Indian Point 3
Nuclear Power Plant
P.O. Box 215
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New York Power Authority

John H. Garrity
Resident Manager

October 29, 1993
IPN-93-130

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station PI-137
Washington, D.C. 20555

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Licensee Event Report 93-038-00
"Fire Barriers Missing Placing the Plant Outside its Design Basis Due to Personnel Error"

Dear Sir:

The attached Licensee Event Report (LER) 93-038-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements pursuant to 10 CFR 50.73(a)(2)(ii)(B). Also attached are the commitments made by the Authority in this LER.

Very truly yours,

John H. Garrity
Resident Manager
Indian Point Three Nuclear Power Plant

JHG/JC/vjm

cc: See next page

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U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point Unit 3

Attachment
List of Commitments

Number	Commitment	Due
IPN-93-130-01	The Authority will improve the modification review process for effects on, and compliance with, Appendix R Section III.G by completion of an Engineering Standards Manual dealing with Fire Protection/ Appendix R Compliance.	Prior to plant startup
IPN-93-130-02	The Authority will complete a review of all modifications performed at IP3 since the August 16, 1984 submittal and their effect on compliance with Appendix R Section III.G.	Prior to plant startup
IPN-93-130-03	The Authority will modify the affected areas near instrument racks #19 and #21 inside the IP3 containment building to provide compliance with Section III.G.2.f of Appendix R.	Prior to plant startup
IPN-93-130-04	The Authority will wrap the affected junction boxes inside and outside containment near penetration H20 or submit an exemption request pursuant to 10 CFR 50.12 to address the acceptability of not wrapping the junction boxes.	Prior to plant startup
IPN-93-130-05	The Authority will complete the development of specific maintenance/ repair procedures covering installation and/or repair of associated fire barrier wrap configurations in use at IP3.	Prior to plant startup

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit 3	05000286	1 OF 6

TITLE (4)
Fire Barriers Missing Placing the Plant Outside its Design Basis Due to Personnel Error

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
09	30	93	93	-- 038 --	00	10	29	93		05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N
POWER LEVEL (10)	000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	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
	20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)
	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 (Include Area Code)
Roger Lauricella, Fire Protection Engineer	(914) 736-8038

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).	✓ NO				

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

On September 30, 1993, with the plant in cold shutdown, the Authority determined that the plant was not in compliance with 10 CFR 50 Appendix R section III.G.2, in that fire barrier wrap was not installed for some specific plant areas. The most probable cause of the event was personnel error in that a modification performed to achieve compliance with 10 CFR 50 Appendix R section III.G.2 was not expansive enough to envelop the two areas found deficient nor were maintenance or inspection procedures detailed enough to address deficiencies in installed wrap. Corrective action will include improvements to the process utilized for development and review of Appendix R related modifications, wrapping of the affected conduits above instrument racks #19 and #21, the submittal of an exemption request for the penetration H20 area or wrapping of the affected areas, and the completion of detailed maintenance and repair procedures for installed fire barrier wrap. Prior to startup, the Authority will achieve compliance with Appendix R Section III.G.2 requirements.

DESCRIPTION OF EVENT

On September 30, 1993, at approximately 1700 hours with the plant in a cold shutdown condition (reactor power level at 12 cps, reactor coolant temperature at 102 degrees F, reactor coolant pressure at atmospheric and pressurizer level at 23%) the Authority determined that the electrical penetration area both inside and outside the containment building (near penetration H20), and the area above instrument racks #19 and #21 at the 68 foot elevation of the containment building was not in compliance with 10 CFR 50 Appendix R, Section III.G.2.

The Authority has initiated and is in the process of implementing a comprehensive fire protection improvement program. One aspect of the program involves verification of 10 CFR 50, Appendix R compliance. A part of this activity is being conducted under engineering acceptance test ENG-534, "Fire Barrier Wrap & Radiant Energy Shield Inspection". A specific task associated with this effort is the detailed review of fire barrier wrap (ISL) installations credited for 10 CFR 50 Appendix R, Section III.G compliance. In the course of reviewing the bases for the fire barrier wraps installed in the Indian Point 3 (IP3) containment building and electrical penetration area, the Authority determined that the wrap installations did not provide full compliance with Appendix R Section III.G.2 for those areas. A Significant Occurrence Report (SOR) was initiated on September 30, 1993 reflecting that determination and an assessment that IP3 was outside its design basis relative to 10 CFR 50 Appendix R compliance for the two areas. Additional inspections and evaluations of installed fire barrier wrap, in accordance with ENG-534, have also determined that in some instances, wrap is not installed in accordance with manufacturers instructions and details. These inspections and evaluations are ongoing and the potential exists for identification of additional deficiencies. The extent of fire barrier wrap deficiencies, so far, ranges from insufficient stitch patterns to loosely installed or maintained fire barrier wrap.

