



Point Beach Nuclear Plant  
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(920) 755-2321

NPL 99-0741

December 20, 1999

10 CFR 50.73

Document Control Desk  
U.S. NUCLEAR REGULATORY COMMISSION  
Mail Station P1-137  
Washington, D.C. 20555

Ladies/Gentlemen:

DOCKET NO. 50-301

LICENSEE EVENT REPORT 301/1999-004-00

FAILURE TO ENTER CONTAINMENT PENETRATION LCO

CONSTITUTES A CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS

POINT BEACH NUCLEAR PLANT UNIT 2

Enclosed is Licensee Event Report 1999-004-00 for Point Beach Nuclear Plant, Unit 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(i)(B), as "Any operation or condition prohibited by the plant's Technical Specifications." This report describes a condition identified in July 1999 involving a leaking valve associated with a containment penetration and the licensee's failure to identify this valve as a containment isolation valve and complete the actions required by the Limiting Condition for Operation for containment isolation valves.

A new commitment within the corrective actions section of this report is indicated with *italics*.

Please contact us if you require additional information concerning this report.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. J. Cayia'. Below the signature, there is a small sketch of a hand holding a pen or pencil.

A. J. Cayia  
Manager,  
Regulatory Services & Licensing

Enclosure

CWK/tat

IE22

cc:      NRC Resident Inspector  
          NRC Regional Administrator  
          NRC Project Manager

PSCW  
INPO Support Services

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1) Point Beach Nuclear Plant, Unit 2	DOCKET NUMBER (2) 05000301	PAGE (3) 1 of 5
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**TITLE (4)**

Failure to Enter Containment Penetration LCO Constitutes a Condition Prohibited By Technical Specifications

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 NAME	DOCKET NUMBER
07	21	1999	1999	- 004	- 00	12	20	1999	FACILITY NAME	DOCKET NUMBER 05000
<b>OPERATING MODE (9)</b> N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
<b>POWER LEVEL (10)</b> 100		20.2201(b)		20.2203(a)(2)(v)		X	50.73(a)(2)(i)		50.73(a)(2)(viii)	
		20.2203(a)(1)		20.2203(a)(3)(i)			50.73(a)(2)(ii)		50.73(a)(2)(x)	
		20.2203(a)(2)(i)		20.2203(a)(3)(ii)			50.73(a)(2)(iii)		73.71	
		20.2203(a)(2)(ii)		20.2203(a)(4)			50.73(a)(2)(iv)		OTHER	
		20.2203(a)(2)(iii)		50.36(c)(1)			50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
		20.2203(a)(2)(iv)		50.36(c)(2)			50.73(a)(2)(vii)			

**LICENSEE CONTACT FOR THIS LER (12)**

NAME Charles Wm. Krause, Senior Regulatory Compliance Engineer	TELEPHONE NUMBER (Include Area Code) (920) 755-6809
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

**SUPPLEMENTAL REPORT EXPECTED (14)**

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

This event discusses the discovery that valve 2CV-133, the RHR to Letdown Isolation Valve, was leaking by while in the shut position and causing the containment penetration P-8 flow path to be pressurized. The licensee initially evaluated this event as not reportable on the basis that, although the valve is designated in an FSAR figure as a containment isolation valve (CIV), the FSAR was in error since this valve did not satisfy the definition of a CIV as found in the TS bases. We therefore concluded that the LCOs for containment penetrations in TS 15.3.6 were not applicable. The NRC subsequently reviewed this evaluation and concluded that a TS violation did occur because the licensee failed to recognize the containment integrity function of the valve as described in the FSAR. Accordingly, we are now reporting that this failure to enter into the action statements of TS LCO 15.3.6.A.1.b.(2) when valve 2CV-133 was identified as the source of leakage between the RHR and CVCS constituted operation or a condition prohibited by the plant's Technical Specifications and is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant, Unit 2	05000301	1999	- 004	- 00	2 OF 5

