

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **JAMES A. FITZPATRICK NUCLEAR POWER PLANT** DOCKET NUMBER (2) **0 5 0 0 0 3 3 3 1** OF **0 4** PAGES

TITLE (4) **FIRE BARRIER ELECTRICAL PENETRATION SEALS NOT INSTALLED**

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 NAMES		DOCKET NUMBER(S)
07	28	87	87	011	01	01	28	88			050000
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OPERATING MODE (9) **N** THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

20.402(b)	20.408(c)	90.73(a)(2)(iv)	73.71(b)
20.408(a)(1)(i)	90.36(a)(1)	90.73(a)(2)(v)	73.71(c)
20.408(a)(1)(ii)	90.36(a)(2)	90.73(a)(2)(vi)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Part 7 of NRC Form 308A)
20.408(a)(1)(iii)	90.73(a)(2)(i)	90.73(a)(2)(vii)(A)	
20.408(a)(1)(iv)	90.73(a)(2)(ii)	90.73(a)(2)(vii)(B)	
20.408(a)(1)(v)	90.73(a)(2)(iii)	90.73(a)(2)(viii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
VICTOR M. WALZ, TECHNICAL SERVICES SUPERINTENDENT	3 1 5 3 4 2 - 3 8 4 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

During performance of Maintenance Procedure MP-76.11 (Electrical Penetration Seal Surveillance Inspection) on 7/28/87 with the plant in normal operation and at 98 percent reactor power, it was discovered that numerous electrical conduit and floor/wall penetrations in 10CFR50, Appendix R, fire barriers were not sealed with a three-hour fire rated seal as required by Technical Specification Section 3.12.F. Continuous fire watches were posted at the affected fire barriers per Technical Specification Section 3.12.F.1.b. Corrective actions were initiated to install three-hour fire seals in the unsealed penetrations. All unsealed penetrations were sealed prior to completion of the surveillance test on 8/14/87 except for three unscheduled lighting conduits located in the Reactor Building. A continuous fire watch was posted and sealing of these penetrations was completed on 9/3/87.

The cause of the unsealed penetrations is attributed to use of an incomplete list of fire barrier penetrations originally generated for performance of the subject surveillance test and 10CFR50, Appendix R, compliance reviews.

There are no related LER events in which fire barrier penetration seals were not properly inspected or sealed.

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		YEAR 8 7	SEQUENTIAL NUMBER - 0 1 1	REVISION NUMBER - 0 1			

TEXT (if more space is required, use additional NRC Form 365A's) (17)

EVENT DESCRIPTION

On 7/28/87, during performance of Maintenance Procedure MP-76.11 (Electrical Penetration Seal Surveillance Inspection) with the plant in normal operation and at 98 percent reactor power, it was discovered that numerous electrical conduits and floor/wall penetrations between 10CFR50, Appendix R, fire areas were not sealed with a three-hour fire rated seal as required by Technical Specification Section 3.12.F. After a technical review to confirm the necessity for a fire seal, the Shift Supervisor was notified of the penetration seal discrepancies and continuous fire watches were posted at the affected fire areas per Technical Specification Section 3.12.F.1.b requirements. Corrective actions were initiated to install three-hour fire seals in the unsealed penetrations found in violation. Performance of the surveillance test procedure identified a total of 224 conduits and floor/wall penetrations unsealed, out of a total of 16,000 electrical penetrations. All unsealed penetrations were sealed prior to completion of the test on 8/14/87 except for three lighting conduits located in the Reactor Building which are inaccessible. A continuous fire watch was posted at this fire barrier, and sealing completion of these three penetrations was completed on 9/3/87.

CAUSES OF THE EVENT

1. Performance of Maintenance Procedure MP-76.11 utilized a new revision based on a new Fire Protection Manual. This manual had been prepared to consolidate and identify the requirements for long term compliance to 10CFR50, Appendix R, in each of the 19 fire areas at the FitzPatrick facility. Included in this manual are floor and wall sketches of each of the 19 Appendix R fire areas with attached tables listing the penetrations. The sketches were developed from a physical inspection of each fire barrier. Prior to this time, the previous surveillance test utilized a listing of penetrations developed by the architect-engineer from the plant schedule of electrical cable and raceway sleeves, which was thought to be all inclusive. As a result of the inspections, it was discovered that all electrical penetrations were not scheduled (e.g. security system, lighting, and communications), and consequently, were not previously inspected.

