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 of writing report 2nd March 1957 Received London 15 OCT 1957 Port YOKOHAMA No. 2255  
 held at Niigata, Japan No. of visits 12 First date 19th June 1956 Last date 1st March 1957

### FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship M.T. "KOSEI MARU" Owners Daido Kaiun K.K.  
 Contract No. if name unknown) (Or Consignees)  
 Built at Nagasaki, Japan by Mitsubishi Zosen Nagasaki Shipyard Yard No. 1485  
 Auxiliary Engines of Gas Turbines made at Niigata, Japan by Engine Works  
Niigata Engineering Co., Ltd. when 2-1957 Eng. Nos. 8908 & 8909  
 Total No. of sets and description (including type name) 3, 4 S.C.S.A. 5 Cylinders with Supercharger, Niigata L5F25BS.

**INTERNAL COMBUSTION RECIPROCATING ENGINES.** No. of cylinders per engine 5 Dia. of cylinders 250 Stroke 320mm  
 4 stroke cycle 4 Maximum approved BHP 300 at 450 RPM Corresponding MIP 8.78kg/cm2 Maximum pressure 60 kg/cm2  
Heavy oil Are cylinders arranged in Vee or other special formation? No If so, No. of  
 Crankshafts per engine - Is engine of opposed piston type? No No. and type of mechanically driven scavenge pumps or blowers  
 engine None No. of exhaust gas driven blowers or superchargers per engine 1 Is welded construction  
 for: Bedplate? No Entablature? No Total Internal volume of crankcase (if 20 cu. ft. or over) 33.5 cu. ft. No. and total area of  
 crankcase explosion relief devices 2 x 14.5 sq. in. Are flame guards or traps fitted? No Cooling medium for: Cylinders Fresh Water.  
 No. of attached pumps: F. W. cooling 1 S. W. cooling None Lubricating oil 1 How is engine started? Compressed  
Air.

**CRANKSHAFTING.** Is a damper or detuner fitted? No No. of main bearings 6 Are bearings of ball or roller type? No Distance between  
 edges of bearings in way of cranks 278 Crankshaft: Built/semi-built/solid. Material of crankshaft O.H. & E1. Furnace (steel) Approved  
 minimum tensile strength 53 kg/mm2 Dia. of pins 160mm Journals 170mm Breadth of webs at mid throw 235mm Axial  
 thickness 78mm If shrunk, radial thickness around eyeholes - Dia. of flywheel 1,300mm Weight 1,841 kgs Are balance  
 weights fitted? No Total weight - Rad. of gyration 540mm Dia. of flywheel shaft None  
 Has each engine been tested in shop? Yes How long at full power? 4 hours Was it tested with driven machinery attached? Yes Was the  
 running tested and found satisfactory? Yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 8-4-56 9/3/56  
 Date of approval of shafting 2-12-55 Identification marks on shafting LLOYD'S YKAV 18993, 19000 & YB995 IS 30-10-56  
 Particulars of driven machinery Lubricating Oil Pump:- Gear type, 4050 l/hr x 2 kg/cm2; F.W. Cooling Pump:- Centrifugal type,  
2,000 l/hr; Starting Air Compressor:- Vertical, 3 stage 200 m3/hr x 30kg/cm2 (for Eng. Nos. 8908 & 8909 only).  
 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 -  
 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  
 generators under 100 Kw., has Makers' Certificate been obtained? - Are Certificates attached? -

If the foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)  
Kenji Nida  
 Niigata Engineering Co., Ltd. Manufacturer

Is this machinery duplicate of a previous case? Yes If so, which? Nagasaki Ship No. 1465 M.V. "KOSOH MARU"

**GENERAL REMARKS.** State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters.  
 The quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.  
 These Oil Engine Electric Generator sets have been constructed under the supervision of the Society's Surveyors  
 in accordance with the Rules, Approved Plans and Secretary's letters. The workmanship and materials have been found  
 satisfactory. These Oil Engine Electric Generator sets have been examined during and after shop trial and found in  
 order. Crank case explosion relief devices are fitted as per Rules. It is submitted that these Oil Engine Electric  
 generator sets are eligible in our opinion to be classed with this Society with the notation of + LMC with date  
 when satisfactorily installed in the vessel.

Survey Fee ¥132,000.-  
 when a/c rendered 24th April, 1957

Signature to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the M.T. "KOSEI MARU"  
Nagasaki in a proper manner and found satisfactory when tested on the (date) 26th June, 1957 under full working conditions.

Dupuis  
 Engineer Surveyor to Lloyd's Register  
Shimizu  
 Engineer Surveyor to Lloyd's Register