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NPL 97-0327

June 5, 1997

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

Gentlemen:

DOCKET 50-266 AND 50-301
LICENSEE EVENT REPORT 97-023-00
NONCOMPLIANT EMERGENCY LIGHTING
FOR POSTULATED APPENDIX R FIRES
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Enclosed is Licensee Event Report 97-023-00 for Point Beach Nuclear Plant, Units 1 and 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(ii)(B), "A condition that was outside the design basis of the plant." This report describes the discovery by our Appendix R Rebaselining Project team that PBNP does not comply with the emergency lighting requirements of 10 CFR 50 Appendix R Section III.J for certain exterior plant buildings that require access for certain Appendix R fire scenarios.

If you require additional information, please contact us.

Sincerely,

Thomas G. Malanowski
for

Douglas F. Johnson
Manager,
Regulatory Services and Licensing

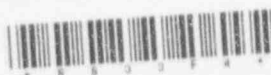
GDA/kmc

Enclosure

cc: NRC Resident Inspector
NRC Regional Administrator

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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 PAPER/WORK REDUCTION PROJECT

FACILITY NAME (1) Point Beach Nuclear Plant, Unit 1										DOCKET NUMBER (2) 05000266		PAGE (3) 1 OF 5		
TITLE (4) Noncompliant Emergency Lighting For Postulated Appendix R Fires														
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	08	97	97	-- 023 --	00	06	05	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 5: (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)		X 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				
				20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		or in NRC Form 366A				
LICENSEE CONTACT FOR THIS LER (12)														
NAME Glenn D. Adams, Licensing Engineer										TELEPHONE NUMBER (Include Area Code) (414) 221-4691				
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)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).										X NO				
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16) On May 8, 1997, with Unit 1 in cold shutdown and Unit 2 in a defueled condition, the licensee's Appendix R Rebaselining Project team discovered that certain plant areas lacked adequate emergency lighting to demonstrate compliance with 10 CFR 50 Appendix R Section III.J requirements for 8-hour battery-powered lighting. This discovery was made during a review of Appendix R safe shutdown access/egress routes and locations of manual operations in the plant, in conjunction with a review of IN 95-036 "Potential Problems with Post Fire Emergency Lighting". Two of the five exterior buildings requiring access during certain fire scenarios lack the emergency lighting to comply with Section III.J. In addition, all of the access/egress routes to these buildings do not comply. The original plan for implementing Appendix R safe shutdown only provided for hand-held lighting to illuminate the two particular buildings and the access/egress routes. Corrective actions include revising the safe shutdown analysis, installing emergency lighting in the Service Water and Fire Pump House, and requesting an exemption to Appendix R Section III.J for emergency lighting along outdoor roadways to the support buildings.														

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		97	- 023	- 00	

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

Event Description:

On May 8, 1997, at 1915 CT, with Unit 1 in cold shutdown and Unit 2 in a defueled condition, a team of licensee and contract engineers discovered that certain plant areas lacked adequate emergency lighting to demonstrate compliance with 10 CFR 50 Appendix R Section III.J. This discovery was made by our Appendix R Rebaselining Project team during a review of post-fire emergency lighting requirements for Appendix R safe shutdown. Based on preliminary findings, a four-hour report was made to the NRC. The results of a subsequent in-depth evaluation are reported herein.

In accordance with its operating license condition, Point Beach Nuclear Plant (FBNP) is required to comply with the emergency lighting requirements of Section III.J of 10 CFR 50, Appendix R, which states that "Emergency lighting units with at least an 8-hour battery power supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto." As described in the PBNP Appendix R safe shutdown analysis, manual actions may be required in certain exterior buildings, depending upon the location of the fire in the main plant and the plant systems required for safe shutdown. These buildings and the required actions are described below:

Diesel Generator Building. The actions in the Diesel Generator Building may involve manually starting and loading Emergency Diesel Generators G03 and G04.

13.8 KV Switchgear Building. The actions in the 13.8 KV Switchgear Building may involve opening breakers to mitigate spurious operations and closing breakers to power safe shutdown equipment.

Service Water and Fire Pump House. The actions in the Service Water and Fire Pump House may involve local starting of the diesel fire pump as an alternative source of water to the turbine-driven AFW Pump bearings in the event the fire pump does not automatically start and the normal service water supply is disabled by a postulated fire.

Fuel Oil Pump House. Based on the current Appendix R safe shutdown analysis, the actions in the Fuel Oil Pump House may involve aligning supplemental fuel oil to the diesel generators G01 or G02.

