Valve Group – Target Rock
Industrial Division
1966E Broadhollow Road
E Farmingdale, NY 11735, USA
T: +1.631.293.3800 | F: +1.631.293.4949
www.cw-industrial.com

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Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-001

Subject: 10 CFR Part 21 Report
Notification of a Defect, [redacted] Modification of a Valve Component and Main Disc Lift Misadjustment

Dear Sir or Madam:

This letter provides notification of potential two defects in 1" and 2" fail closed solenoid operated valve assemblies and associated spare parts supplied by Target Rock (TR).

(i) Name and address of the individual or individuals informing the Commission.

Alex Dimeo
Director of Quality Assurance

Michael Cinque
General Manager

Target Rock, Business Unit of Curtiss-Wright Flow Control Corporation
1966E Broadhollow Road
East Farmingdale, NY 11735

(ii) Identification of the basic component supplied for such facility or such activity within the United States, which may fail to comply, or contains a potential defect.

See Attachment (1) for identification of Bonnet Assembly part numbers and Valve Model Numbers.

(iii) Identification of the firm supplying the basic component, which fails to comply or contains a defect.

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(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

Condition 1 (Modified Fixed Core):

The purpose of the fixed core is to provide the proper amount of magnetic pull force between itself and the plunger when the solenoid coil is energized. The fixed core is installed within the bonnet assembly and "fixed" in place by a "dimpling" process which captures a machined groove on the fixed core. During Assembly & Testing of a TR Solenoid Operated Valve, a fixed core unexpectedly came out of the bonnet assembly. [redacted] In the event a modified fixed core was to dislodge from its location within the bonnet, the specific valve assembly would fail to operate to the open position when the solenoid is energized and would remain in its fail safe closed position.

Condition 2 (Main Disc Lift Misadjustment):

The objective of the disc lift adjustment is to ensure the main disc is in contact with the bonnet base, which provides an "up stop" position while maintaining a minimum clearance between the plunger and the fixed core. Excessive clearance between the plunger and the fixed core reduces the available magnetic force. Conversely, improper adjustment, allowing contact between the plunger and the fixed core, may cause impact damage to the assembly during full pressure/temperature actuation and reduces the maximum flow (Cv) through the valve assembly. It was noted that a disc lift adjustment was not adjusted properly and would reduce the maximum flow.

(v) The date on which the information of such defect or failure to comply was obtained.

Condition 1 (Modified Fixed Core):

[redacted] On December 5, 2019, TR Engineering confirmed the condition.

Condition 2 (Main Disc Lift Misadjustment):

On November 22, 2019, TR Engineering performed a worst case Cv calculation to determine the amount of restricted flow that would result in the event a 1" y-body valve assembly was short stroked. This would reduce the flow of a 1" y-body valve assembly from a rated Cv of 15 to approximately a Cv of 14.

In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

The plant site locations identified in attachment (1) were supplied with valves or spare parts potentially containing these defects.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Condition 1 (Modified Fixed Core):

The discrepant bonnet assembly/fixed core was documented on a NCR (Non Conformance Report) and scrapped. A new bonnet assembly was issued to the valve kit. The valve assembly was reassembled, retested and successfully passed all required production testing. [redacted]

Condition 2 (Main Disc Lift Misadjustment):

The initial valve assembly was readjusted in accordance with the applicable technical manual and solenoid valve adjustment procedure. The valve assembly was re-tested per the applicable production test procedure and successfully passed all required testing. Upon further investigation of valves [redacted] an additional 3 of 10 valve assemblies were verified to have misadjusted main disc lift. The misadjusted valves were readjusted, tested and successfully passed all production testing prior to shipment. [redacted]

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

Condition 1 (Modified Fixed Core):

TR performs production testing on all valve assemblies prior to shipment. TR considers this testing adequate screening to identify this condition at the factory. Satisfactory testing provides reasonable assurance the stated condition does not exist in shipped product.

However, TR recommends un-installed bonnet assemblies and complete valve assemblies be returned to TR for re-inspection. This condition potentially affects valve models and bonnet assemblies detailed in Attachment 1 manufactured between 1/1/2018 and 10/31/2019.

Any installed valves containing these parts should be reviewed and evaluated for history of operational testing anomalies. Many of these installed valves are subject to regular plant testing, such as 10CFR50 Appendix J. Satisfactory performance in this testing will provide reasonable assurance of an acceptable valve condition.

Condition 2 (Main Disc Lift Misadjustment):

All un-installed Valve Assemblies should be checked to determine if a misadjustment of the main disc lift exists. Although the process to check for a misadjusted valve is not difficult, it requires partial valve disassembly. The instructions for proper adjustment are located in the valve specific Technical Manual.

Any 1" Y-body solenoid valve assemblies that have been installed should be reviewed and evaluated by each end user regarding the acceptability of having a lower flow (Cv) rating of 14 in lieu of 15 for the specific system in which they are installed. Any opportunity to disassemble the valve assembly for inspection and readjustment is recommended. This condition potentially affects valve models detailed in Attachment 1 manufactured between 7/1/2015 and 10/31/2019.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

Should you have any questions regarding this matter, please contact Michael Cinque, General Manager at (631) 293-3800

Very Truly Yours,

Michael Cinque
General Manager
Target Rock, Business Unit of Curtiss-Wright Flow Control Corporation

cc: James White
Alex Dimeo
Steve Pauly
Greg Ryan
Nick Campanelli
Walter Opak
John DeBonis

Attachment(s):

1. Attachment 1: List of Locations, Models, Bonnet Assemblies

Attachment # 1

Plant Site Locations

Arkansas Nuclear One	Hope Creek	Shearon Harris
Beaver Valley	Millstone	St. Lucie
Brunswick	Nine Mile Point	South Texas Project
Calvert Cliffs	Oconee	Vogtle
Farley	Palo Verde	Watts Bar
Fitzpatrick	Sequoyah	

Note: Plants not subject to NRC regulation will be notified via separate correspondence

Condition 1 (Modified Fixed Core):

Valve Model Numbers

76HH-001BB	97AA-001-1	15L-016
76HH-007BB	98F-001	15L-022
76P-019	99Q-041	15L-023
77L-001BB	00P-001	15L-025
77L-004BB	00P-002	15L-026
77DD-040BB	03F-004-2	15L-028
79Q-017-1BB	03Q-004-1	15L-029
79Q-018-2	03Q-032	15L-030
79R-001	14E-001	15L-031
79AB-001BB	04H-001-1	15L-036
79AB-004-2	13AB-001	15L-079
80B-001BB	15L-011	15L-080
82AG-001-1BB	15L-012	15L-092
88PP-006BB	15L-015	16E-001
90C-002		

Bonnet Assembly Part Numbers

202412-2	303045-1	303202-1
202412-4	303123-2	303280-2
300571-1	303171-1	303280SV-2
300587-1	303172-1	303318-1
300619-1	303159-1	303864-2

Condition 2 (Main Disc Lift Misadjustment):

Valve Model Numbers

77L-001BB-1	99Q-041	12Q-047
77CC-001BB	00C-001	12Q-049
78E-007BB	03Q-043	12Q-054
79R-001	10Q-032	12Q-055
79AB-001	10Q-051	12Q-058
79AB-001BB	12Q-002	12Q-060
79UU-001BB	12Q-004	15L-012
82AG-004	12Q-007	15L-014
88PP-006BB	12Q-021	15L-052
93Z518-001	12Q-032	15Z508-001
98F-001	12Q-038	