



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

June 8, 1992

Docket No. 50-333

LICENSEE: Power Authority of the State of New York (PASNY)
FACILITY: James A. FitzPatrick Nuclear Power Plant
SUBJECT: MEETING MINUTES REGARDING MAY 28, 1992, MEETING TO DISCUSS THE RESULTS OF THE NEW 10 CFR PART 50, APPENDIX R, SAFE SHUTDOWN ANALYSIS FOR THE FITZPATRICK PLANT AND THE POTENTIAL EXEMPTIONS NEEDED AS A RESULT OF THIS ANALYSIS

A meeting was held in the NRC One White Flint North Office in Rockville, Maryland, with Power Authority of the State of New York and NRC staff representatives to discuss PASNY's new Appendix R safe shutdown analysis and potential exemptions needed as a result of this analysis. The NRC staff had requested this meeting to obtain an understanding of the licensee's plans. Enclosure 1 is a list of the meeting attendees. Enclosure 2 is a copy of the handout used by PASNY during the meeting.

During the May 28, 1992 meeting, the licensee described the results of their new Appendix R safe shutdown analysis and the potential exemption requests necessary to support plant restart. Based on the discussion PASNY committed to provide more stringent controls in their combustible control procedures in specific areas where exemptions are to be requested. In addition, PASNY committed to complete review of their fire preplans prior to plant restart. This review will provide additional guidance to fire brigades of potential fire hazards and equipment loss in the various fire areas.

PASNY also discussed a previous commitment to the NRC to conduct a discharge test of the relay room CO₂ system. PASNY stated that they are in the process of completing a design basis review of the CO₂ system and have determined a door fan pressure test supported by design calculations may be adequate to verify system operability in lieu of a CO₂ discharge test. PASNY committed to provide the NRC staff with the technical justification and supporting basis for this determination when completed.

During the meeting PASNY requested clarification on the intent of Appendix R, Section III.G, specifically the use of low pressure systems to achieve and maintain safe shutdown by a single fire. The staff stated that the utilization of low pressure systems for alternate safe shutdown was acceptable provided the systems had the capability to achieve and maintain the plant in the cold shutdown condition without core uncover.

PASNY discussed the results of their root cause analysis of the fire protection program weaknesses. PASNY concluded the primary root cause to be: a lack of management commitment to fire protection program implementation, inadequate interface between the site and corporate office, and inadequate

DATED: June 8, 1992

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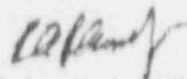
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June 8, 1992

staff resources and qualification. PASNY stated their fire protection program is now addressing these weaknesses. PASNY plans to provide the NRC staff the results of their root cause analysis and their corrective actions prior to plant restart.

PASNY informed the NRC of a 6-month schedule delay to two previous commitments. PASNY plans to review the fire protection program surveillance test program after plant restart during a planned fire protection code compliance walkdown. This review will be completed by December 1992. PASNY plans to provide a formal Appendix R and fire protection program training course to design engineers by December 1992.

At the conclusion of the meeting, the NRC staff requested PASNY to provide a proposed schedule for PASNY's exemption requests to ensure NRC resources have the ability to plan the necessary technical reviews. PASNY agreed to provide a schedule on June 1, 1992.



Richard A. Plasse, Acting Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Attendee List
2. Handouts

cc w/enclosures:
See next page

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Power Plant

cc:

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May 20, 1992, meeting to discuss the results of the new 10 CFR Part 50, Appendix R, safe shutdown analysis for the FitzPatrick plant and the potential exemptions needed as a result of this analysis.

<u>Name</u>	<u>Position</u>	<u>Organization</u>
Richard A. Plasse	Acting Project Manager	NRC/NRR/PDI-1
Robert A. Capra	Director, PDI-1	NRC/NRR/PDI-1
Pat Madden	Sr. Fire Protection Eng.	NRC/NRR/DST
Amarjit Singh	Reactor Inspector	NRC/NRR/DRS
Lee Bettenhausen	Chief, Operations Branch	NRC/RGN-1/DRS
John Caruso	Operations Engineer	NRC/RGN-1/DRS
Allison Heggie	Co-op	NRC/RGN-1/DRS
Ralph Architzel	Section Chief, Plant Systems	NRC/NRR/DST
Jack Gray	Director - Nuclear Licensing	PASNY
Judd Elmers	Nuclear Licensing Engineer	PASNY
Mike Coulomb	General Manager-Support Services	PASNY
Al Heath	Fire Protection Supervisor	PASNY
A. J. Bartlik	Fire Protection Engineer	PASNY
Gus Mavrikis	Director - Nuclear Eng. Design	PASNY
Robert Schimpf	Fire & I&C Engineering Manager	PASNY

