Rpt. 4c

Date of writing report 19.9.63 Received London ..... Port HAMBURG No. 12 986

Survey held at Elmshorn No. of visits 13 First date 26.1.63 Last date 13.8.63

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship "IWTA GUMTI" Owners (Or Consignees) Inland Water Transport Authority East Pakistan

(Or Contract No. if name unknown).

Ship Built at Elmshorn by Messrs. Kremer Sohn Klöckner-Humboldt when 1963 Yard No. 1100 3434861/63

Auxiliary Engines or Gas Turbines made at Köln by Messrs. Deutz A.G. when 1963 Eng. Nos. 3454870/72

Total No. of sets and description (including type name) Two oil engines Type A3M514

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 3 Dia. of cylinders 110 mm Stroke 140 mm

2 or 4 stroke cycle 4 Maximum approved BHP 41 at 1500 RPM Corresponding MIP ..... Maximum pressure .....

Fuel ..... Are cylinders arranged in Vee or other special formation? ..... If so, No. of

crankshafts per engine ..... Is engine of opposed piston type? ..... No. and type of mechanically driven scavenge pumps or blowers

per engine ..... No. of exhaust gas driven blowers or superchargers per engine ..... Is welded construction

used for: Bedplate? ..... Entablature? ..... Total internal volume of crankcase (if 20 cu. ft. or over) ..... No. and total area of

crankcase explosion relief devices ..... Are flame guards or traps fitted? ..... Cooling medium for: Cylinders SW

Pistons ..... No. of attached pumps: F.W. cooling - S.W. cooling 1 Lubricating oil 1 How is engine started?

one engine hand started and one engine electrically started

SHAFTING. Is a damper or detuner fitted? ..... No. of main bearings ..... Are bearings of ball or roller type? ..... Distance between

inner edges of bearings in way of cranks ..... Crankshaft: Built, semi-built, solid. Material of crankshaft ..... Approved

minimum tensile strength ..... Dia. of pins ..... Journals ..... Breadth of webs at mid throw ..... Axial

thickness ..... If shrunk, radial thickness around eyeholes ..... Dia. of flywheel ..... Weight ..... Are balance

weights fitted? ..... Total weight ..... Rad. of gyration ..... Dia. of flywheel shaft .....

Has each engine been tested in shop? ..... How long at full power? ..... Was it tested with driven machinery attached? ..... Was the

governing tested and found satisfactory? ..... Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) .....

Date of approval of shafting ..... Identification marks on shafting .....

Particulars of driven machinery one 12 kW generator and one general service pump each set.

Port and No. of Certificate for Starting Air Receivers -

AUXILIARY GAS TURBINES. BHP per set ..... At ..... RPM of output shaft. Open or closed cycle? .....

Arrangement of turbines. HP drives ..... at ..... RPM HP gas inlet temp. ..... pressure .....

(A small diagram should be attached showing gas cycle) IP " ..... at ..... " IP " " " ..... " .....

LP " ..... at ..... " LP " " " ..... " .....

No. of air compressors per set ..... Centrifugal or axial flow type? ..... Material of turbine blades .....

Material of compressor blades ..... No. of air coolers per set ..... No. of heat exchangers per set ..... How are

turbines started? ..... Are the turbines operated in conjunction with free piston gas generators? .....

Total No. of free piston gas generators ..... Dia. of working pistons ..... Dia. of compressor pistons ..... No. of double strokes

per minute at full power ..... Gas delivery pressure ..... Gas delivery temperature .....

Have the turbines and attached equipment been tested in shop? ..... How long at full power? ..... Were they tested with driven machinery

attached? ..... Particulars of gearing .....

Date of approval of plans ..... Identification marks ..... Particulars of driven machinery .....

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over .....

For generators under 100 Kw., has Makers' Certificate been obtained? yes Are Certificates attached? See Rpt. 13

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

..... Manufacturer

Is this machinery duplicate of a previous case? ..... If so, which? .....

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.

Survey Fee .....

Expenses .....

Date when a/c rendered .....

..... 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 "IWTA GUMTI"

at Elmshorn in a proper manner and found satisfactory when tested on the (date) 13.8.63 under full working conditions.

..... Engineer Surveyor to Lloyd's Register

011544-011554-0108

Rpt. 4c

Date of writing report..... Received London..... Port..... No.....

Survey held at..... No. of visits..... First date..... Last date.....

FIRST ENTRY REPORT ON AUXILIARY STEAM TURBINE OR STEAM RECIPROCATING ENGINES

Name of Ship..... *Owners*.....
(Or Contract No. if name unknown) *(Or Consignees)*

Ship Built at ..... *by*..... *when*..... *Yard No.* .....

Auxiliary turbines or engines made at..... *by*..... *when*..... *Eng. Nos.*.....

Total No. of sets and description.....

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.....

STEAM TURBINES. *No. of turbines per set*..... *BHP per set*..... *Steam pressure*..... *Steam temperature*.....

Type of turbines.....

Particulars of gearing .....

RPM of turbine shaft(s)..... *PCD of pinion(s)*..... *PCD of wheel(s)*..... *Material of pinion(s)*..... *Material of wheel rim(s)*..... *Has rotor been dynamically balanced?*..... *Diameter of rotor shaft at bearings*..... *Does the set include a steam condenser?*..... *Is an emergency governor fitted?*..... *No. and purpose of attached pumps.* ..... *Has the set been tested in the shop?*..... *If so, for how long at full power?*..... *Was the governing tested and found satisfactory?*..... *Was the set tested with driven machinery attached?*.....

Identification marks..... *Particulars of driven machinery* .....

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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.....

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ELECTRIC GENERATORS. *Port and No. of Certificate for generators of 100 Kw. and over*.....

For generators under 100 Kw., has Makers' Certificate been obtained?..... *Are Certificates attached?*.....

The foregoing description is correct.

.....

Manufacturer

Is this machinery duplicate of a previous case?..... *If so, which?*.....

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.*

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Survey Fee.....

Expenses .....

Date when a/c rendered.....

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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.....

at.....*in a proper manner and found satisfactory when tested on the (date)*.....*under full working conditions.*

.....

Engineer Surveyor to Lloyd's Register

10m,4,57 T. (MADE AND PRINTED IN ENGLAND.)