In 1983, the Authority identified that the installation of fire barriers (in particular fire barrier wrap) was required, both inside and outside the IP3 containment building to achieve compliance with Section III.G.2 of Appendix R. A modification package was developed to address all associated fire barrier wraps (MOD 83-03-089 FP) required to achieve compliance. Wrap was to be installed as either a one hour fire rated barrier outside containment or as a radiant energy shield inside containment. Fire barrier wrap, whether as a radiant energy shield or one hour fire rated barrier is installed in three areas of the plant; the containment building, electrical tunnel (entryway and penetration areas) and one small area of the primary auxiliary building. IP3 utilizes HEMYC fire barrier wrap manufactured by Promatec, Inc. in all applications used for compliance with Section III.G.2 of Appendix R.

The modification, however, did not address installation of fire barrier wrap around junction boxes for the Neutron Flux Source Range Channel I (N31) near penetration H20 in the upper electrical tunnel penetration area outside containment and the penetration area inside containment. It is indeterminate why the junction boxes were not wrapped. However, no justification was developed to address non compliance with Section III.G.2 of Appendix R for the area of the two junction boxes.

In addition, the modification did not address provisions for fire barrier wrap around the conduits which exit above instrument racks #19 and #21 at the 68 foot elevation of the IP3 containment building. This deficiency existed even though preliminary reviews, prior to the modification, identified the need for fire barrier wrap around the affected conduits. The conduits are routed between the instrument racks and overhead cable trays and contain cabling from the Wide Range Steam Generator #31 Level Transmitter LT-417D and Pressurizer Level Transmitter LT-459 respectively.

CAUSE OF EVENT

The available evidence indicates a personnel error in that a modification developed in 1984 did not fully ensure compliance with Section III.G.2 of Appendix R for the areas found with missing wrap. The cause of this specific deficiency is indeterminate because the key personnel involved in the original modification are no longer available for interviews or do not recollect events specifically enough to shed light on possible event contributors. Additionally, specific maintenance and repair procedures along with deficient surveillance procedures contributed to inadequate installation and maintenance of installed fire barrier wrap at IP3.

CORRECTIVE ACTIONS

No immediate compensatory action is required because the unit is in the cold shutdown condition.

The following corrective actions will be performed prior to startup from the current outage to prevent recurrence of the event:

- the Authority will improve the modification review process for effects on, and compliance with, Appendix R Section III.G by completion of an Engineering Standards Manual dealing with Fire Protection/ Appendix R Compliance.
- the Authority will complete a review of all modifications performed at IP3 since the August 16, 1984 submittal and their effect on compliance with Appendix R Section III.G.
- the Authority will modify the affected areas near instrument racks #19 and #21 inside the IP3 containment building to provide compliance with Section III.G.2.f of Appendix R.
- the Authority will wrap the affected junction boxes inside and outside containment near penetration H20 or submit an exemption request pursuant to 10 CFR 50.12 to address the acceptability of not wrapping the junction boxes.
- the Authority will complete the development of specific maintenance/ repair procedures covering installation and/or repair of associated fire barrier wrap configurations in use at IP3.

The above issues will be tracked and addressed under closure of PIP Item 177.1, "Implement Fire Protection Improvement/ 10CFR 50 Appendix R Compliance." This corrective action along with those listed above will serve to address the extent of condition for the event reported in this LER and previously reported in LER 93-18. If additional deficiencies are found as a result of the Corrective Actions, a supplement to this LER will be submitted.

ANALYSIS OF THE EVENT

The lack of required fire barrier wrap in the areas above Instrument Racks #19 and #21 inside the IP3 containment building, near penetration H20 both inside and outside the containment building, and noted field deficiencies with installed fire barrier wrap is reportable pursuant to 10 CFR 50.73 (a)(2)(ii)(b). This is because the plant was found outside its design basis relative to 10 CFR 50 Appendix R Section III.G.2 compliance in the affected plant areas. This event does not involve violation of Technical Specification requirements. LER's 93-18 and 93-31 have previously been submitted relative to 10 CFR 50 Appendix R compliance and missing fire barrier wrap.

SAFETY SIGNIFICANCE

This event had no significant effect on the health and safety of the public. The Authority believes that the lack of required fire barrier wrap on the conduits above Instrument Racks #19 & #21, at penetration H20, inside and outside the containment building, and the noted field deficiencies with installed fire barrier wrap do not contribute to a significant degradation of capability to achieve safe shutdown of the plant.

This belief is supported by the general lack of contributing fire hazard both inside the containment building (near instrument racks #19 & #21 and the penetration area) and the electrical penetration area in the electrical tunnel. Existing fire hazards near the instrument racks or penetration area would be transient floor based. Administrative controls and the general lack of personnel entry, in each area, especially the containment during power operation minimize the probability of a transient induced fire. Additionally, the cabling exiting instrument racks #19 & #21 is contained in sealed conduits prior to entry into the cable trays above each rack. The penetration area within the IP3 containment is provided with ionization smoke detectors that annunciate in the IP3 Central Control Room (CCR). In the electrical penetration area of the IP3 electrical tunnel ionization smoke detectors, heat detectors and a preaction sprinkler system is provided for protection of cabling and equipment in the area.