

General Information or Other (PAR)

Event # 46340

Rep Org: ASCO VALVE	Notification Date / Time: 10/18/2010 13:09 (EST)
Supplier: AREVA	Event Date / Time: 09/18/2010 (EDT)
	Last Modification: 11/11/2010
Region: 1	Docket #:
City: AIKEN	Agreement State: Yes
County:	License #:
State: SC	
NRC Notified by: ROBERT ARNONE	Notifications: VIVIAN CAMPBELL R4DO
HQ Ops Officer: JOE O'HARA	PART 21 GRP
Emergency Class: NON EMERGENCY	
10 CFR Section:	
21.21	UNSPECIFIED PARAGRAPH

POTENTIAL EXTERNAL LEAKAGE IN SOLENOID VALVE

The following notification was received via fax:

"On 9/18/10 a single solenoid valve was returned to ASCO with a reported problem of external leakage at the bonnet area below the coil housing. The valve was returned from Cooper Nuclear Station through AREVA, who was the distributor.

"The returned valve was retested at ASCO. No external leakage was observed when the valve was tested in the de-energized state. However, when the valve was tested in the energized state, the reported leakage was confirmed. The root cause of the leakage was determined to be a misaligned O-ring between the solenoid base sub-assembly and the valve body.

"The customers that were shipped affected valves are being notified of the potential non-conformance. ASCO will recommend the affected valves be returned to be retested in accordance with updated test procedures."

*** UPDATE FROM ROBERT ARNONE TO JOE O'HARA VIA FAX AT 1308 ON 11/11/10 ***

"In our continuing investigation of the external leakage in NP8320 solenoid valves (Ref A), ASCO has identified an additional group of valves which could be potentially susceptible to such leakage. The initial review focused on our standard NP8320 products and did not include our special construction valves. However, we expanded our review to include all special as well as standard NP8320 valves. As a result, the quantity of potentially affected valves has increased from 174 to 438. In response to this new information, revised notices were sent to the original customers and the newly identified customers: ASCO Canada, SPX Industries, and Flowserve.

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"As of this date, 115 valves have been returned. None of these returned valves has exhibited external leakage when retested per the updated procedure."

Through their expanded review process, ASCO did not identify any additional commercial nuclear power plant customers which had purchased valves susceptible to the leakage issue.

Notified R4DO (Gaddy) and Part 21 Group via e-mail.

ASCO Valve Manufacturing, Inc.

AIKEN, S.C.
FAX: 803-641-9290

FAX NO: 301-816-5151

TO: NRC Documents Control Desk

FROM: Robert Arnone

DATE: November 11, 2010

Attached is supplemental letter to original report submitted October 18, 2010. This refers NRC Event # 46340, also attached.

If transmission is not clear or there are additional questions, please call 803-641-9395.

Bob Arnone

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ASCO Valve, Inc.
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Florham Park, NJ 07932
USA

T (973) 966 2000
F (973) 866 2628
www.asconumatics.com

November 11, 2010

NRC Documents Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-001

Subject: Update to Report of Oct. 18, 2010 - External leakage in NP8320 solenoid valve

Reference A - ASCO Valve, Inc. letter to NRC dated 10/18/10
Reference B - NRC Licensee Event Report # 46340 (10/18/10)


Gentlemen:

In our continuing investigation of the external leakage in NP8320 solenoid valves (Ref A), ASCO has identified an additional group of valves which could be potentially susceptible to such leakage. The initial review focused on our standard NP 8320 products and did not include our special construction valves. However, we expanded our review to include all special as well as standard NP8320 valves. As a result, the quantity of potentially affected valves has increased from 174 to 438. In response to this new information, revised notices were sent to the original customers and the newly identified customers ASCO Canada, SPX Industries, and Flowsolve.

As of this date, 115 valves have been returned. None of these returned valves has exhibited external leakage when retested per the updated procedure.

If you have any questions, you can contact Bob Arnone at 803-641-9395.

Very Truly Yours,



Lars Gacad
Vice-President Quality
ASCO Valve, Inc.

ASCO
numatics



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October 18, 2010

NRC Documents Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-001

Subject: External leakage in NP8320 solenoid valve

Reference A – ASCO letter to AREVA dated 9/13/2010

Reference B – ASCO Returned Material Authorization (RMA) number 44797

Gentlemen:

The enclosed information relates to a single NP8320 ASCO valve identified by Cooper Nuclear Station to exhibit external leakage. The customers who have received similar valves potentially susceptible to external leakage are being notified.

ASCO does not have adequate knowledge of the actual installations and operating conditions of these valves to determine whether this condition could create a "substantial safety hazard" as defined in 10CFR21.3. This information is intended to provide investigation results and corrective action.

Background – On 9/8/2010, a single NP8320 solenoid valve (NP832094E 120/60,110/50, serial number A408921-004) was returned to ASCO with a reported problem of external leakage at the bonnet area below the coil housing. This valve was 1 of 5 produced on an order for AREVA in April 2010. The valve was returned from Cooper Nuclear Station through AREVA, who was the distributor. See Ref. B.

