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U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

April 29, 2008

Subject: 10 CFR 21 NOTIFICATION - IDENTIFICATION OF DEFECT
ALCO SNUBBER VALVE MICRO-CRACKING

Greetings,

Pursuant to 10 CFR 21.21 (d)(3)(ii), Fairbanks Morse Engine is submitting a written notification on the identification of a defect that is considered to be a substantial safety hazard.

There is a three page attachment to this letter. This attached document is the FME Notification Report Serial Number 08-01, providing the information requested by 10 CFR 21.21 (d)(4). Should there be any questions, please contact me at the phone number listed above or Ted Stevenson at 608-364-8424.

Sincerely,

A handwritten signature in cursive script that reads "Dominic Dedolph".

Dominic Dedolph
Manager, Quality Assurance

Attachment

c: A. Gioffredi
A. Elovic
T. Stevenson
M. Cunningham
B. Schoenike

TE19
NRR

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Fairbanks Morse Engine
10CFR 21.21 (d)(3)(ii) Notification

(i) Name and address of the individual or individuals informing the Commission.

Mr. Dominic Dedolph
Manager, Quality Assurance
Fairbanks Morse Engine
701 White Avenue
Beloit, WI 53511

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

Facility:

Entergy (Indian Point)

Basic component which fails to comply or contains a defect:

ALCO Fuel Snubber Valve P/N 2402466-1
The snubber valves in the Emergency Diesel Generator are installed in the high pressure fuel line between the fuel injection pump and the injection nozzle and serve as a pulsation dampener.

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

Fairbanks Morse Engine (FME)
701 White Avenue
Beloit, WI 53511

(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

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Nature of defect:

Fairbanks Morse Engine (FME) evaluation has determined that a potential safety hazard exists for ALCO fuel injection snubber valves due to micro-cracking in the tip of the snubber valve created during the material surface hardening process when the tips of the snubber valve were quenched in water.

Up until 2007, the snubber valves were a purchased item. FME elected to begin manufacturing the snubber valves in order to attain better quality control over this item. The FME manufactured snubber valves, including the heat treatment process, were initially qualified via destructive analysis which revealed no micro-cracking. Ongoing process controls included destructive analysis to verify the heat treatment process. During this ongoing sampling, FME metallurgical evaluation found micro-cracking in the fuel passage near the tip on one sample. Additional destructive analysis showed micro-cracking occurred on approximately 2 of 5 pieces that are quenched in water during the heat treatment process.

No failures of FME manufactured snubber valves have been reported by any of FME's customers.

Safety hazard which could be created by such defect:

Micro-cracking in the tip of the snubber valve could potentially lead to material "flaking". It has been postulated that the "flakes" (or particles) could be flushed downstream and become lodged in the nozzle, causing excessive fuel to enter the combustion space and wash the cylinder liner dry and lead to a piston seizure.

(v) The date on which the information of such defect or failure to comply was obtained.

Deviation discovered on February 29, 2008
Evaluation completed on April 28, 2008

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(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part.

Fairbanks Morse Engine manufactured and shipped twelve (12) ALCO Fuel Snubber Valves to Entergy (Indian Point) PO 4500551476. No other nuclear facilities received product suspected to have this defect.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Root cause analysis was performed and found that water quenching during the heat treatment process resulted in approximately 40% of the tips of the snubber valves to have micro-cracking present. When oil was substituted for the quenching medium, no snubber valves showed any signs of micro-cracking. The heat treatment process documentation has been updated to specify the quenching medium as oil. Oil has been used exclusively in the heat treatment process of all snubber valves produced by FME since March 1, 2008.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

FME is notifying Entergy (Indian Point) of the twelve (12) suspect pieces.