

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
WASHINGTON, D.C. 20555

December 16, 1988

NRC INFORMATION NOTICE NO. 88-97: POTENTIALLY SUBSTANDARD VALVE  
REPLACEMENT PARTS

Addressees:

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose:

This information notice is being provided to alert addressees about reports concerning the manufacture and distribution of valve replacement parts for Masoneilan-Dresser Industries (M-D) valves that were determined not to be genuine M-D parts and possibly are substandard. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

On October 21, 1988, Consumers Power Company (CPCo) submitted a 10 CFR Part 21 report to the NRC regarding valve internals for M-D valves that were found not to be manufactured by an authorized M-D manufacturer. CPCo reported that it had identified approximately 65 questionable valve internals (e.g., valve stems, plugs/discs, cages, seat rings, and retainer pins) after an M-D field service representative pointed out that several valve internal parts for an M-D turbine bypass valve at CPCo's Palisades Nuclear Plant were not genuine M-D parts.

Discussion:

During the 1986 Palisades refueling outage, CPCo sent the subject turbine bypass valve to an M-D authorized facility for refurbishment after experiencing leakage problems with the valve. CPCo also sent to the M-D authorized facility the valve replacement parts since the parts were in-stock items at the Palisades warehouse. After the valve was refurbished and reinstalled, CPCo continued to experience leakage problems with the valve. However, CPCo decided to continue operating with the leakage and to wait until the 1988 refueling outage to resolve the problem.

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During the 1988 refueling outage, CPCo decided to perform the valve refurbishment at the Palisades plant and requested onsite technical support from M-D. During the valve disassembly process, the M-D field service representative pointed out that some of the valve internals had different dimensional and metallurgical characteristics from typical M-D parts. The installed parts had been provided by CPCo and installed in the bypass valve at the authorized M-D facility during the 1986 outage. The M-D representative also identified additional valve internal parts in the Palisades warehouse that he stated were different from typical M-D parts. CPCo believes that all the parts came from the same purchase order. Subsequent CPCo investigations determined that the authorized M-D distributor procured some of the valve parts from manufacturers that are not authorized to make M-D parts.

On November 18, 1988, M-D transmitted a letter to the NRC regarding this issue (Attachment 1) indicating that a potential for malfunction of M-D valves exists if parts manufactured by unauthorized companies are installed.

The 10 CFR Part 21 notification submitted by CPCo, the attached M-D letter, and the NRC staff reviews have brought into question the ability of a valve to perform its safety-related function when internal parts are substandard to the valve manufacturer's authorized replacement parts. Accordingly, addressees may wish to review whether they have an adequate basis for accepting valve replacement parts, especially those purchased for safety-related applications, and to contact the appropriate manufacturers or distributors to confirm the authenticity of any questionable parts.

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact one of the technical contacts listed below or the Regional Administrator of the appropriate regional office.

  
Charles E. Rossi, Director  
Division of Operational Events Assessment  
Office of Nuclear Reactor Regulation

Technical Contacts: Joe Petrosino, NRR  
(301) 492-0979

Jaime Guillen, NRR  
(301) 492-1170

Attachments:

1. Letter to NRC from M-D
2. List of Recently Issued NRC Information Notices

**Masoneilan****DRESSER**

MASONEILAN NORTH AMERICAN OPERATIONS  
85 Bodwell Street • Avon, Massachusetts 02322  
508/586-4600 • Telex: 92-4410

Attachment 1  
IN 88-97  
Page 1 of 2

November 18, 1988

Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Washington, D.C. 20555

Attention: Mr. Brian Grimes  
Director, Division of Reactor  
Inspection and Safe Guards

Subject: 10CFR21 Report Masoneilan Valve Parts Deficiencies  
Docket 50-255 License DPR-20-Palisades

Dear Mr. Grimes:

This letter is to inform the USNRC of the potential for counterfeit Masoneilan parts being supplied to Commercial Nuclear facilities.

On October 21, 1988, a 10CFR21 report was filed to the USNRC by Consumers Power (ref. Docket 50-255, License DPR-20 Palisades Plant). In that report, valve parts purported to be of Masoneilan manufacture were in fact manufactured by unauthorized sources. These counterfeit parts were supplied by an authorized Masoneilan representative in violation of Masoneilan policy and on their own initiative. These parts were not manufactured to Masoneilan standards and the potential for subsequent valve malfunction exists. All identified parts have been segregated and are being replaced.

Because of this unauthorized action, an evaluation must be performed by the plant licensees, to determine if this is an isolated occurrence.

