

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
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NUCLEAR REGULATORY COMMISSION, WASHINGTON,
DC 20555-0001, AND TO THE PAPERWORK REDUCTION
PROJECT

FACILITY NAME (1)

Point Beach Nuclear Plant, Unit 1

DOCKET NUMBER (2)

05000266

PAGE (3)

1 OF 4

TITLE (4)

NON-ENVIRONMENTALLY QUALIFIED MATERIAL IN CONTAINMENT HATCH APPLICATIONS

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
05	21	97	97	-- 027	-- 00	06	19	97	PBNP Unit 2	05000301
									FACILITY NAME	DOCKET NUMBER
										05000
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
			20.2201(b)			20.2203(a)(2)(v)			50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)		000	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)		X	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

Thomas G. Malanowski, Senior Project Engineer

TELEPHONE NUMBER (Include Area Code)

(414) 221-3950

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES

(If yes, complete EXPECTED SUBMISSION DATE).

X

NO

EXPECTED
SUBMISSION
DATE (15)

MONTH

DAY

YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

As a result of a review of operating experience information from another utility for applicability to the Point Beach Nuclear Plant, it was determined that the pressure equalizing valves in the containment personnel hatches utilized a Telfon material in various applications which is not qualified for the worst case post-accident radiation environment. In addition, packing material associated with a small window in the containment hatch doors is also believed to contain Telfon. Unit 1 is presently being maintained in cold shutdown. Unit 2 is presently being refueled. Under the present conditions, containment integrity is not required for either unit. The valves and windows will be replaced or modified to replace the Telfon with a suitable material prior to containment integrity being required.

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

Event Description:

Point Beach Nuclear Plant, Unit 1 is presently being maintained in cold shutdown. Unit 2 is being refueled. During review of operating experience information from another utility, it was determined that the pressure equalizing ball valves utilized Telfon in various applications. This material is not qualified for use in the worst case post-accident radiation environment.

INPO Nuclear Network item OE 8390 reported that the shaft seal assemblies on valves used in the containment access hatch systems at the Ginna Station have Telfon packing. An evaluation at Ginna concluded that the inner door seals could be subjected to radiation levels that could cause the seal to fail.

A review of containment personnel hatch design at the Point Beach Nuclear Plant was performed. It has been determined that the pressure equalizing ball valves used on the upper and lower containment personnel access hatches utilize Telfon in various applications.

The inner valves are shielded from containment by 3/4" steel. In addition, the outer door on upper personnel access is shielded by a lead bulkhead, reducing the exposure to the outer boundary.

In addition, based upon discussions with the manufacturer it has been determined that there is a high likelihood that the material utilized to seal a small window in the hatch doors also contains Telfon.

The radiation threshold for Telfon is 10E4 to 10E5 rads. The predicted radiation levels in containment following the design basis loss of coolant accident as documented in the Final Safety Analysis Report are approximately 1.5E8 rads. The Telfon material is likely to degrade to an unacceptable degree in the post-accident radiation environment.

Degradation of the Telfon material in the existing applications in the post-accident containment radiation environment, could result in a direct pathway for leakage of containment atmosphere to the environment.

Safety Assessment

This condition may impact the ability of the hatches, particularly of the

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inner door, to perform their safety function. The upper hatches are equipped with a lead bulkhead and door which would reduce the radiation exposure to the outer door components. The lower hatches are not shielded. Under worst case post-accident conditions, the Telfon material could degrade such that a direct leakage pathway from the containment atmosphere to the environment is created.

Cause

The cause of this event has been determined to be an inadequate original design review in that the environmental conditions were apparently not considered when selecting the Telfon material for use in these applications.

Component and System Description:

The Point Beach Nuclear Plant primary reactor containment structures are designed and constructed with two containment personnel access hatches. Each personnel access hatch is a double door (airlock), welded steel assembly. The airlocks are designed to withstand all containment design conditions with either or both doors locked closed. Both doors open toward the interior of the containment and are therefore sealed under containment pressure. The volume between the doors is pressurized to test for leak tightness. Quick-acting type equalizing valves are provided to connect the personnel lock with the interior and exterior of the containment vessel for the purposes of equalizing pressure when entering or leaving containment. The doors and valves are interlocked to prevent both doors and/or both valves from being opened simultaneously during periods when containment integrity is required.

The pressure equalizing ball valves are two-inch, full port WKM Dyna Seal valves. The valves contain Telfon seats, stem gaskets, seat cup, tail piece gasket and packing.

The containment hatch windows are original construction and were manufactured by PresSure Products Company.

Corrective Actions

A review was performed of the component instruction manuals, drawings and CHAMPS to identify possible uses of Telfon in PBNP hatches. The review

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found the above use of Telfon.

Modifications will be performed to remove the existing Telfon material and replace it with material qualified for the post-accident radiation environment.

Appropriate leak rate testing will be performed following modifications to ensure the integrity of the containment boundary.

These actions will be completed prior to establishing conditions that require containment integrity.

A root cause evaluation is being completed. Additional corrective actions will be taken as determined appropriate from recommendations contained in the root cause evaluation.

Reportability

This condition is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

Similar Occurrences

None.

EIIS System and Component Identifiers

Valve, Isolation ISV