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

**Event Description:**

On July 18, 1999, while taking the mid shift log readings, a Point Beach Nuclear Plant (PBNP) Control Operator noticed that pressure indicator 2PI-628, discharge pressure for the "A" train Residual Heat Removal (RHR) pump (2P-10A) was indicating 262 psig. PBNP Unit 2 was operating at full power at the time of this observation. Under normal conditions this pressure indicator reads approximately 25 psig. The control board pressure indication was confirmed with local indication and preliminary investigations were conducted to identify the source of the pressure increase during the shift. A condition report was written (CR 99-1798) and system engineering personnel were contacted to develop a work plan to identify the source of the pressure increase. Since the observed pressure was approximately the same as the Chemical and Volume Control System (CVCS) letdown pressure, a leak past valve 2CV-133, the RHR to Letdown Isolation Valve, which indicated shut, was suspected. Valve 2CV-133 is a two inch, normally closed, air operated globe valve. On July 21, 1999, a work plan was initiated to positively identify the source of the cross system leakage. Although the valve indicated shut, there was air pressure on the operator which apparently reduced the closing pressure on the valve plug resulting in slight leakage past the valve. During the work plan activities, the valve was stroked and then the air pressure to the valve operator was isolated. The RHR system pressure was then relieved. The RHR pressure remained at the expected value for the plant operating conditions. The air to the 2CV-133 was left secured with the valve shut pending development of an appropriate repair procedure and the valve was declared out of service. During the execution of the July 21 work plan, the plant entered a 72 hour LCO from 0930 to 0950 in accordance with TS 15.3.3.A.3 for the "A" train of RHR inoperable while valve 2CV-133 was open.

On July 26, 1999, at 1025, the plant again entered a 72 hour LCO per TS 15.3.3.A.3 to permit repair of the 2CV-133 valve operator. Repairs were completed in accordance with an approved work order and included replacement of an I/P transducer and recalibration of the valve control system. Following these repairs, the valve was stroked and tested and the RHR system depressurized to verify no further leakage.

During this repair activity, at 1545 a concern was identified that the provisions of TS LCO 15.3.6.A.1.b.(2) should have been applicable while the 2CV-133 valve was out of service. This LCO is applicable to containment isolation valves and specifically for penetration flow paths with one containment isolation valve and a closed system. (The RHR system is a closed system outside containment.) This LCO directs:

- (2) For penetration flow paths with one containment isolation valve and a closed system and
  - (a) one containment isolation valve inoperable:
    - (i) isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within four hours, AND
    - (ii) verify the affected penetration flow path is isolated;
      - once every 31 days for isolation devices outside containment, AND
      - prior to exceeding 200 °F, if not performed within the previous 92 days, for isolation devices inside containment.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant, Unit 2	05000301	1999	- 004 -	00	3 OF 5

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

This LCO was entered at 1545 and subsequently exited at 1605 when valve 2CV-133 was declared returned to service with no indication of valve leakage. A new condition report (CR 99-1850) was also written to evaluate whether the containment penetration LCO should have been applied to the valve during the time that the valve was suspected to be leaking by and therefore not providing a containment isolation function. This question was raised due to the identification of the 2CV-133 valve as a containment isolation valve in the FSAR (Figure 5.2-8).

**REPORTABILITY:**

The question of TS 15.3.6.1.A.(b) LCO applicability was evaluated by regulatory compliance and design basis engineering personnel. The basis for this LCO provides the following explanation of what constitutes a "containment isolation valve." That basis states on Page 15.3.6-10 of the TS:

"The containment isolation valves form part of the containment pressure boundary and provide non-essential (i.e., not required to mitigate the consequences of an accident) fluid penetrations with two isolation barriers that are closed on a containment isolation signal. These isolation barriers are either passive or active (automatic)".

We concluded; therefore, that containment isolation valves (CIV) are containment pressure boundary barriers associated with non-essential fluid penetrations, that is, penetrations associated with systems not required to mitigate the consequences of an accident. This basis definition was also found to be consistent with the bases for the NRC standardized TS as presented on Page B 3.6-29 of NUREG 1431 Revision 1.

