Washington Public Power Supply System

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Docket No. 50-397

September 15, 1983
G02-83-837

Mr. J. B. Martin
Regional Administrator
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2
10CFR50.55(e) REPORTABLE CONDITION #271
ANCHOR DARLING VALVES WITH ANTI ROTATION COLLARS (LPCS-V-12)

Reference: Telecon QA2-83-178, dated July 21, 1983, L.C. Floyd to B. Dodds, same subject.

In accordance with the provisions of 10CFR50.55(e), your office was informed by telephone, of the above subject condition. The attachment provides the Project's revised final report on Condition #271. The corrective action determined to be appropriate for safety related valves will be completed before fuel load with the balance of the valves complete by Commercial Operation.

If there are any questions concerning this matter, please contact Roger Johnson, WNP-2 Project QA Manager, (509) 377-2501, extension 2712.

C. S. Carlisle
Program Director, WNP-2

LCF/kd

Attachment: As stated

cc: W.S. Chin, BPA
N.D. Lewis, EFSEC
A. Toth, NRC Resident Inspector
Document Control Desk, NRC

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR50.55(e) CONDITION #271
ANCHOR DARLING ANTI-ROTATION COLLAR

REVISED FINAL REPORT

Description of Deficiency

During a surveillance run of the low pressure core spray system, it was noted that LPCS-V-12 did not begin to open until approximately 10 seconds after receiving an open signal. Once the valve did move, it was noted that the shaft rotated and there was no upward movement (open) of the valve shaft. An investigation showed that the set screw for the anti rotation collar had backed out and the collar-to-shaft key had vibrated loose allowing the valve shaft to rotate with no open movement of the valve. (see drawing 1)

Safety Implication

LPCS-V-12 is a safety related containment isolation valve, which is required to be operated during a LOCA condition. The potential for LPCS-V-12 to be non-operable during a LOCA is considered to be a significant deficiency and reportable under the provisions of 10CFR50.55(e).

Cause

Inadequate design by the manufacturer, Anchor Darling, in that the valve can become non-operable due to the anti-rotation collar set screw not being properly set.

Corrective Action

Startup Problem Report (SPR) M-2720 has been issued to document the deficiency. The SPR has been dispositioned as follows.

1. For valves subject to heavy vibration a "L" shaped key will be used and the set screw will be staked or Locktite applied.

2. For valves not subject to heavy vibration, the set screw will be staked and Locktite applied.

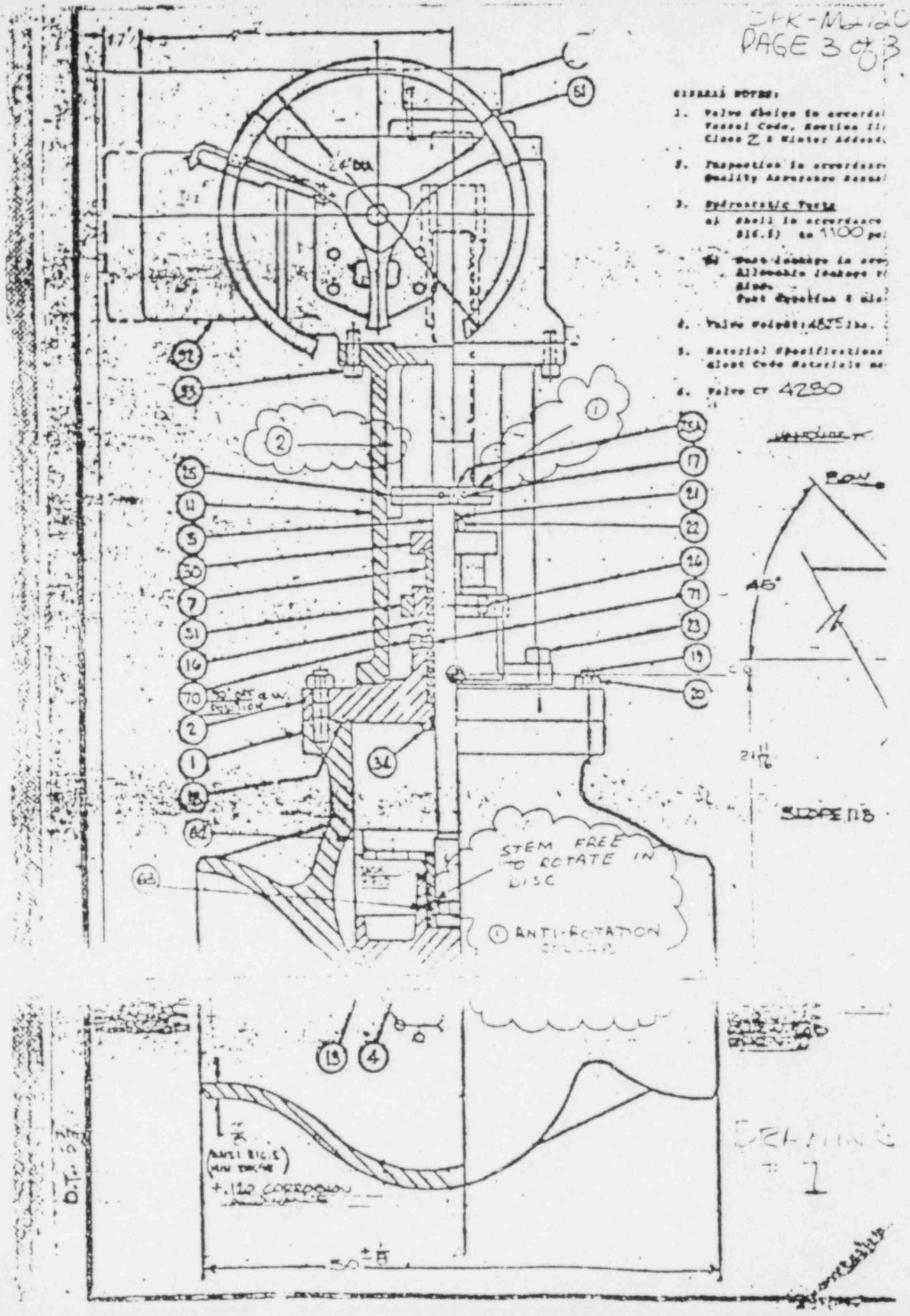
The manufacturer, Anchor Darling, was contacted and they indicated that similar problem have been experienced at both Shoreham and Zimmer. The permanent factory fix by Anchor Darling is to now stake the set screw in place or to use double set screws and apply Locktite 5A.

