

NAMCO

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January 24, 1994

Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Notification of Possible Anomaly for
Namco Controls' Limit Switches (TB9401)

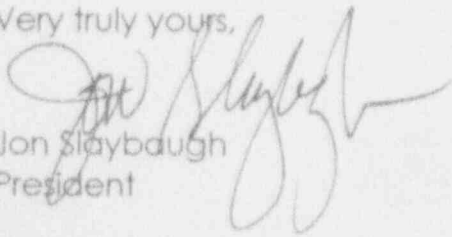
Gentlemen:

The purpose of this letter is to notify you of our resolution for the subject anomaly that was brought to our attention by Edward's Valves Inc. via Namco Controls' Return Goods Number, RGA 013795 (Reference our letter to your office dated January 7, 1994).

Please note that Edwards Valves Inc. will be notified of Namco Controls findings and the attached "Technical Bulletin TB9401" will be issued to all foreign and domestic Nuclear Power Generation Plants which contain the subject switches by January 28, 1994.

Any questions on this matter should be directed to Mr. E. Roob at Namco Controls.

Very truly yours,


Jon Slaybaugh
President

Attachments

cc: H. Everson - Vice President of Engineering
B. Pettrey - Q.A. Manager/Newton N.C.
E. Roob - Marketing Manager
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Nuc-M File

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TECHNICAL BULLETIN

NOTIFICATION OF POSSIBLE OPERATIONAL ANOMALIES FOR
SPRING RETURNED EA180/EA170 SERIES SWITCHES**PURPOSE:**

The purpose of this Notice is to inform the Nuclear Power Plant Operators and others involved in the operation and maintenance of Namco Controls EA180 and EA170 Series Limit Switches (with a spring returned operating lever) that a potential abnormality may exist in this Limit Switch Series.

DESCRIPTION:

During operation of MSIV valves, at a Bohunice Nuclear Plant located in Slovakia, a Namco Controls EA180-32302 Limit Switch would not operate properly. It was found, after actuating the switch, the normally closed contacts would not consistently return to their initial position.

NAMCO CONTROLS INVESTIGATION:

A comprehensive Program of Engineering/Quality Assurance Studies, Laboratory Analysis, and Testing was performed on the returned Namco Controls' Limit Switch.

The above analysis found the returned spring free length was shorter than the minimum length specified on the Namco Controls drawing. This shorter length decreased the return spring force. Engineering reviewed an additional sample of springs from two current production lots. The Engineering review determined that the force profile on these samples was acceptable. In addition, all the springs met the minimum free length requirement.

An Engineering inspection of the spring manufacturer's process, revealed that the spring characteristics are rigorously monitored during the manufacturing process.

CONCLUSION:

Based on the Engineering review, it appears that the short spring length was caused by human error during the manufacturing process and was not caused by mechanical failure of the spring.

It is Namco Controls' opinion that a short spring could have been installed into the switch and could have been long enough to pass Namco Controls' Assembly and Inspection test criteria. It is possible that after exposure to elevated temperatures a certain percent of heat relaxation occurred, further weakening the spring which could cause the switch to act in the manner reported.

TECHNICAL BULLETIN

NOTIFICATION OF POSSIBLE OPERATIONAL ANOMALIES FOR
SPRING RETURNED EA180/EA170 SERIES SWITCHES**CONCLUSION: (CONT'D)**

Since the full range of temperatures that this particular switch was exposed to is not completely known, it is possible that spring force was further reduced by excessive heat relaxation.

Namco Controls' takes into consideration temperature relaxation for rated temperature and believes this anomaly to be an isolated condition based on our evaluation and past history with this product. Namco Controls has changed our Inspection Criteria for this item to prevent further occurrences.