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LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

71, Fenchurch Street, London, E.C.3

Telegrams: Committee, Fen, London

Telephone: ROYal 3551 (8 Lines)

31st May, 1954.

Dear Sirs,

Messrs. De Schelde Yard Nos. 274-5-6.
Main Generating Sets Nos. 704-805.
Auxiliary Generating Sets Nos. 805-814.

I have to inform you that the extracts from the torsionograph records taken from the main and auxiliary generator sets of the M.V. "LENA" (Yard No. 274) and forwarded with your First Entry Report No. 37532 have been examined, and the following comments apply:-

Main generating sets:-

- 1) The stress in the crankshaft arising from the 1-node 6th order critical speed measured to occur at 336 R.P.M., as interpreted from the records is excessive for a service speed of 360 R.P.M.
- 2) The Engine Builders' comments are desired on the above and on the discrepancy between the measured and calculated natural frequencies. In this connection it is concluded that the additional mass at the forward end of the crankshaft, shown in the frequency tables has in fact been fitted.
- 3) It is concluded that the service speed of 360 R.P.M. is constant, and corresponds to full load; it is desired to know the permanent increase of speed at no load, and the momentary fluctuations of speed when the load is suddenly applied or removed.
- 4) The following additional information is desired in connection with the torsionograph records:
 - a) actual records (or sufficient extracts or copies) in order that resonance curves may be drawn.
 - b) confirmation that pen magnification is in fact 3:1 for the 6th order records.

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- c) belt magnification factor at 2,000 V.P.M.
- d) particulars of the generator load during test
- e) information whether records were also taken from other sets, and whether the results are similar to those forwarded.

Auxiliary generator sets:-

The approval of the torsional vibration characteristics for a service speed of 428 R.P.M. given in my letter dated the 16th May, 1952 is confirmed.

Main Propulsion Motor:-

It would appear that the noise and vibration occurring at 155 to 170 R.P.M. have no relation to torsional vibration.

It is now noted from p.12 of the Specifications that the service speed of the motor given as 150 R.P.M. has been increased to approx. 180 R.P.M. under free running conditions, and the approval of torsional vibration characteristics is also applicable for a motor service speed of 180 R.P.M, it being concluded that the power remains the same.
I shall be glad if you will furnish the desired information as soon as possible.

Yours faithfully,

pro Secretary.

The Surveyors,
ROTTERDAM.



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