Safety related valves will be corrected before fuel load with the remaining valves corrected by commercial operation. Similar valves procured from other manufacturers will be reviewed for the same problem and be repaired on the same basis as the Anchor Darling valves.

Action to Prevent Recurrence

A review of all Anchor Darling vavles that use the anti-rotation collar design (4" or larger) has been performed. This review identified 28 valves (including LPCS-V-12) that need the above described corrective action performed to ensure operability. See Table I for a list of valves.

Plant Procedure 10.2.7, Valve Trouble Shooting, Handling and Repair, will contain instructions to ensure that staking or equivalent is reinstalled during a repair operation. Normal system operability surveillance tests, such as surveillance procedure 7.4.7.3.3, RCIC Operability Test, will maintain assurance of reliable valve operation.



GENERAL NOTES:

1. Valve design in accordance Vessel Code, Section III, Class 2 & Winter Addend.
2. Inspection in accordance Quality Assurance Manual
3. Hydrostatic Tests
   a) Shell in accordance SIG.1) to 1100 psi
   b) Seat design in accordance. Allowable leakage rate Size. Post direction & size
4. Valve weight: 4875 lbs.
5. Material Specifications Plant Code Materials as
6. Valve CV 4250

ORDER # 1

TABLE I

EPN	DESCRIPTION	A/DV DWG. NO.
FPC-V-130	10"-150#	2643-3
FPC-V-142	8"-150#	2661-3
FPC-V-144	8"-150#	3003-3
*LPCS-V-12	12"-300#	2647-3
MD-V-72	3"-900#	2650-3
*MS-V-20	3"-900#	2650-3
*RCIC-V-22	6"-900#	2653-3
*RCIC-V-45	4"-900#	2651-3
RHR-V-104	10"-300#	2646-3
*RHR-V-21	18"-300#	2648-3
*RHR-V-23	6"-900#	2654-3
*RHR-V-24A	18"-300#	2648-3
*RHR-V-24B	18"-300#	2648-3
*RHR-V-40	18"-300#	2645-3
*RHR-V-48A	4"-300#	2648-3
*RHR-V-48B	18"-300#	2648-3
*RHR-V-53A	12"-900#	2658-3
*RHR-V-53B	12"-900#	2658-3
*RWCU-V-102	6"-900#	2655-3
RWCU-V-104	6"-900#	2657-3
RWCU-V-31	6"-600#	2649-3
RWCU-V-42	6"-900#	2656-3
RWCU-V-44	6"-600#	2649-3
*SLC-V-1A	4"-150#	2662-3
*SLC-V-1B	4"-150#	2662-3
SW-V-5A	8"300#	3503-3
SW-V-82	8"-150#	2642-3
*HPCS-V-10	10"-900#	1927-3
*HPCS-V-11	10"-900#	1927-3
*HPCS-V-23	12"-900#	1928-3

*Denotes safety related valves