The returned valve was retested at ASCO. No external leakage was observed when the valve was tested in the de-energized state. However, when the valve was tested in the energized state (power was applied to the valve coil), the reported leakage was confirmed. The root cause of the leakage was determined to be a misaligned O-ring between the Solenoid Base Sub Assembly (SBSA) and the valve body.

ASCO's NP8320 series valves are offered in 2 different body materials, brass or stainless steel; with 2 different types of seals and disc, Ethylene Propylene or Viton®; and for 3 different forms of flow, Normally-Closed, Normally-Open and Universal. The NP832094E returned is a stainless steel valve with Ethylene Propylene seals and Discs for Normally-Closed form of flow.

For Normally-Closed valves, air pressure is to be applied at port 2. This port is blocked when the valve is de-energized and the cylinder port 1 is exhausted through the exhaust port 3. When the valve is energized pressure is allowed to flow to the cylinder port at 1, and the exhaust port at 3 is blocked. See Figure 1 on next page.

For Normally-Open valves, pressure is applied at port 3. This port is connected to port 1 when de-energized and port 2 is blocked. When the valve is energized, port 3 is blocked and the pressure at the cylinder port 1 is exhausted through port 2.



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Universal valves can be connected as either Normally-Closed or Normally-Open.

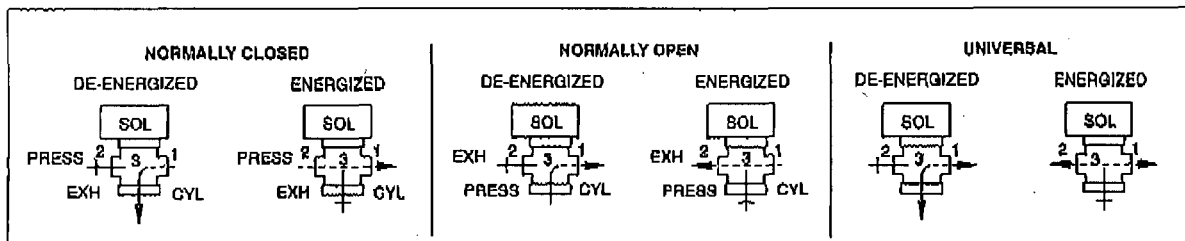


Figure 1

ASCO Investigation Results – As part of ASCO's investigation, ASCO requested that AREVA return all NP8320 valves in their stock for retest. 91 more valves were returned and retested at ASCO. None exhibited external leakage in either the energized or de-energized state.

As a further part of our investigation we discovered that the written test procedure did not provide explicit instructions to energize the valve during the external leakage portion of the test. For Normally-Closed and Universal valves the solenoid must be energized to pressurize the internal cavity (The internal cavity of the valve is defined by the SBSA, valve body and lower end cap). For Normally-Open valves, the internal cavity is pressurized when de-energized, so they are not affected).

The manufacture of the NP8320 valve series was transferred to Aiken, SC from Florham Park, NJ on October 1, 2009. Interviews with Engineering and test personnel at Aiken indicated that the valves were not energized to pressurize the cavity when conducting the external leakage test. Interviews with Engineering and test personnel at Florham Park indicated that the valves were energized to pressurize the cavity when conducting the external leakage test, even though the test procedure did not specifically require this. ASCO has therefore concluded that NP8320 valves manufactured and shipped from Aiken, SC after the transfer date could be potentially affected, but not the valves produced at Florham Park.

Impact on Performance – ASCO believes that any external leakage caused by a misaligned O-ring would likely be immediately apparent and detectable upon initial installation and operation. This condition does not affect basic operation of the valve and is unlikely to degrade over time.

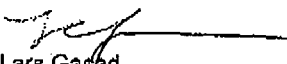
Interim Action – The test procedure for the NP8320 valves has been revised to ensure that any external leakage is detected.

Containment Action – A preliminary report was provided to AREVA (Reference A) on 9/13/2010. There were a total of 174 of this series valves shipped from Aiken, SC since October 1, 2009. 145 of the 174 valves were shipped to AREVA (includes the 92 retested above). 25 valves were shipped to our subsidiary, ASCO ASIA. 4 valves were shipped to Ralph A. Hiller Co. of Export, PA.

Corrective Action – The customers that were shipped affected NP8320 valves are being notified of the potential non-conformance. ASCO will recommend the affected valves be returned to be retested in accordance with the updated test procedure.

If you have any questions, you can contact Bob Arnone at 803-641-9395.

Very Truly Yours,


 Lars Gaçad
 Vice-President Quality
 ASCO Valve, Inc.

10/18/2010

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Region: 1 City: AIKEN County: State: SC	Docket #: Agreement State: Yes License #:
NRC Notified by: ROBERT ARNONE HQ Ops Officer: JOE O'HARA Emergency Class: NON EMERGENCY 10 CFR Section: 21.21 UNSPECIFIED PARAGRAPH	Notifications: VIVIAN CAMPBELL R4DO PART 21 GRP

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