

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 5

TITLE (4)

Technical Specification Violation of Operability Requirement for Main
Steam Line Isolation

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	-- 026 --	00	06	19	97	Unit 2	05000301		
									FACILITY NAME	DOCKET NUMBER		
										05000		
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)										
N		20.2201(b)			20.2203(a)(2)(v)			X	50.73(a)(2)(i)	50.73(a)(2)(viii)		
POWER LEVEL (10)		000			20.2203(a)(1)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)	50.73(a)(2)(x)
					20.2203(a)(2)(i)			20.2203(a)(3)(iii)			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

Curtis A. Castell

TELEPHONE NUMBER (Include Area Code)

(414) 221-2019

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)

On May 21, 1997, while PBNP Unit 1 was in a cold shutdown condition and Unit 2 was in a defueled condition, it was discovered that operability of the reactor coolant system average temperature instrumentation input to the main steam line isolation function was not being maintained in accordance with Technical Specification operability requirements. It has been concluded that the Technical Specification was violated each time either unit was above cold shutdown conditions with scaling resistors in place and the low reactor coolant system average temperature input to main steam line was not in the trip condition. This condition was caused by insufficient or inadequate consideration for operability of all required functions that rely on this input. The low reactor coolant system average temperature input to main steam line will be verified to be in the trip condition prior to leaving the cold shutdown condition when the scaling resistors are in place. It has been concluded that this situation did not diminish the safety of the public, plant personnel, or integrity of safety barriers in place at PBNP at any time.

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 1	05000266	97	026	00	2 OF 5

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

Event Description:

On May 21, 1997, while Point Beach Nuclear Plant (PBNP) Unit 1 was in a cold shutdown condition and Unit 2 was in a defueled condition, it was discovered that operability of the reactor coolant system average temperature instrumentation input to the main steam line isolation function was not being maintained in accordance with Technical Specification Table 15.3.5-4 item 2.b operability requirements. It has been standard practice at PBNP to install scaling resistors in the average temperature instrumentation to allow average temperature to be maintained on scale. The scale on average temperature is 540 to 615°F. The scaling resistors replace the function of the resistance temperature devices in the reactor coolant system. The scaling resistors cause the reactor coolant system average temperature instrumentation to be maintained at about 570°F.

The scaling resistors are normally installed after cold shutdown is established. The resistors are normally removed at about 540°F. Technical Specification Table 15.3.5-4 item 2.b provides operability requirements for main steam line isolation on hi steam flow coincident with low reactor coolant system average temperature and safety injection. This Technical Specification for the low reactor coolant system average temperature input states that the affected unit must be placed in hot shutdown within 8 hours and cold shutdown within 24 hours if the operability requirement is not met. Therefore, it has been concluded that the operability requirement for this input was violated, each time either unit was above cold shutdown conditions with the scaling resistors in place and the low reactor coolant system average temperature input to main steam line not in the trip condition.

The practice of installing the scaling resistors was instituted about 25 years ago to improve the configuration of the circuitry during long periods of shutdown by maintaining the circuitry consistent with its normal operating range.

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 1	05000266	97	026	00	3 OF 5

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

Cause:

This condition was caused by insufficient or inadequate consideration for operability of all required functions that rely on this input.

Corrective Actions:

Appropriate procedure changes will be implemented to verify that the low reactor coolant system average temperature input to main steam line is placed in the trip condition prior to leaving the cold shutdown condition when the scaling resistors are in place. This will ensure the Technical Specification operability requirements for the main steam line isolation on hi steam flow coincident with low reactor coolant system average temperature and safety injection will be met.

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

Reportability:

This Licensee Event Report is being submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications."

Component and System Description:

The main steam line isolation function causes a closure signal for the main steam isolation valves (MS-2017 and MS-2018). The Technical Specifications provide the operability requirements for the inputs to this isolation function as follows: (a) Hi Hi Steam Flow with Safety Injection, (b) Hi Steam Flow and Low Tavg with Safety Injection, (c) Hi Containment Pressure, and (d) Manual. The condition described in this report caused the Hi Steam Flow and Low Tavg with Safety Injection isolation signal to be inoperable prior to removal of the scaling resistors. The purpose of the steam line isolation function as described in the PBNP FSAR in section 14.2.5 states, "Each steam line has a fast closing isolation valve and a check valve. These four valves prevent blowdown of more than one steam generator for any break location even if one valve fails to close."

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 1	05000266	97	026	00	4 OF 5

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

Safety Assessment:

The main purpose of the main steam line isolation signal is to mitigate a steam line rupture or rapid cooldown of the reactor coolant system by closure of the main steam line isolation valves. The Hi Hi Steam Flow with Safety Injection isolation function is intended to cause isolation for relatively high steam flow rates (4×10^6 lb/hr). The Hi Steam Flow and Low Tavq with Safety Injection is intended to cause isolation for relatively low steam flow rates (0.66×10^6 lb/hr). If a steam line rupture or rapid cooldown occurred during the time the scaling resistors were in place and the low Tavq input was not in trip, then manual steam line isolation may have been needed to prevent blowdown of both steam generators.

At lower initial reactor coolant system temperatures than used in the FSAR section 14.2.5 "Rupture of a Steam Pipe" analysis, which is based on an initial reactor coolant system temperature of 547°F, the cooldown and hence the reactivity insertion would be less. This reduces the chances that a return to criticality could occur for this accident. Even if a return to criticality occurred it is likely that it would not be as severe as the limiting transients that have been analyzed and presented in the FSAR Chapter 14. Therefore, the inoperability of Hi Steam Flow and Low Tavq with Safety Injection input to the steam line isolation function between hot and cold shutdown conditions did not diminish the safety of the public, plant personnel, or integrity of safety barriers in place at PBNP at any time.

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>
Main Steam Isolation Valve	ISV
Main Steam System	SB
Reactor Coolant System	AB
High Pressure Safety injection System	BQ

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

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Point Beach Nuclear Plant, Unit 1	05000266	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	5 OF 5
		97	- 026	- 00	

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Similar Occurrences:

A search of previously submitted licensee event reports similar to this situation for PBNP was conducted. The specific criterion used was based on a search for licensee event reports that were submitted due to reconfiguration of instrumentation not being adequately evaluated which resulted in a Technical Specification violation. No similar occurrences were identified.