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ENTERPRISE ENGINE & FOUNDRY COMPANY

MAIN OFFICE: 18th and Florida Streets - San Francisco 10

September 3, 1946.

Wartime Shipbuilding Limited,  
420 Lagachetiere Street W.,  
Montreal, Canada.

Attention: S. Hutchinson,  
Chief Marine Engineer

Subject: Type "C" Coasters (Enterprise Diesel)  
Torsional Analysis.

Gentlemen:-

We acknowledge receipt of your letter of August 21st, pointing out that Lloyd's request information on two-node type criticals. We are pleased to forward herewith "Natural Frequency Determination, 2-Node Type". This analysis shows that the 2-node frequency is so high that even the 12th order is 50 rpm above operating speed. Therefore, the 2-node type or form of torsional vibration would never be encountered in these particular installations. Since all major and minor criticals are above operating range, vector summations are not required.

For your information and for possibly passing on to Lloyd's, we can point out the reasons for 2-node type criticals being absent from our Marine installations as follows:

1. Having crankshaft diameters just as large as is physically possible.
2. Maintaining stiffness of crankshaft by keeping to a minimum bevels and chamfers and by not using drilled mains and pins.
3. Using as light a flywheel as possible to still give satisfactory starting and operating conditions.

We believe the above will be in order and ask that you submit these enclosures as additions to the analysis already forwarded.

Very truly yours,  
ENTERPRISE ENGINE & FOUNDRY COMPANY

(Sgd) Roy A. Hundley,  
Chief Engineer.

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