

SEP 27 1985

50-367
50-374
50-407

Mr. A. K. Velan
President
Velan Valve Corporation
Avenue "C"
Griswold Industrial Park
Williston, Vermont 05495

Dear Mr. Velan:

SUBJECT: INFORMATION NOTICE 85-59, VALVE STEM CORROSION FAILURES

I'm responding to your letter, dated August 9, 1985, regarding the subject information notice. The message of Information Notice 85-59 was that safety systems may become inoperable through the sudden failure of components that are not normally inspected. The components were valve stems and shafts made from 410 stainless steel.

There were four instances where the components had similar failures and each involved a different licensee and a different manufacturer, each of whom was identified in the information notice. In each instance, the valves that failed had a higher hardness than specified by the manufacturer. The events were described in chronological order and Velan was the first manufacturer mentioned. There was not any attempt to single out any manufacturer.

The information about the leakage at Oconee was obtained from our inquiries and a paper presented at an American Nuclear Society conference. In addition to the valve stems that were cracked the entire length and more than half the stem diameter in depth, there were several valves with the seat hardfacing cracked. The seat material was not 410 stainless steel. The cracks were discovered after the valves were exposed to cold (approximately room temperature) water at Oconee. Water at this temperature is not particularly corrosive to 410 stainless steel or the seat material. Since the cracks occurred prior to hot functional testing or nuclear service it appears possible that the valves were defective when installed.

We trust that this information is responsive to your concerns.

Sincerely,

Original Signed By
E. L. Jordan

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PDR I&E PDR
MISC

Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

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The information about the leakage at Oconee was obtained from our inquiries and a paper presented at an American Nuclear Society conference. In addition to the valve stems that were cracked the entire length and more than half the stem diameter in depth, there were several valves with cracked seats. The cracks were discovered after the valves were exposed to cold (approximately room temperature) water at Oconee. Water at this temperature is not particularly corrosive to 410 stainless steel. The cracks occurred prior to hot functional testing or nuclear service.

We trust that this information is responsive to your concerns.

Sincerely,

Edward L. Jordan, Director
Division of Emergency Preparedness
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Mr. A. K. Velan
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Subject: Information Notice 85-59, Valve Stem Corrosion Failures

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Dear Mr. Velan:

Subject: Information Notice 85-59, Valve Stem Corrosion Failures

Reference: Your letter, dated August 9, 1985, same subject

Information notices are written to inform recipients about potentially significant problems. The message of Information Notice 85-59 was that safety systems may become inoperable through the sudden failure of components that are not normally inspected. The components were valve stems and shafts made from 410 stainless steel.

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The information about the leakage at Ocone was obtained from our inquiries and a paper presented at an American Nuclear Society conference. In addition to the valve stems that were cracked the entire length and more than half the stem diameter in depth, there were several valves with cracked seats.

A review of the plant's history showed that the valves leaked four months prior to hot functional testing and never saw nuclear service.

We trust that this information is responsive to your concerns.

Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
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The information about the leakage at Oconee was obtained from an informal paper presented by a Duke Power Company management official. In addition to the valve stems that were cracked the entire length and more than half the stem diameter in depth, there were several valves with cracked seats.

A review of the plant's history showed that the valves leaked four months prior to hot functional testing. The corrosion rate should be lower in warm water, than in nuclear service.

We trust that this information is responsive to your concerns.

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Office of Inspection and Enforcement

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