

Nuclear Valve Division

Borg-Warner Corporation
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Mailing Address: P. O. Box 2185, Van Nuys, California • TWX 910-495-1726

BORG WARNER Energy Equipment
RECEIVED
RRC

1984 NOV 23 AM 10:06

November 21, 1984
Refer to: Q-84-327/PLM

REGION V

John B. Martin, Director, Region V
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: 10CFR21 Notification Report #0007

Dear Mr. Martin:

The attached report serves as formal written notification of a hardware problem as required by 10CFR21, which was discovered at Cleveland Electric Company, Perry Nuclear Station Units 1 & 2. This report is filed on the basis of one known safety related application of a deficient valve delivered to Cleveland Electric.

The attached report should be considered preliminary and is being submitted for information only. A formal final report will be submitted when our analysis of the condition is completed and the required corrective action is determined.

If additional information is required, please do not hesitate to contact me.

Very truly yours,

BORG-WARNER CORPORATION
Nuclear Valve Division

P.L. Milinazzo
P.L. Milinazzo
Manager, Quality Assurance

PLM/sa

Attachment

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PDR ADCK 05000440
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Nuclear Valve Division

Borg-Warner Corporation
7500 Tyrone Ave., Van Nuys, California 91409



NOTIFICATION REPORT

**to
Nuclear Regulatory Commission**

| | | | |
|--------------|----------------------------------|---------------------------|---------------------------------------|
| PART NUMBER | <u>81040-2, S/N 54512</u> | N/R No. | <u>0007</u> |
| PART NAME | <u>Gate Valve, 20 Inch, 900#</u> | CUSTOMER | <u>Cleveland Electric Company</u> |
| MANUFACTURER | <u>Nuclear Valve Division</u> | PROJECT | <u>Perry Station, Units 1 & 2</u> |
| | <u>Borg-Warner Corporation</u> | DATE DEFECT DISCOVERED | <u>11/19/84</u> |

**DESCRIPTION OF NONCONFORMANCE, ANALYSIS OF CONDITION, AND CORRECTIVE ACTION
(ATTACH SUPPORTING DATA).**

During the cycling of the above stated gate valve, the valve failed to open completely. Said valve was disassembled and reinspected to determine the cause of failure. The welded in body gate guides were found to be damaged due to galling caused by the gate. This condition was the result of a design error which allowed the guides to be welded in a position which creates a misalignment between the gate and the body guide rails. This condition could potentially exist on a total of ten (10) 20" valves supplied to the Cleveland Electric Illuminating Company by Borg-Warner, Nuclear Valve Division under various part numbers. This condition is isolated only to the 20" gate valves supplied to Cleveland Electric for Perry Nuclear Power Plants 1&2.

During NVD's analysis of said failed valves, it was discovered that a second design problem existed. The fillet weld for welding in the guides to the body is not adequate for any valve which might be subjected to a differential pressure in excess of 600 psi during cycling of the valve. A review of the customer valve data sheets indicates that four (4) valves would be subjected to a differential pressure above the 600 psi range.

Borg-Warner, Nuclear Valve Division, in cooperation with the Cleveland Electric Illuminating Company, is formulating an inspection and corrective action plan to resolve these deficiencies.

**QUANTITY AND LOCATION OF ALL SIMILAR ITEMS DELIVERED WITHIN THE U.S.A. THAT
CONTAIN THE SAME NONCONFORMANCE. NONE**

Peter J. Milenazzo
Manager, Quality Assurance

11/19/84
Date

PART 21 REPORT LOG SHEET

1. Subject of Report - DEFECTIVE VALVES DELIVERED TO CLEVELAND ELECTRIC PERRY SITE

2. Date Verbal Notification Received - 11/21/84 Received By - FAULKNER

3. Date Information Placed in Daily Report - _____

4. Name and Address of Person Providing Verbal Notification

- a) Name - PETE MIBINAZZO, MANAGER OF QUALITY ASSURANCE
- b) Company and Address - NUCLEAR VALVE DIVISION - BOG WAINER
- c) Telephone No. - 818-904-5625

5. Description of Problem - Improper DESIGN & MANUFACTURE OF GATE GUIDES CAUSE GATE TO HANG (LOCK UP) WHEN VALVE IS CYCLED. ALSO INADEQUATE FILLER WELD ON GATE GUIDES IF DIFFERENTIAL PRESSURE ACROSS GATE IS 7600psi.

6. Nuclear Facilities Affected - CLEVELAND ELECTRIC PERRY SITE

7. Date 5-day Written Report Due - 11/26/84 Date Received - 11/23/84

8. Div. Secretary Mail Written Report to HQ's and Other Affected Regions

- a) Date Mailed to HQ's Document Control Desk - 11/23/84
- b) Date Mailed to Other Regions - 11/23/84

9. Generic Issue Data Sheet (TI-2500/3) submitted? Yes No

10. Additional Comments - _____

Part 21 Report Screened by T. Young Jr.
Cognizant Section Chief: T. Young Jr.

Date 11/23/84
Date 11/23/84

Region V Form No. 809
Revised 3/13/84

Attachment 1

IE-19/01

PART 21 REPORT

PETE MILINAZZO
MANAGER, Quality Assurance
Nuclear Valve Division
BOGG WARNER
VAN NUYS, CA.

818-904-5625

TEXT OF REPORT

- INVOLVES VALVES THAT HAS BEEN SENT TO THE CLEVELAND ELECTRIC FERRY SITE (CONSTRUCTION SITE)
- PROBLEM INVOLVES VALVE LOCK-UP DURING CYCLING AS A RESULT OF BINDING (GAULING) OF GATE AGAINST GATE GUIDES.
- PROBLEM IS LIMITED TO 10 OF 14 VALVES THAT HAVE BEEN DELIVERED TO SITE AND INVOLVES ONLY THOSE HAVING WELDED GATE GUIDES.
- PROBLEM IS A DESIGN/MANUFACTURING PROBLEM IN THAT WELDED GATE GUIDES ARE NOT INSTALLED PARALLEL TO GATE AND THUS WHEN GATE IS CLOSED IT BINDS AGAINST GUIDES.
- CLEVELAND ELECTRIC IS AWARE OF PROBLEM AND THEY ARE CURRENTLY WORKING WITH BOGG WARNER IN DEVELOPING A SOLUTION TO PROBLEM.
- ~~GATE BINDING PROBLEM ONLY OCCURS~~ FOR THE 10 VALVES IDENTIFIED IF DIFFERENTIAL PRESSURE ACROSS GATE IS GREATER THAN 600 PSI. ANOTHER PROBLEM COMES INTO PLAY WHICH IS AN UNDER SIZED FILLET WELD USED TO HOLD GATE GUIDES INTO PLACE.

MILINAZZO IS IN PROCESS OF SENDING IN A WR.H. PART 21 REPORT TO REGION V.

Info Taken By B Faulkberry
at 11:00A on 11/21/84