Gas Turbine Building. The actions in the Gas Turbine Building may involve manually starting and loading the gas turbine generator (G05).

The review determined that the Diesel Generator Building, the 13.8 KV Switchgear Building, and the Gas Turbine Building were provided with the requisite eight-hour battery-powered emergency lights. Therefore, the review of interior emergency lighting requirements concluded that only

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the Service Water and Fire Pump House and the Fuel Oil Pump House were outside the design basis requirements.

With respect to the access and egress routes to these exterior buildings, the review found that the plant design had not provided for the eight-hour battery-powered emergency lights prescribed by Section III.J. Rather, the approach to exterior lighting relied on portable hand-held lighting units that were made available to operators performing post-fire shutdown tasks. These hand-held units have been administratively controlled and maintained near the main control room; readily accessible for the operators who may be assigned to transit to the exterior buildings to conduct manual actions. These hand-held units are specifically dedicated for operator use in outside plant areas during plant fires, and are maintained appropriately. Notwithstanding these provisions, the review team determined that an exemption to the Appendix R Section III.J requirement should have been submitted.

The IEEE Standard 803A-1983 component identifiers for this report are:

Lighting Fixture (LF)

Cause:

The failure to comply with 10 CFR 50 Appendix R Section III.J was caused when alternative provisions were made in the original safe shutdown analysis without the appropriate regulatory exemption.

Corrective Actions:

1. Eight-hour battery-powered emergency lights will be installed in the Service Water and Fire Pump House to ensure compliance with Section III.J.
2. The Appendix R safe shutdown analysis will be revised to eliminate the requirement to perform manual actions in the Fuel Oil Pump House. These manual actions are no longer required due to the availability of fuel oil from the new Diesel Generator Building and transfer pumps located in that building.
3. An exemption to Section III.J of Appendix R to 10 CFR 50 will be submitted prior to Unit 2 startup from refueling outage 22. This exemption will address the use of hand-held portable lights as the emergency lighting units for access and egress routes between the main plant and the exterior support buildings.

Reportability:

On May 8, 1997, at 2054 CT, a 4-hour report per 10 CFR 50.72 (b)(2)(iii)(D) was made to the NRC duty officer. Based on a preliminary

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review, this report identified that the Gas Turbine Building and the 13.8 KV Switchgear Building were not provided with adequate internal emergency lighting. As discussed in this Licensee Event Report (LER), subsequent evaluation has concluded that these buildings do comply with the emergency lighting requirements of Appendix R Section III.J. This LER is being submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(ii)(B), "A condition that was outside the design basis of the plant."

Safety Assessment:

The defense-in-depth approach to Point Beach Nuclear Plant's Fire Protection Program would mitigate the significance of the condition and provide a high likelihood that operators would have accessed any required plant area during a postulated fire and the safe shutdown would have been achieved.

In the current plant shutdown conditions, the lack of exterior emergency lighting does not affect the capability to achieve a safe shutdown. However, had the postulated fire occurred without adequate exterior lighting, the restoration of plant equipment and the achievement of the safe shutdown may have been delayed. The ready availability of hand-held portable flashlights would have ensured that adequate lighting was available along the access/egress routes and inside the buildings.

The access and egress routes have been walked down and there are no obstructions or tripping hazards in the route of travel that might not be revealed with the beam of a hand-held lighting unit. The access and egress routes are along normally-traveled and paved plant roadways surrounding the main plant structure. These roadways are normally maintained clear of obstructions and snow removal is routinely provided.

The portable lighting designated for use in outside areas can provide a level of lighting equivalent to that of a fixed system, and will not hamper completion of operator actions in the exterior buildings. In addition, portable lighting provides greater flexibility than a fixed lighting system for purposes of transiting to an exterior building. Additionally, outdoor lighting may be available to supply background lighting if normal AC power is available during the fire.

The safe shutdown analysis requires no operator actions along these exterior access/egress routes. Therefore, the only function of the emergency hand-held portable lighting is to support safe personnel transit to the exterior buildings.

The mitigating factors described above increase the probability that the operators would have accomplished the necessary manual actions to achieve the safe shutdown for any Appendix R fire scenario. Therefore,

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the health and safety of the public were not affected by the noncompliance to Appendix R Section III.J.

Similar Occurrences:

The following reports also identify conditions that are not in compliance with Appendix R safe shutdown requirements.

<u>LER</u>	<u>Description</u>
266/97-020-00	Conditions Outside 10 CFR 50 Appendix R Safe Shutdown Analysis
266/97-022-00	Electrical Short Circuits During A Control Room Fire May Affect Safe Shutdown Capability