In this case, Non-Q parts procured commercially were dedicated into Q valves. On site service by Masoneilan personnel identified several parts of other than Masoneilan manufacture.

Counterfeit parts identified at this plant were:

- Plug stem
- Stem to plug anti-rotation pin
- Seat ring

~~88-205-0065~~ 2pp.

SUBJECT: 10CFR21 Report Masoneilan Valve Parts Deficiencies

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In addition the potential for additional counterfeit parts exists in the realm of turned machine parts such as:

- Valve plugs
- Bushings
- Cages
- Packing box components

Counterfeit machined parts are often difficult to distinguish from original equipment parts.

An independent investigation by Masoneilan is under way to determine if similar circumstances have occurred with other Masoneilan representative organizations. We are auditing the Manufacturer's representatives with a significant installed base of Masoneilan valves in Nuclear Power facilities in various geographical territories.

Our concern is for the potential of other similar circumstances in Nuclear Power facilities.

Very truly yours,  
MASONEILAN-DRESSER INDUSTRIES

*W.T. Allen*

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W.T. Allen  
Quality Manager  
Masoneilan North American Operations

WTA/mk

cc: L.W. Kinderman  
J.E. Conway  
R. Cameron

LIST OF RECENTLY ISSUED  
 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
88-96	Electrical Shock Fatalities at Nuclear Power Plants	12/14/88	All holders of OLs or CPs for nuclear power reactors.
88-95	Inadequate Procurement Requirements Imposed by Licensees on Vendors	12/8/88	All holders of OLs or CPs for nuclear power reactors.
88-94	Potentially Undersized Valve Actuators	12/2/88	All holders of OLs or CPs for nuclear power reactors.
88-93	Teletherapy Events	12/2/88	All NRC medical licensees.
88-92	Potential for Spent Fuel Pool Draindown	11/22/88	All holders of OLs or CPs for nuclear power reactors.
88-91	Improper Administration and Control of Psychological Tests	11/22/88	All holders of OLs or CPs for nuclear power reactors and all fuel cycle facility licensees who possess, use, import, export, or transport formula quantities of strategic special nuclear material.
88-90	Unauthorized Removal of Industrial Nuclear Gauges	11/22/88	All NRC licensees authorized to possess, use, manufacture, or distribute industrial nuclear gauges.
88-89	Degradation of Kapton Electrical Insulation	11/21/88	All holders of OLs or CPs for nuclear power reactors.
88-88	Degradation of Westinghouse ARD Relays	11/16/88	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License  
 CP = Construction Permit

During the 1988 refueling outage, CPCo decided to perform the valve refurbishment at the Palisades plant and requested onsite technical support from M-D. During the valve disassembly process, the M-D field service representative pointed out that some of the valve internals had different dimensional and metallurgical characteristics from typical M-D parts. The installed parts had been provided by CPCo and installed in the bypass valve at the authorized M-D facility during the 1986 outage. The M-D representative also identified additional valve internal parts in the Palisades warehouse that he stated were different from typical M-D parts. CPCo believes that all the parts came from the same purchase order. Subsequent CPCo investigations determined that the authorized M-D distributor procured some of the valve parts from manufacturers that are not authorized to make M-D parts.

On November 18, 1988, M-D transmitted a letter to the NRC regarding this issue (Attachment 1) indicating that a potential for malfunction of M-D valves exists if parts manufactured by unauthorized companies are installed.

The 10 CFR Part 21 notification submitted by CPCo, the attached M-D letter, and the NRC staff reviews have brought into question the ability of a valve to perform its safety-related function when internal parts are substandard to the valve manufacturer's authorized replacement parts. Accordingly, addressees may wish to review whether they have an adequate basis for accepting valve replacement parts, especially those purchased for safety-related applications, and to contact the appropriate manufacturers or distributors to confirm the authenticity of any questionable parts.

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Attachments:

1. Letter to NRC from M-D
2. List of Recently Issued NRC Information Notices

\*SEE PREVIOUS CONCURRENCES

\*OGCB:DOEA:NRR \*VIB:DRIS:NRR \*C/VIB:DRIS:NRR  
JGuillen JPetrosino WBrach  
12/08/88 12/ /88 12/ /88

~~D/DOEA:NRR~~  
CERossi  
12/12/88  
\*D/DRIS:NRR BKGrimes 12/ /88  
\*C/OGCB:DOEA:NRR  
CHBerlinger 12/9/88  
\*PPMB:ARM  
TechEd 12/ /88

During the valve disassembly process, the M-D field service representative pointed out that the installed valve internals had different dimensional and metallurgical characteristics from typical M-D parts. The installed parts had been provided by CPCo and installed in the bypass valve at the authorized M-D facility during the 1986 outage. The M-D representative also identified additional valve internal parts in the Palisades warehouse, which CPCo believes came from the same purchase order, that the M-D representative stated were different from typical M-D parts. Subsequent CPCo investigations determined that the authorized M-D distributor procured some of the valve parts from manufacturers that are not authorized to make M-D parts.

