



Lloyd Werft Bremerhaven

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Kloster Cruise Limited
95, Merrick Way
Coral Gables, Fla. 33 134

USA

Attn.: Mr. Per Sopp

Your ref.: Your letter: Our ref.: **KS/WB** Bremerhaven, **July 1st, 1991**

Dear Sirs,

S/S "NORWAY"
Corrosion and Combustion of Boilers

Please find enclosed the report of the boiler water analysis for the S/S "NORWAY". Unfortunately the sample from boiler No. 21 was broken. No major metal trace elements have been found in the analysis results. So there is every indication to suppose that the increase of corrossions is nothing else but the effect of shutdown corrosion. We would suggest the following measures to solve this problem:

Installation should be done of a connecting steam line from the atomizer steam groups on each boiler to the respective two lower drums in each case. For steam inlets it should be possible to make use of the drain valves and to install a nozzle into the steam supply line. Please see the scheme attached to this letter.
The steam as nozzled in this way will keep the boiler under pressure and maintain temperature.

Furthermore, the problems about combustion air on the single boilers were discussed with Siemens. The latest setting results (see attached report) show that there is only chance now to burn a maximum of 5.0 t/h fuel oil per boiler with two boiler blowers in operation. In the years 1982 / 84, when the blower characteristics had been carefully adjusted to parallel operation, it was still possible to burn 5.5 - 6.0 t/h fuel oil.

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D. L. T. S. G., U.S.C.G.
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Such parallel operation of the blowers must also be observed with the Simovert control unit in use. It is not to be recommended that one of the blowers is run with Simovert facilities whereas the other blower has a control arrangement via flaps.

The overall situation about the problems with combustion air and corrosion should be discussed in detail between Siemens, Babcock, the Owner and Lloyd Werft.

Looking forward to receiving your reply in this matter, we remain

Yours faithfully,

LLOYD WERFT BREMERHAVEN GMBH
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Enclosures

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