NRC Form 366
(9-4

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Point Beach Nuclear Plant	0 5 0 0 0 3 0 1	1 OF 0 4

TITLE (4)
Potential Loss of Containment Integrity Due to Misadjusted Valve

EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
											None	0 5 0 0 0
1 2	1 9	8 7	8 7	-	0 0 6	-	0 0	0 1	2 7	8 8	None	0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10) 1 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
C. W. Fay, Vice President-Nuclear Power	AREA CODE 4 1 4 2 2 1 - 2 8 1 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	L E	I S V	F 1 1 3 0	No							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On December 19, 1987, during an instrument air system walkdown, the handwheel gag on the instrument air containment isolation valve, IA-3048, was found to be partially engaged such that if the valve were automatically closed, it would not have fully shut. The gag was immediately removed, and the valve was tested to verify operability. The instrument air containment isolation valve is an air-operated valve which closes upon a containment isolation signal. It is in series with a check valve. The check valve did not leak during the testing of IA-3048. The gags on all containment isolation valves were verified to be disengaged, and red locks were placed on them to control their operation administratively. This event occurred because a locknut on the valve gag mechanism became loose and out of position, thus preventing the gag from being completely removed. Total containment leakage was not affected because the in-series check valve did not leak; therefore, there were no adverse safety consequences.

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EVENT DESCRIPTION

On December 19, 1987, during a walkdown of the Unit 2 instrument air system, the gag on instrument air containment isolation valve IA-3048 was found partially engaged such that if the valve closed automatically, it would not have fully shut. Unit 2 was at full power when the problem was discovered. It was determined in subsequent testing that the valve would have remained approximately 25% open. In this position it is estimated that the leak rate for the valve (but not the penetration) would have exceeded the Technical Specification requirement of 0.6 La. The gag was immediately removed, and the in-service test for instrument air containment isolation valves was performed to verify the operability of the valve. This test also verified that the series check valve, IA-36A, did not leak. The total containment leakage was, therefore, not affected by this condition. Additional investigation of the condition revealed that the limit switch for IA-3048 indicated that the valve was closed when it was actually 25% open. This problem was corrected, and the valve was restored to its normal operation.

SYSTEM DESCRIPTIONS

A diagram of the instrument air system showing the affected valves is provided on Figure 1. The valve and air operator is shown on Figure 2, and the gag mechanism is depicted on Figure 3. The function of the air-operated valve, IA-3048, and check valve IA-36A is to provide isolation of the instrument air containment penetration whenever an automatic or manual containment isolation signal is generated.

The subject valve operator is a Fisher Governor air-operated valve operator, Model 667, size 40. This valve has a handwheel gag attached with a gag position locknut. The locknut is intended by the manufacturer to be used to lock the gag in a particular position such that the valve position will not change while on the gag. In the application at Point Beach Nuclear Plant, the gag is only used to open the valve off the seat manually in an emergency or for maintenance. The locknut is usually not moved to a position different than that which will allow the valve to fully close.

When air is applied to this valve operator during normal operation, the valve is held fully open and the gag has no effect on the valve. A close signal to the solenoid valves controlling the air supply to the Fisher valve operator will bleed off the air pressure from the diaphragm, and the valve will be closed by the operator's closing spring. If the locknut is loose or becomes loose during valve operation, the handwheel can actually back out and subsequently limit the closing motion of the valve, resulting in a partially open valve.

GENERIC IMPLICATIONS

The instrument air penetration is the only application where the Fisher Governor air-operated valve is used for valves providing containment isolation.

REPORTABILITY

This Licensee Event Report is provided pursuant to 10 CFR 50.73(a)(2)(i)(B). "The licensee shall report any operation or condition prohibited by the plant's Technical Specifications." In this case it is believed that the subject valve had a leak rate in excess of 0.6 La which is not in accordance with the acceptance criterion for Type "C" testing under Technical Specification 15.4.4.III.B, "Type 'C' tests acceptance criterion."

The Energy Industry Identification System component function identifier for the air-operated instrument air isolation valve is ISV, and system identifier for the instrument air system at Point Beach Nuclear Plant is LE.