On November 18, 1988, M-D transmitted a letter to the NRC regarding this issue (Attachment 1) indicating that a potential for malfunction of M-D valves exists if parts manufactured by unauthorized companies are installed.

The 10 CFR Part 21 notification submitted by CPCo, the attached M-D letter, and the NRC staff reviews have brought into question the ability of a valve to perform its safety-related function because of internal parts that may be substandard to the valve manufacturer's authorized replacement parts. Accordingly, addressees may wish to review whether they have an adequate basis for accepting valve replacement internal parts, especially those purchased for safety-related applications, and to contact the appropriate manufacturers or distributors to confirm the authenticity of any questionable parts.

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*W. Hutchinson, OI has reviewed & OK'd. J. Guillen 12/9/88*

*J. Petrosino, W. Brach, E. Baker, B. Grimes re-reviewed package on 12/7 and OK'd change. J. Guillen 12/8/88*

*NPK*

\*SEE PREVIOUS CONCURRENCES

<i>JG</i>					
OGCB/DOEA:NRR	*VIB:DRIS:NRR	*C/VIB:DRIS:NRR	D/DOEA:NRR	C/OGCB:DOEA:NRR	
JGuillen	JPetrosino	WBrach	CERossi	CHBerlinger	
12/8/88	12/ /88	12/ /88	12/ /88	12/9/88	<i>for</i>
			*D/DRIS:NRR	*PPMB:ARM	<i>B Callwe</i>
			BKGrimes	TechEd	
			12/ /88	12/ /88	

During the turbine bypass valve refurbishment, the M-D technician identified dimensional and metallurgical differences in the installed valve trim parts. These installed parts were previously provided by CPCo and installed in the turbine bypass valve at the authorized M-D facility during the 1986 refurbishment. Additionally, the M-D technician identified problems with the other valve trim parts that were to be installed which CPCo believes came from the same purchase order. Subsequent CPCo investigations determined that the authorized M-D distributor procured many of the valve trim components from manufacturers/suppliers that were not authorized by M-D to make the parts. On November 18, 1988, M-D transmitted a letter to the NRC discussing the above issues. The letter identifies a potential for M-D valve malfunction if parts manufactured by unauthorized companies are installed.

Discussion:

The 10 CFR Part 21 Palisades report, subsequent NRC staff reviews and the enclosed M-D letter have brought into question the functionality of valves that have valve-trim components installed that were not manufactured by an authorized company. This issue may not be limited to M-D valves but could include other manufacturer's valves. Accordingly, licensees may wish to review whether they have an adequate basis for accepting the valve trim purchased for safety-related applications.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the technical contact listed below or the Regional Administrator of the appropriate regional office.

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\*SEE PREVIOUS CONCURRENCE PAGE\*

OFC	:VIB:DRIS:NRR	:SC:VIB:DRIS:	:BC:VIB:DRIS	:D:DRIS:NRR	:	:
NAME	:*JPetrosino:nrp	:*EBaker	:EWB	:BGrimes	:	:
DATE	:11/28/88	:11/28/88	:11/29/88	:11/29/88	:	:



During the turbine bypass valve refurbishment, the M-D technician identified dimensional and metallurgical differences in the installed valve trim parts. These installed parts were previously provided by CPCo and installed in the turbine bypass valve at the authorized M-D facility during the 1986 refurbishment. Additionally the M-D technician identified problems with the other valve trim parts that were to be installed which CPCo device came from the same purchase order. Subsequent CPCo investigations determined that the authorized M-D distributor procured many of the valve trim components from manufacturers/suppliers that were not authorized by M-D to make the parts. On November 18, 1988, M-D transmitted a letter to the NRC discussing the above issues. The letter identifies a potential for M-D valve malfunction if parts manufactured by unauthorized companies are installed.

Discussion:

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*As marked*

OFC	:NB:DRIS:NRR	:SC:VIB:DRIS:	:BC:VIB:DRIS	:D:DRIS:NRR	:	:
	11/28/88	ETB				
NAME	*Petrosino:nrp	*EBaker	*EWBrach	BGrimes	:	:
		11/28/88				
DATE	:11/21/88	:11/22/88	:11/25/88	:11/ /88	:	: