



Imo Delaval Inc.
 Enterprise Engine Division
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January 19, 1988

Director, Office of Inspection and Enforcement
 US Nuclear Regulatory Commission
 Washington, D.C. 20553

Report # 143

Dear Sir,

In accordance with the requirements of Title 10, Chapter 10, Code of Federal Regulations, Part 21, IMO Delaval Inc. hereby notifies the Commission of a potential defect in a component of a DSRV Standby Diesel Generator. There exists a potential problem with the inability of the jacket water heat exchanger to achieve the maximum design flow rate as specified by the manufacturer.

IMO Delaval has supplied DSRV engines with this potential defect to the following site:

UTILITY	SITE	SERIAL NO.	MODEL
Georgia Power	Vogtle	76021/24	DSRV

On December 2, 1987, IMO Delaval was advised that one of the jacket water heat exchangers (S/N X-13214-A) failed during a maintenance flushing operation. The subject heat exchanger is a shell and tube design manufactured to the requirements of ASME Section III, Class 3 by Thermxchanger Inc. - a company no longer in business.

The failure manifested itself in the tube bundle being bent and forced against the discharge port on the jacket water side; several of the tubes on the outside row were punctured and leaking.

This damage was found to be the result of the high rate of flow used during the flushing operation. While flushing was performed at the design flow rate specified by the manufacturer (1800 GPM) calculations of actual inlet and outlet nozzle velocities exceed the standards established by the TEMA (Tubular Exchanger Manufacturers Association). High water velocity was the result of undersized (8 inch) inlet and discharge nozzles. To stay within the standard velocities established by TEMA, the flow rate of the existing heat exchanger should not exceed 750 gpm through the shell side.

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Recommended correction action in this situation is to re-rate these heat exchangers for a maximum flow rate of 750 gpm. Analysis concludes that this flow is within TEMA standards and will be sufficient for flushing. Normal operating flow required for proper heat transfer in this installation is 500 gpm. This reduction in flow rate should be implemented immediately with drawings and nameplates revised for record purposes. As this requires the action of other parties, IMO Delaval cannot estimate when corrective action will be completed.

A copy of this letter will be forwarded to the affected site as indicated by the cc list.

Our investigation of this matter was completed on January 18, 1988.

Sincerely,

Bruce C. Guntrum
Bruce C. Guntrum
Manager, Quality Assurance

BCG/dsm

cc: Georgia Power Company
Plant Vogtle
P.O. Box 282
Waynesboro, Georgia 30830

Attn: Mr. George Bockhold, Jr.
Plant Manager