CAUSE

Special Maintenance Procedure 810 for installation of instrument air flow meters was accomplished using the gag to hold open IA-3048. This procedure was completed on November 6, 1987. It is theorized that the use of the gag may have loosened the locknut.

A successful leak test for this valve was performed on November 6, 1987, in accordance with Operations Refueling Test 48. This confirms that the gag was not mispositioned on this date.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The last stroke test for this valve occurred on November 11, 1987, as required by Special Maintenance Procedure 836, which installed new wire connectors for the valve's position indication. A search of Point Beach Nuclear Plant maintenance records for IA-3048 indicates no other work on this valve or its operator between November 11, 1987 and the discovery of the gag misposition on December 19, 1987.

We believe that it is possible that the loose gag handwheel locknut found on IA-3048 could have allowed the handwheel to move, which stopped the closing action of the valve at the 25% open position.

SAFETY ASSESSMENT

A test was performed after valve IA-3048 was realigned. Part of the test included a step which verified the integrity of the check valve, IA-36A, in series with IA-3048. The test showed that the check valve did not leak. It was, therefore, concluded that neither the individual penetration nor the total containment leakage was affected by this condition.

This condition could have occurred during a design basis accident; however, the accident containment pressure (less than 60 psig) applied to the penetration would have been less than the instrument air header pressure (greater than 90 psig) during the test. Either the pressure differential itself or the check valve would, therefore, have effectively performed the function of isolating the containment at this penetration.

It can, therefore, be concluded that the safety of the plant, its employes, and the general public were not affected by this condition.

CORRECTIVE ACTIONS

The immediate corrective action was to return the gag to its normal position and torque the locknut against the handwheel so it cannot limit the gag removal. All other air-operated containment isolation valves were inspected to verify that no gags were partially engaged, and administrative controls (red locks) were placed on the gags. Other safety-related valves of this type outside containment were also inspected to verify, where required, that no gags were partially engaged. The locknuts on the instrument air isolation valves will be removed to prevent recurrence of this problem in the future.

SIMILAR OCCURRENCES

No occurrences of this type are known to have happened at Point Beach Nuclear Plant in the past.

