EMERSON.
Process Management

Fisher Controls International LLC
301 South First Ave.
P.O. Box 190
Marshalltown, Iowa 50158-0190
USA
T (641) 754-3011
F (641) 754-2830

February 8, 2017

To Whom It May Concern:

Attached is a Fisher Information Notice, (FIN) 2017-01

Emerson Process Management – Fisher Valves complies with the reporting requirements of 10 CFR Part 21 Section 21.21 (b) and 10 CFR Part 50.55 (e) by informing the U.S. Nuclear Regulatory Commission Licensees or Purchaser of deviations or failures to comply.

Please review the attached FIN notice for applicability to your facility.

George Baitinger
Director, Quality Americas

Attachments

IE19
NRR

FISHER

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Fisher Information Notice: FIN 2017-01

8 February 2017

Subject:

3" Style HPNS Valve Body/Cage/Plug Retainer Binding

Equipment Affected by this Fisher Information Notice:

Items subject to this Fisher Information Notice (FIN) are confined to the equipment and orders referred to in **Appendix A** attached. Specifically, affected equipment refers to the 3" style HPNS valve body for next-generation nuclear plants and its associated cage and plug retainer.

Purpose:

The purpose of this FIN is to alert affected customers that, as of 2 January 2017, Fisher Controls International LLC (Fisher) became aware of a situation which may affect the performance of the aforementioned equipment, including its safety-related function. Fisher is informing affected customers of this circumstance in accordance with Section 21.21 (b) of 10 CFR 21.

Applicability:

This FIN applies only to the equipment identified in **Appendix A**, which lists serial numbers and order numbers that were delivered to customers. Specifically, it applies to the Fisher 3" style HPNS valve body assembly, sold to AP1000 next generation plant sites, Commodity Package PV14, Datasheet 111.

Discussion:

During plant hot functional testing, certain valve assemblies did not achieve full travel. Upon disassembly, site inspection found wear between the cage and plug retainer in some valves. Vertical scratches in the cage internal diameter and plug retainer outside diameter was confirmation of galling which prohibited full travel. In one valve, the cage could not be removed from the body as it was friction-welded due to galling.

The valve body-to-cage interference is attributed to body-to-bonnet gasket compression which caused the valve body gasket groove to distort/yield, particularly the cage guide internal diameter bore. Regarding the cage-to-plug retainer binding, thermal expansion calculations between cage internal diameter and plug retainer outside diameter indicate an undersized diametrical clearance at temperature.

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Extent of Condition:

In addition to the equipment listed in **Appendix A**, all other style HPNS designs (NPS 1/2, 1, 2, 3, 4, 6, and 8) were examined for extent of condition. Results indicate that DS111 was a lone outlier and this issue is not expected to occur for the other sizes, material combinations and datasheets sold into their respective applications and temperatures.

Action Required:

Arrangements have been made with the customers to replace or maintenance the trim for the equipment listed in **Appendix A**. In addition, a Corrective Action Request (CAR 1817) has been initiated by Fisher to prevent reoccurrence of this issue.

10 CFR 21 Implications:

Fisher requests that the recipient of this FIN review it and take appropriate action in accordance with 10 CFR 21. If there are any technical questions or concerns, please contact:

Ben Ahrens
Quality Manager
Emerson Automation Solutions
Fisher Controls International LLC
301 South First Avenue
Marshalltown, IA 50158
Phone: (641) 754-2249
Benjamin.ahrens@emerson.com

Scott Lustyk
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Appendix A

List of Affected Equipment

Serial Number	Plant Site	LBP Order No.	Customer PO
19073507	Sanmen1	004 -X012140579	4500280610
19073508	Sanmen1	004 -X012140579	4500280610
19073509	Haiyang1	004 -X012140579	4500280610
19073510	Haiyang1	004 -X012140579	4500280610
0019718640	Sanmen2	860-PV14SAN2	SES210POVA050F-ORG
0019718641	Sanmen2	860-PV14SAN2	SES210POVA050F-ORG
0019720775	Haiyang2	860-PV14HYG2	SEH210POVA051F-ORG
0019720776	Haiyang2	860-PV14HYG2	SEH210POVA051F-ORG
AA026633(1)	Sanmen2	1349563	SES210POVA050-ORG

Notes:

1) This is a Piece Serial Numbered (PSN) spare part

Part 21 (PAR) Event # 52537

Rep Org:	EMERSON PROCESS MANAGEMENT	**Notification Date / Time:**	02/08/2017 11:17 (EST)
Supplier:	FISHER CONTROLS INTERNATIONAL LLC	**Event Date / Time:**	01/02/2017 (CST)
		Last Modification:	02/08/2017
Region:	3	**Docket #:**	
City:	MARSHALLTOWN	**Agreement State:**	Yes
County:		**License #:**	
State:	IA		

NRC Notified by:	KIM SAGAR	**Notifications:**	SHANE SANDAL	R2DO
HQ Ops Officer:	DONG HWA PARK		MICHAEL KUNOWSKI	R3DO
Emergency Class:	NON EMERGENCY		PART 21/50.55 REACTORS	EMAIL
10 CFR Section:				
21.21(d)(3)(i)	DEFECTS AND NONCOMPLIANCE			
50.55(e)	CONSTRUCT DEFICIENCY			

PART 21 - VALVE ASSEMBLY NONCONFORMANCE

"Subject: 3" Style HPNS Valve Body/Cage/Plug Retainer Binding

"Equipment Affected by this Fisher Information Notice: Items subject to this Fisher Information Notice (FIN) are confined to the equipment and orders
referred to in Appendix A attached. Specifically, affected equipment refers to the 3" style HPNS valve body for next-generation nuclear plants and its associated cage and plug retainer.

"Purpose: The purpose of this FIN is to alert affected customers that, as of 2 January 2017, Fisher Controls International LLC (Fisher) became aware of a situation which may affect the performance of the aforementioned equipment, including its safety-related function. Fisher is informing affected customers of this circumstance in accordance with Section 21.21(b) of 10 CFR 21.

"Applicability: This FIN applies only to the equipment identified in Appendix A, which lists serial numbers and order numbers that were delivered to customers. Specifically, it applies to the Fisher 3 style HPNS valve body assembly, sold to AP1000 next generation plant sites, Commodity Package PV14, Datasheet 111.

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retainer binding, thermal expansion calculations
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"Extent of Condition: In addition to the equipment listed in Appendix A, all other style HPNS designs (NPS 1/2, 1, 2, 3, 4, 6, and 8) were examined for extent of condition. Results indicate that DS111 was a lone outlier and this issue is not expected to occur for the other sizes, material combinations and datasheets sold into their respective applications and temperatures. Arrangements have been made with the customers to replace or maintenance the trim for the equipment listed in Appendix A. In addition, a Corrective Action Request (CAR 1817) has been initiated by Fisher to prevent reoccurrence of this issue.

"10 CFR 21 Implications: Fisher requests that the recipient of this FIN review it and take appropriate action in accordance with 10 CFR 21. If there are any technical questions or concerns, please contact: Ben Ahrens, Quality Manager, Emerson Automation Solutions, Fisher Controls International LLC, 301 South First Avenue, Marshalltown, IA 50158, Phone: (641) 754-2249, F (641) 754-2830."

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