

Rpt. 4c

Date of writing report 16th June, 1959

Received 10 JUL 1959

Port of Milan No. 18

Survey held at Legnano

No. of visits 58

First date 2.8.56

Last date 15.6.59

4 JAN 1960

FIRST ENTRY REPORT ON AUXILIARY STEAM TURBINE

Name of Ship Cantieri Riuniti dell'Adriatico - Yard 1841
Ship Built at Monfalcone, Trieste by Cantieri Riuniti dell'Adriatico when Yard No. 1841
Auxiliary turbines or engines made at Legnano by Messrs. Franco Tosi S.p.A. when 1959 Eng. Nos. 3984 - 3985
Total No. of sets and description Two: Turbo Generator Sets, each consisting of a steam turbine driving a 750 Kw alternating current generator - through a single reduction gearing:- 9000/1200 R.p.M.

STEAM TURBINES. No. of turbines per set One BHP per set 750 Kw Steam pressure 58.7 Kg/sq.cm. Steam temperature 454°C
Type of turbines R.C.7390 - TOSI-WESTINGHOUSE - Impulse type - 9 rows of bladings - horizontal shaft
Particulars of gearing Double helic - single reduction gearing.
RPM of turbine shaft(s) 9000/1' PCD of pinion(s) 4.73" PCD of wheel(s) 38.9" Material of pinion(s) Cr-Ni-Mo. Steel Material of wheel rim(s) S.M. Steel Has rotor been dynamically balanced? Yes Diameter of rotor shaft at bearings 90 mm. Does the set include a steam condenser? - Is an emergency governor fitted? Yes No. and purpose of attached pumps One - Lub-Oil-Pump Has the set been tested in the shop? Yes If so, for how long at full power? 4 hours Was the governing tested and found satisfactory? Yes Was the set tested with driven machinery attached? Yes

Identification marks See Rpt.9a attached Particulars of driven machinery for each set:
One: Alternating current generator, rated 750 Kw - 450 V - 1220 A - at 1200 R.p.m.
Manufacturers: Cantieri Riuniti dell'Adriatico - Monfalcone - Serial No. 8003493 - 8003494
Type GSN/1250/6

STEAM RECIPROCATING ENGINES. BHP of each at RPM Steam pressure
Dia. of cylinders Stroke Dia. of crankshaft journals Pins Material of crankshaft Is crankcase enclosed? If so, is the internal volume 20 cu. ft. or over? No. and total area of crankcase explosion relief devices fitted? Are the bearings forced lubricated? No. and purpose of attached pumps Is a Governor Fitted? Identification Marks Particulars of Driven Machinery

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over Trieste Office.
For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached? No.

The foregoing description is correct.

FRANCO TOSI

Società per Azioni

Manufacturer

Is this machinery duplicate of a previous case? Yes If so, which? No. 16 dated Milan, 21st April, 1959 - Yard No. 1840 C.R.D.A.

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

These sets have been constructed under Special Survey of tested material and in accordance with the approved plans, Secretary's letters and Rules Requirements. All parts subjected to internal pressure have been examined under hydraulic test to Rule Requirements, and found sound and satisfactory. The turbine rotor, blading and reduction gearing have been examined on completion and found, so far as could be seen, sound and free from defects. Rotors, pinions and gear wheels were statically and dynamically balanced with satisfactory results. The material and the workmanship are good. These sets have been examined under steam in shop running at full power. The governor and the emergency governor were tried in operation with satisfactory results. These sets have been despatched to Trieste, to be fitted on board the yard No. 1841 of Messrs. CANTIERI RIUNITI DELL'ADRIATICO.

Survey Fee Lit. 192,000
Expenses 58,708
Rev. Tax 7,522.
Date when a/c rendered 8/7/1959.

(D. CECCHI)
Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port: The above described machinery has been fitted on board the S.T. "Esso 2021" (Yard No. 1841) at Monfalcone TRIESTE in a proper manner and found satisfactory when tested on the (date) 24/6/59 under full working conditions.

Engineer Surveyor to Lloyd's Register

TWO: TURBO-ALTERNATORS SETS - KW 750 -.

Manufacturers: Franco Tosi S.p.A. of Legnano (Italy) order No.50520,
intended for the yard No.1841 - being built by Messrs. Cantieri Riuniti dell'Adriatico,
Monfalcone, Trieste - order No. 10722/C.1841 dd. 30.4.56

DESCRIPTION & FINAL STAMPING ON MATERIALS

First Set: Turbine No. 3984 (Alternator No. 8003493)

<u>FORGINGS</u>	Sample No.	Drawing No.	Final Stamping
Turbine Rotor	928 ✓	558768 mod.207	LLOYD'S MI.928 - 15.6.59 - DC.
Slow Gear Wheel Shaft	303 ✓	560262 mod.202	LLOYD'S MI.303 - 15.6.59 - DC.
Slow Gear Wheel Rim	218 ✓	560260 mod.203	LLOYD'S MI.218 - 15.6.59 - DC.
Pinion	389	584104	LLOYD'S MI.389 - 15.6.59 - DC.

CASTINGS.

Upper Half Discharge Casing	189 ✓	555353 mod.32	LLOYD'S TEST NO.189 TP.KG.2 MI.22.4.59 - DC.
Lower Half Discharge Casing	171 ✓	555353 mod.31	LLOYD'S TEST NO.171 TP.KG.2 MI.22.4.59 - DC.
Upper Half Casing	217 ✓	555352 mod.2	LLOYD'S TEST NO.217 TP.KG.18/4 MI.13.4.59 - DC.
Lower Half Casing	223 ✓	555352 mod.5	LLOYD'S TEST NO.223 TP.KG.18/4 MI.13.4.59 - DC.
Steam Nozzles Chest	201 ✓	576372 mod.1	LLOYD'S TEST NO.201 TP.KG.100 MI. 28.7.58 - DC.

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Second set: Turbine No.3985 (Alternator No. 8003494)

<u>FORGINGS</u>	Sample No.	Drawing No.	Final Stamping
Turbine Rotor	624 ✓	558768 mod.207	LLOYD'S MI.624 - 11.6.59 - DC.
Slow Gear Wheel Shaft	302 ✓	560262 mod.202	LLOYD'S MI.302 - 11.6.59 - DC.
Slow Gear Wheel Rim	634 ✓	560260 mod.203	LLOYD'S MI.634 - 11.6.59 - DC.
Pinion	382 ✓	584104	LLOYD'S MI.382 - 11.6.59 - DC.

CASTINGS

Upper Half Discharge Casing	204 ✓	555353 mod.32	LLOYD'S TEST NO.204-TP.KG.2 MI.9.4.59-DC
Lower Half Discharge Casing	170 ✓	555353 mod.31	LLOYD'S TEST NO.170 TP.KG.2 MI. 9.4.59 - DC.
Upper Half Casing	222 ✓	555352 mod.2	LLOYD'S TEST NO.222 TP.KG.18/4 MI. 16.3.59 - DC.
Lower Half Casing	224 ✓	555352 mod.5	LLOYD'S TEST NO.224 TP.KG.18/4 MI. 16.3.59 - DC.
Steam Nozzles Chest	698 ✓	576372 mod.1	LLOYD'S TEST NO.698 TP.KG.100 MI. 30.1.59 - DC.

FINAL STAMPING ON SETS.

LLOYD'S NO. 3984	LLOYD'S NO.3985
750 KW SET	750 KW SET
EXAMINED	EXAMINED
MI. 15.6.59 - DC.	MI. 11.6.59 - DC.

(D. CECCHI)

Surveyor to Lloyd's Register of Shipping



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