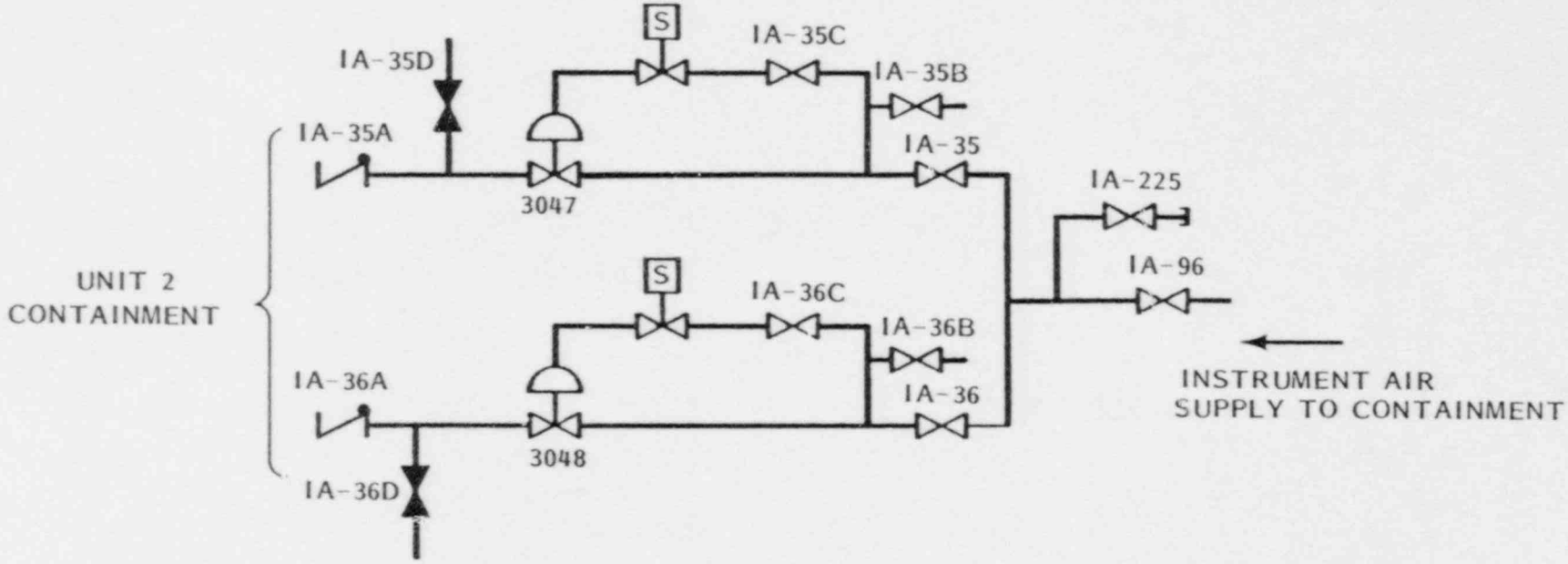

Figure 1: INSTRUMENT AIR CONTAINMENT PENETRATION

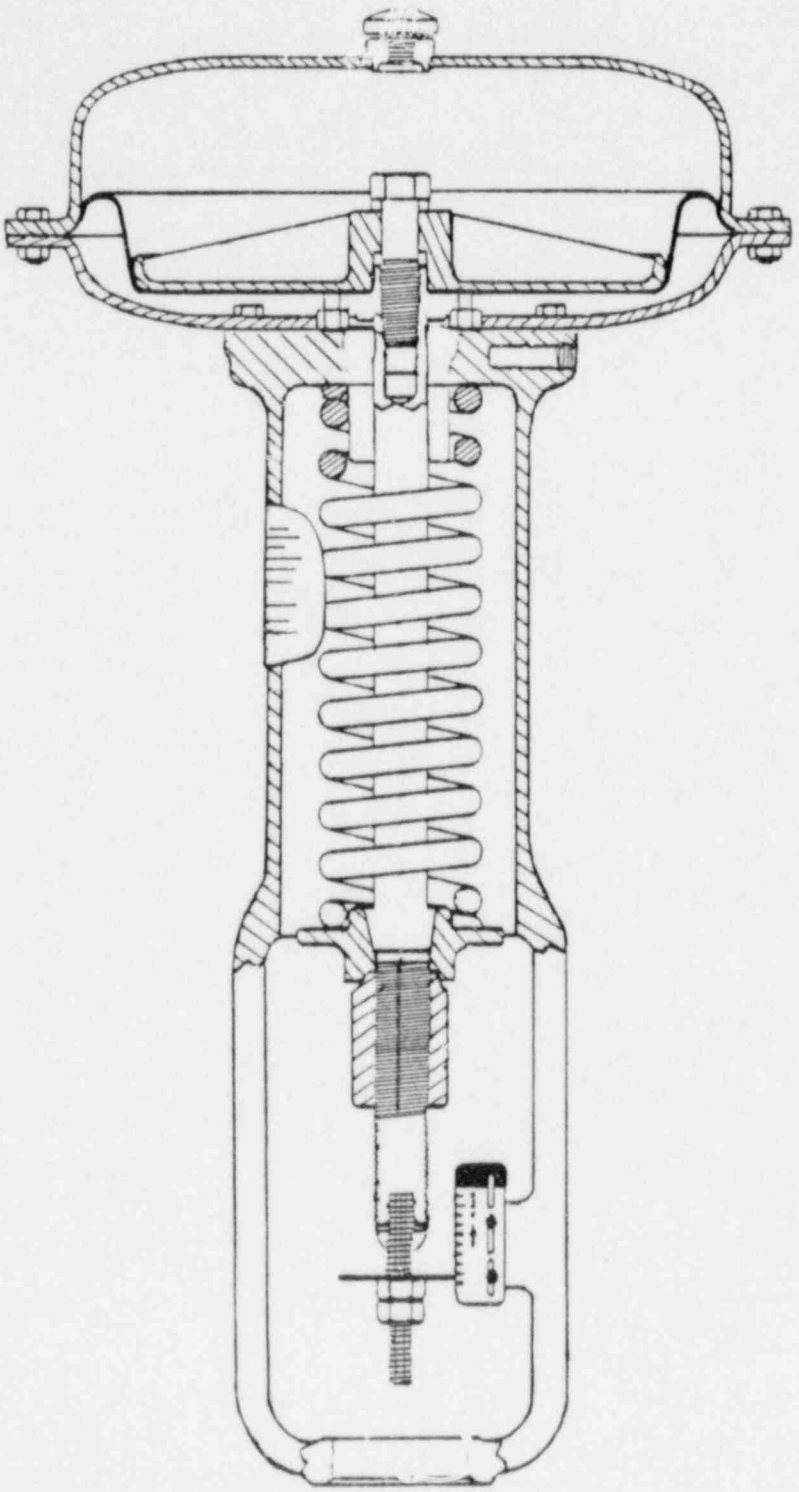

Figure 2: TYPE 667 ACTUATOR SIZES 30 THROUGH 60

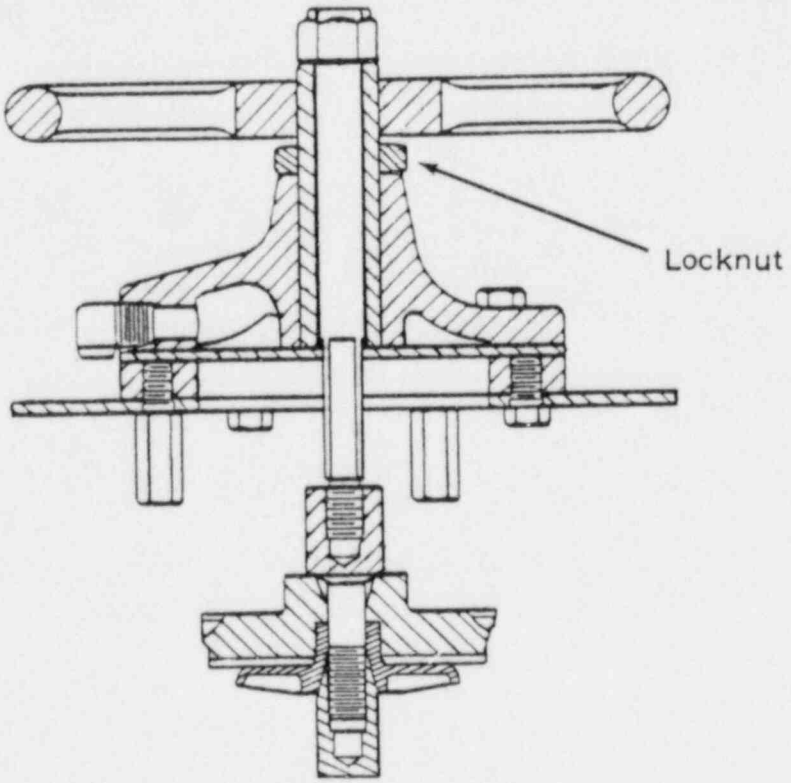

Figure 3: TOP MOUNTED HANDWHEEL ASSEMBLY
FOR SIZE 30 THROUGH 60 ACTUATORS

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NRC-88-011

10 CFR 50.73

January 27, 1988

U. S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Washington, D. C. 20555

Gentlemen:

DOCKET 50-301
LICENSEE EVENT REPORT 87-006-00
POTENTIAL LOSS OF CONTAINMENT INTEGRITY
DUE TO MISADJUSTED VALVE
POINT BEACH NUCLEAR PLANT, UNIT 2

Enclosed is Licensee Event Report 87-006-00 for Point Beach Nuclear Plant, Unit 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(i). The report describes a mispositioned containment isolation valve in an instrument air line due to a loose locknut on the valve gag mechanism. The in-series check valve was verified to be leak tight. There were, therefore, no potential adverse safety consequences.

This condition was discovered during a system walkdown and was immediately corrected. A Non-Conformance Report (NCR) was written, and reportability was discussed by the management staff; however, the NCR, which served as a tickler for initiating the LER, was delayed in our internal mail, due in part to the holidays and attendant vacations. We apologize for the unintentional delay in filing this report and have discussed it with the Resident Inspector.

Please feel free to contact us if you require any additional information.

Very truly yours,

C. W. Fay
Vice President
Nuclear Power

Enclosure

Copies to NRC Resident Inspector
NRC Regional Administrator, Region III

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