1.0 **Revised Exemptions**

1. Revise an existing exemption (which includes Main Control Room evacuation) from the requirements of 10CFR50, Appendix R, Sections III.L.1.b and III.L.2.b to include two additional fire areas: the North Cable Tunnel (Fire Area ID) and the Battery Room Corridor (Fire Area XVI). Thus the exemption would extend from just Fire Area VII (Control Room, Relay Room, and Cable Spreading Room) to include now these two adjacent fire areas.
2. Revise an existing exemption from the requirements of 10CFR50, Appendix R, Sections III.G.2, III.G.3 and III.L to accurately describe the Torus Room (Fire Area XV) and update the technical basis for the exemption to reflect the new area description.
3. Revise an exiting exemptions from the requirements of 10CFR50, Appendix R, Sections III.G.2, III.G.3 and III.L to reflect new manual operator actions that may be necessary for safe shutdown for a Reactor Building fire in Fire Areas VIII, IX, X, XVII and XVIII. The existing exemptions list those valves that require manual operation. As a result of the recently completed Appendix R reanalysis, additional valves must be added to these exemptions as requiring manual operations.

2.0 **New Exemptions**

1. Grant a new exemption from the requirements of 10CFR50, Appendix R, Section III.J to permit the use of portable lighting units for outdoor access and egress routes in lieu of permanently installed 8-hour Appendix R lighting.
2. Grant a new exemption from the requirements of 10CFR50, Appendix R, Section III.G.2 to the extent that the redundant reactor vessel level indicators do not have the required separation, protection and/or suppression in Fire Areas VIII and IX.
3. Grant a new exemption from the requirements of 10CFR50, Appendix R, Sections III.L.1.b and III.L.2.b to permit the use of ADS/LPCI (Automatic Depressurization System/Low Pressure Coolant Injection) for fires in Fire Area IX, X, XI or XV. The safe shutdown would be accomplished from the Main Control Room (i.e., no Main Control Room evacuation) and the postulated scenarios are enveloped by the existing exemption discussed in 1.1 above.

SUMMARY OF DRAFT EXEMPTION REQUESTS

3.0 Temporary Exemptions

1. Grant a temporary exemption from the requirements of 10CFR50, Appendix R, Section III.G.1 to the extent that ventilation systems in the Emergency Service Water (ESW) and Residual Heat Removal Service Water (RHRSW) Pump Rooms (Fire Areas XII and XIII) must be free of fire damage. The exemption is needed until the analyses and/or modifications can be completed to assure that the ventilation systems for these rooms will be available in the event of a fire in Fire Areas IB, XII or XIII. If modifications are necessary, they will be completed prior to startup from the next refueling outage. See NYPA LER-91-021 dated November 27, 1991.
2. Grant a temporary exemption from the requirements of 10CFR50, Appendix R, Section III.G.1 to the extent that suppression systems are required in the East and West Cable Tunnels (Fire Areas IC and II.) See NYPA LER-92-004 dated February 14, 1992. The exemption is needed until modifications can be completed to provide suppression adequate for the hazards present. The new Cable Suppression system will be completed no later than December 31, 1992.
3. Grant a temporary exemption from the requirements of 10CFR50, Appendix R, Section III.L to the extent that Intake Structure Deicing Heaters are required to operate to assure that the formation of frazil ice will not block the flow of water required to safely shutdown the plant. See NYPA LER-91-032 dated January 27, 1992. This exemption is needed until additional engineering analyses and evaluations can be completed to determine the potential for blockage. The Authority requests that exemption be granted until the lake water reaches 37 degrees Fahrenheit during the 1992/1993 winter season, as discussed in NYPA Letter JPN-92-008 dated February 18, 1992.
4. Grant a temporary exemption from the requirements of 10CFR50, Appendix R, Section III.G.2 to the extent that Bondstrand piping in fire barrier penetration seals and floor drains fabricated from Bondstrand piping and fittings that penetrate fire barriers are not qualified for use as three hour fire rated barriers in several Fire Areas in the Reactor Building. This exemption is needed until tests can be performed to qualify Bondstrand piping/fittings or until the penetrations and/or drains can be modified to a qualified configuration.

