sup>10</sup> / <sub>10</sub> hours.
No 1 Second Deck	47°	26°	<i>8 hours.</i>	9°
" Third "	47°	23°		8°
" Fourth "	47°	24°		6°
" Lower Hold.	47°	23°		8°
No 2 Second Deck	48°	26°		7°
" Third "	47°	24°		6°
" Fourth "	46°	23°		7°
" Lower Hold.	47°	24°		7°
No 3 Second Deck	50°	28°		7°
" Third "	50°	26°		7°
" Fourth "	49°	26°	9°	
No 4 Second "	49°	29°	7°	
" Third "	49°	26°	8°	
" Fourth "	49°	25°	10°	

Articles of Spare Gear for Refrigerating Plant carried on board:—



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THE REGISTER

No. of Circuits	Description of Circuits	No. of Lights	Wattage	Current	Remarks
82	Emergency	82	60	14.052	
108	Engine Rm. etc.	108	25.15	7.064	
64	Ford Holders	64	11.2	80	
57	After 80	57	10.2	80	
62	Foralle + Poop	62	14.85	80	
73	Capt's Offices	73	21.25	80	
62	Salom Accom.	62	26.1	80	
21	Eng. Rm.	21	10.45	7.036	
12	Fans Nos 1, 2, 3, 4.	12	232 Each	37.103	
-	Salom Heaters	-	136.5	37.083	
-	Cabin 80	-	171.5	37.103	
2	Ash Hoist	2	36.4	7.064	

8 March 1928

ELECTRIC LIGHTING.

Installation Fitted by *The Sunderland Forge & Eng<sup>y</sup> Co. Ltd.*

No. and Description of Dynamos *3 - 5.5 K.W. Steam acts & 1 - 6 K.W. Petrol act.*

Makers of Dynamos *Messrs Campbell & Ischerwood Ltd.*

Capacity *3 at 500* Amperes, at *110* Volts, *3 at 450* Revols. per Min.  
*1 at 54.5* *1 at 900*

Current Alternating or Continuous *Continuous*

Single or Double Wire System *Single except in compass area*

Position of Dynamos *Star side Main Engine Room & Emer. Dynamo Room.*

,, Main Switch Board *Star side after end Main Engine Room.*

No. of Circuits to which Switches are provided on Main Switch Board *15.*

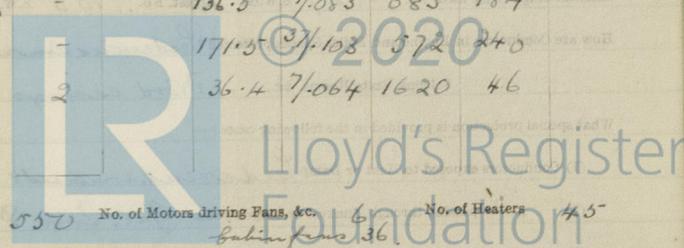
Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density. Amps and In <sup>2</sup>	Conductivity of Conductor. M.P.F.	Insulation Resistance per Mile.
Emergency	82	60	14.052	14/052	1500	64	
Engine Rm. etc.	108	25.15	7.064	7/064	1120	46	
Ford Holders	64	11.2	80	80	500	60	
After 80	57	10.2	80	80	454	80	
Foralle + Poop	62	14.85	80	80	660	80	
Capt's Offices	73	21.25	80	80	945	80	
Salom Accom.	62	26.1	80	80	1160	80	
Eng. Rm.	21	10.45	7.036	7/036	1490	24	
Fans Nos 1, 2, 3, 4.	12	232 Each	37.103	37/103	774	240	
Salom Heaters	-	136.5	37.083	37/083	683	184	
Cabin 80	-	171.5	37.103	37/103	572	240	
Ash Hoist	2	36.4	7.064	7/064	1620	46	

25000 Megohms.

Total No. of Lights *550* No. of Motors driving Fans, &c. *6* No. of Heaters *45*

Current required for Motors and Heaters *1292 Amps.*



Positions of Auxiliary-Switch Boards, with No. of Switches on each

*Emergency Switchboard in Emergency  
Dynamo Room (Six circuits)*

Are Cut-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

*Yes*

On Aux. " " each Auxiliary Circuit

*Yes*

Wherever a Cable is reduced in size

*Yes*

To each Lamp Circuit

*Yes*

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

Are the Fuses of Standard Sizes?

*Yes*

Are all Switches and Cut-outs constructed of Non-inflammable Material?

*Yes*

Are they placed so as to be always and easily accessible?

*Yes*Smallest Single Wire used, No. *3/029* S.W.G., Largest, No. *9/103* S.W.G.How are Conductors in Engine and Boiler Spaces protected? *Lead covered, armoured & braided*" Saloons, State Rooms, &c., " *Wood casings*

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp *Lead covered, armoured & braided*(2) " passing through Bunkers or Cargo Spaces *Gal. Iron Pipes*(3) " " Deck Beams or Bulkheads *Bushed & W.T. Glands*

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables

is unimpaired? *Yes*Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *Yes*Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *Yes*Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? *Yes*Have Tests been made to prove that this condition has been satisfactorily fulfilled? *Yes*Has the Insulation Resistance over the whole system been tested? What does the Resistance amount to?  Ohms.Is the Installation supplied with a Voltmeter? *Yes*" " " an Ampere Meter? *Yes*Date of Trial of complete Installation *17/3/28.*Duration of Trial *6 Hours.*

Have all the requirements of Section 42 been satisfactorily carried out?

*Emergency Dynamo (6 K.W.)  
Makers Campbell, Isherwood Liverpool.*



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## GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *Yes*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and trustworthy? *Yes*

Is the Workmanship throughout thoroughly satisfactory? *Yes*

The above correctly describes the Machinery of the S.S. *TILAPA*

as ascertained by *me* from personal examination

*H. Busch*  
Engineer Surveyor to the British Corporation for the  
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.		£	s.	d.
Total H.S.	11600 Sq. ft.	46	9	0
" G.S.	284 "	:	:	:
DONKEY BOILERS.				
H.S.	✓ Sq. ft.	:	:	:
G.S.	✓ "	:	:	:
		£	46	9
			0	
ENGINES.				
L.P.C.	149.3 Cub. ft.		69	18
		£	116	9
			0	
Testing, &c. ...			:	:
		£	:	:
			35	1
			0	
Expenses ...			24	0
			0	
Total ...		£	145	8
			0	

It is submitted that this Report be approved.

*Walter King*  
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.\* on the *14<sup>th</sup> April 1925*

Fees advised

Fees paid



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Secretary.

THE COMMITTEE ON THE CONSTRUCTION OF THE ...

MAN ...

Total ...

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It is submitted that this Report be approved.

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Approved by the Committee for the Class of M.B.S. of the ...

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