

Lloyd's Register of Shipping.

Collingwood Buildings, Newcastle-on-Tyne.

7th May 1930.

LLOYD'S REGISTER
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Reference

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The Secretary,

LONDON.

Dear Sir,

I beg to advise you that The Parsons ^{Marine} Steam Turbine Co. Ltd. propose fitting a low pressure exhaust turbine and double reduction gearing of their own design to the existing machinery of the Steamer "KINGSWOOD".

The turbine in this design can not be decoupled by means of a hydraulic coupling as is the case in a Bauer-Wach installation.

The turbine is driven in an ahead direction by exhaust steam from the reciprocating engine at a pressure of 8 lbs. per sq. inch absolute, but when the engine is reversed the exhaust steam is diverted directly to the condenser by means of a change over valve actuated by the weigh shaft, the turbine then rotating in vacuum thus giving a fly wheel effect.

The gearing has been designed to take a load equal to ^{any} ~~any~~ that may be produced by the full torque of the reciprocating engine during sudden reversals under full steam, and any shock

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stresses to which the teeth of the gearing may be subjected due to the varying torque of the engine will be absorbed by the elastic coupling incorporated as part of the first reduction gear wheel.

The Steamer "KINGSWOOD" was built in May 1929 and engined by The N.E. Marine Eng. Co. The engines have cylinders $24\frac{1}{2}$ ", $40\frac{1}{2}$ " & $65\frac{1}{2}$ "^{68 Entry 8.20} dia. and a stroke of 45 inches. The working pressure is 200 lbs. per sq. inch and the engines were designed to develop 1750 I.H.P. at $62\frac{1}{2}$ R.P.M.

The proposal now is to produce a total I.H.P. at the propeller shafting of 2100 when running at 65.5 R.P.M., the power from the reciprocating engines being 1480 I.H.P. and that from the turbine 620. The turbine shaft horse power at the primary pinion will be 575 and the revolutions 2500 per minute.

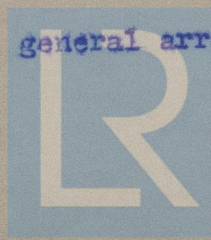
The sizes of the existing shafting as given in the Newcastle 1st Entry Report No. 84177 are as follows:-

Cranksaft $13\frac{1}{2}$ " dia. Intermediate shafting $12\frac{1}{2}$ " dia.

Thrust shaft $13\frac{1}{2}$ " dia. and the propeller shaft $14\frac{1}{2}$ " dia.

The new thrust shaft will be $13\frac{1}{2}$ " dia. at collar and $12\frac{3}{4}$ " at body and the wheel and other gear shafts as shown on the plan of gearing arrangements.

Enclosed are duplicate plans of the gearing arrangements submitted for approval also duplicate plans illustrating the turbine casing, general arrangement and the



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elastic coupling. Pamphlets giving a general description of the installation are also enclosed for your information.

In my opinion the general arrangements and the proposed sizes of shafting merit approval and I should be glad if you would be so good as to return one set of plans for guidance.

I am, Dear Sir,

Yours faithfully,

F. J. Stoddart



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