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TEXT (if more space is required, use additional NRC Form 366A's) (17)

2. The earlier surveillance test did not address visual internal inspection of conduits passing directly through fire barriers. The new Fire Protection Manual addressed these conduits and thus resulted in the identification of numerous small unscheduled lighting, security, and communication conduits which were unsealed. Also found to be unsealed, as identified in the new manual, were the electrical penetrations installed between the pushbutton stations and security access card readers for vital area access doors.

SAFETY IMPLICATIONS

The safety implications of the 224 penetrations without three-hour fire seals were not significant. There is fire detection equipment in all 19 fire areas. There is manual fire suppression equipment available in all of the subject fire areas. Many of the fire areas also have area wide fire suppression systems. The unsealed penetrations and conduits were widely separated, thus limiting the potential for significant fire intrusion at any single location or area. Many of the unsealed penetrations were small in size (1" and less in diameter). In addition, continuous fire watches were posted as soon as the discrepant conditions were identified.

CORRECTIVE ACTIONS

1. All 224 penetrations found to be unsealed were sealed with an approved three-hour fire rated seal, except for three unscheduled lighting conduits located in the Reactor Building. A continuous fire watch was posted, and sealing of these penetrations was completed on 9/3/87.
2. A review of the mechanical penetrations between the 10CFR50, Appendix R, fire areas was performed to ensure compliance for these penetrations. The review comprised of a visual inspection of each mechanical penetration verifying fire seal integrity, utilizing the new Fire Protection Manual and Surveillance Test Procedure F-ST-76W (Mechanical Fire Barrier Penetration Seals Visual Inspection). The visual inspection of the mechanical penetration seals was completed on November 30, 1987.
 - a. During the mechanical penetration review, two penetrations were found unsealed. Continuous fire watches were posted per Technical Specification requirements and the penetrations were sealed to provide a three-hour fire rating.

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

Occurrence Reports 87-118 and 87-120 were written and an engineering evaluation effort was initiated to determine the impact that these two unsealed penetrations had on plant safety.

The evaluation was completed and concluded that there was no impact on plant safety or operations.

3. As a result of resolving the discrepancies relating to this event, some weaknesses were discovered in the plant engineering design procedures and the fire penetration sealing installation specification. Additional detail was required in defining the design criteria and methods of fire barrier penetration sealing for certain seal configurations. In addition, revisions to the Fire Protection Manual, Engineering Design Procedures, Installation Specifications, Surveillance Test Procedure F-ST-76W, and Maintenance Procedure MP-76.11 were identified.

- a. Installation Specification IS-E-03, Opening and Sealing of Fire Barrier Electrical Penetration Sleeves, was revised on December 30, 1987, adding additional conduit fire seal configuration details. This resolved the major weaknesses identified in the plant procedures concerning the majority of the event deficiencies.

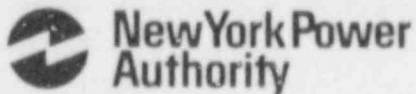
The Fire Protection Reference Manual is currently being revised. The Surveillance Test Procedure F-ST-76W, Mechanical Fire Barrier Penetration Seals Visual Inspection and Maintenance Procedure MP-76.11, Electrical Penetration Seal Surveillance Inspection will then be revised and issued prior to the next scheduled performance of the electrical or mechanical penetration visual inspections.

To supplement and enhance existing JAFNPP Engineering and Design Procedures (EDP's), a new EDP is currently being developed defining JAFNPP's review procedure for ensuring long-term Appendix "R" and Fire Protection compliance. This procedure will be completed and issued by April 1, 1988.

There are no related LER events in which fire barrier penetration seals were not properly inspected or sealed.

James A. FitzPatrick
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Radford J. Converse
Resident Manager



January 29, 1988
JAFF 88-0076

United States Nuclear Regulatory Commission
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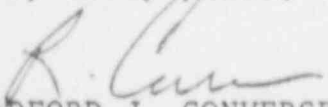
REFERENCE: DOCKET NO. 50-333
LICENSEE EVENT REPORT: 87-011-01

Dear Sir:

Enclosed please find referenced Licensee Event Report in accordance with 10CFR50.73.

If there are any questions concerning this report, please contact Mr. Victor M. Walz at 315-349-6501.

Very truly yours,


RADFORD J. CONVERSE

RJC:VMW:ls

CC: USNRC, Region I (1)
INPO Records Center, Atlanta, Ga. (1)
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