The valve in question, 2CV-133, is one of the containment pressure boundary valves associated with containment penetration P-8. That penetration is the fluid piping penetration for the RHR system line to the Loop B RCS cold leg. The RHR system is required to mitigate the consequences of an accident and therefore P-8 is considered to be an essential containment penetration. Accordingly, the licensee's regulatory compliance staff concluded that the containment barrier , or pressure boundary, valves associated with this penetration, including CV-133, are not CIVs and the provisions of the LCO TS 15.3.6.A.1.b(2) would not be applicable to that valve or this condition report. The review of this event further identified that the licensee's Design Basis Determination Group was in the process of finalizing a containment isolation design basis document (DBD) which provides the technical reasons that CV-133 (and other similar valves associated with closed system inside or outside containment) are incorrectly identified in the FSAR as CIVs, and should instead be designated as containment pressure boundary valves.

This evaluation was documented by the licensee in a memo dated August 10, 1999, and the conclusion that the provisions of TS LCO 15.3.6.A.1.b(2) were not applicable to this event was conveyed to the NRC resident inspector. In NRC Inspection Report 50-301/99013 dated September 29, 1999, the licensee's position on this issue was identified as an unresolved issue pending further review by the inspectors. We were subsequently informed in NRC Inspection Report 50-301/99016 dated November 17, 1999: "The inspectors concluded that the licensee violated T/SS when the flow path through a leaking containment isolation valve was not isolated within the specified time limit. This failure occurred because operators did not recognize the valve's containment

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant, Unit 2	05000301	1999	- 004	- 00	4 OF 5

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

integrity function, as described in the FSAR." Accordingly, we are now reporting that our failure to enter into the action statements of TS LCO 15.3.6.A.1.b.(2) when valve 2CV-133 was identified as the source of leakage between the RHR and CVCS system and declared inoperable constituted operation or a condition prohibited by the plant's Technical Specifications and is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).

### **Cause:**

The cause of the valve leakage was determined to be a faulty I/P transducer in the valve controller which resulted in a slight air leakage to the valve operator and caused the valve to drift off its shut seat.

The delay in submittal of this licensee event report was due to the licensee's interpretation of the TS basis that the subject valve did not meet the definition of a CIV. Based on the NRC review of this interpretation and their conclusion that until the FSAR is revised in accordance with approved procedures, the identification of this valve as a CIV is appropriate and TS 15.3.6.1.A.(b) applies to CV-133.

### **Corrective Actions:**

1. The valve controller was repaired and the valve was stroked and shut. The absence of a pressure increase on 2PI-628 provided assurance that the valve was no longer leaking by.
2. A FSAR change will be prepared and evaluated in accordance with 10 CFR 50.59 to remove the CIV designation of the CV-133 valves and similar valves associated with closed systems, and instead designate such valves as containment barriers.

### **Component and System Description:**

The function of the CV-133 valve is to permit let down flow from the RHR system to the CVCS when the unit is shutdown and on RHR cooling. This flow path permits a portion of the RHR cooling flow to be diverted for purification. During normal power operations the RHR system is not in service and CV-133 is shut.

### **Safety Assessment:**

Although the LCO action statement of TS 15.3.6.A.1.b(2) was not specifically entered when valve 2CV-133 was determined to be in-operable, the action taken at that time to stroke the valve, remove the operative air to the valve controller, verify the valve shut and leak tight, and declare the valve out of service was consistent with the action statements of the LCO. Furthermore, we believe there is an acceptable technical basis for not including the CV-133 valves as containment isolation valves because they are associated with a closed system which acts as a passive barrier. That closed system; therefore, is an adequate containment barrier under the single failure criterion without the need for a redundant barrier in penetration P-8. Accordingly, the health and safety of the public and plant staff was not impacted by this event.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant, Unit 2	05000301	1999	- 004	- 00	5 OF 5

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

**System and Component Identifiers:**

The Energy Industry Identification System component function identifier for each component/system referred to in this report are as follows:

<u>Component/System</u>	<u>Identifier</u>
Chemical and Volume Control System	CB
Residual Heat Removal System	BP
Service Air System	LF
Containment Leakage Control System	BD
Pressure Indicator	PI
Isolation Valve	ISV
Transducer	TD
Pump	P
Control Operator, Pressure	PCO

**Similar Occurrences:**

A review of recent LERs over the past three years identified the following similar events involving containment penetrations::

<u>LER NUMBER</u>	<u>Title</u>
266/97-003-00	Spare Containment Penetrations Not Leak Tested In Accordance With Tech Specs
266/98-018-00	Missed Surveillances For Appendix J Testing Of Containment Electrical Penetrations