SUMMARY OF DRAFT EXEMPTION REQUESTS

FITZPATRICK FIRE AREAS/FIRE ZONES

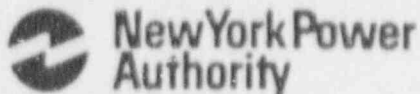
<u>FIRE AREA</u>	<u>FIRE ZONE</u>	<u>AREA DESCRIPTION</u>
IA	AD-1	Administration Building El. 272'
	AD-2	Administration Building El. 272'
	AD-3	Administration Building El. 272'
	AD-4	Administration Building El. 280'
	AD-5	Administration Building El. 286'
	AD-6	Administration Building El. 300'
	AS-1	Auxiliary Boiler Room El. 272'
	MG-1	Motor Generator Room El. 300'
IB	FP-1	Diesel Fire Pump Room El. 272'
	CR-2	Radwaste Building Control Room El. 284'
	RW-1	Radwaste Building and Pipe Tunnel
	SH-13	Screen Well House
IC	CT-1	West Cable Tunnel El. 260'
	SW-1	Turbine Building Switchgear Room El. 272'
ID	CT-4	North Cable Tunnel El. 286'
IE	FP-2	Turbine Building Foam Room El. 272'
	TB-1	Turbine Building Basement El. 252', Mezzanine El. 292', and Operating Floor El. 300'
	OR-1	Turbine Building Turbine Oil Storage Room El. 252'
	OR-2	Turbine Building Turbine Oil Storage Room El. 272'
	OR-3	Turbine Building Miscellaneous Oil Storage Room El. 252'
II	CT-2	East Cable Tunnel El. 260'
	SW-2	Turbine Building Switchgear Room El. 272'
III	BR-1	Battery Room 1 El. 272'
	BR-2	Battery Room 2 El. 272'
IV	BR-3	Battery Room 3 El. 272'
	BR-4	Battery Room 4 El. 272'
V	EG-1	A Emergency Diesel Generator Room El. 272'
	EG-2	C Emergency Diesel Generator Room El. 272'
	EG-5	Emergency Diesel Generator South Switchgear Room El. 272'

SUMMARY OF DRAFT EXEMPTION REQUESTS

FITZPATRICK FIRE AREAS/FIRE ZONES

(continued)

<u>FIRE AREA</u>	<u>FIRE ZONE</u>	<u>AREA DESCRIPTION</u>
VI	EG-3 EG-4 EG-6	B Emergency Diesel Generator Room El. 272' D Emergency Diesel Generator Room El. 272' Emergency Diesel Generator North Switchgear Room El. 272'
VII	CR-1 RR-1 CS-1	Main Control Room El. 300' Relay Room El. 284' Cable Spreading Room El. 272'
VIII	RB-1C	Reactor Building Northeast and Northwest Quadrants El. 300'
IX XVII IX	SB-1 RB-1E RB-1A	Standby Gas Filter Room El. 272' Reactor Building East Crescent Area El. 227' Reactor Building East Side El. 272', Southeast Quadrant El. 300', and Entire Floor on El. 326', El. 344', and El. 369'
XVII X	RB-1W RB-1B	Reactor Building West Crescent Area El. 227' Reactor Building East Side El. 272' and Southwest Quadrant El. 300'
XI	CT-3	South Cable Tunnel El. 286'
XII	SP-1	Service Water Pump Room No. 1 El. 272'
XIII	SP-2	Service Water Pump Room No. 2 El. 272'
XIV	PC-1	Primary Containment (Drywell)
XV	SU-1	Torus Area
XVI	BR-5	Battery Room Corridor El. 272'
YARD	XR-1 CAD-1 CAD-2 CST-V MH-2	Transformer Area West of Turbine Building West End of Containment Air Dilution Building East End of Containment Air Dilution Building Condensate Storage Tank Concrete Vault Manhole No. 2 Located East of Reactor Building and South of Auxiliary Boiler Room



Ralph E. Beedle
Executive Vice President
Nuclear Generation

May 27, 1992
JPN-92-023

Regional Administrator
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

SUBJECT: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Fire Protection Improvement Program

- REFERENCES:
1. NYPA letter, R. E. Beedle to the NRC, dated March 27, 1992 (JPN-92-014), regarding completion schedule for fire protection open items.
 2. NYPA letter, R. E. Beedle to the NRC, dated August 16, 1991 (JPN-91-043), regarding a schedule for the short term fire protection actions.
 3. NYPA letter, R. E. Beedle to the NRC, dated September 13, 1991 (JPN-91-050), regarding a schedule for the long term fire protection actions.
 4. NRC letter, the NRC to J. C. Brons, dated December 3, 1991, regarding the Diagnostic Evaluation Team Report.
 5. NRC letter, the NRC to H. P. Salmon, Jr., dated April 15, 1992, regarding the Special Inspection (92-80) on Fire Protection.

Dear Sir:

The New York Power Authority is making needed improvements in the FitzPatrick Fire Protection Program. This letter discusses the establishment of a Fire Protection Improvement Program to enhance and maintain the FitzPatrick Fire Protection Program. It also satisfies the Authority's commitments (Reference 1) to provide a comprehensive plan and schedule to address the fire protection issues (References 2 through 5). Attachment 1 provides a schedule for the remaining open issues in the Authority's Fire Protection Improvement Program for FitzPatrick.

Because many of the issues overlap or the same issue appears in more than one source, Attachment 1 combines identical or related issues. To assure that the fire protection concerns are resolved, the Authority has developed a cross-reference index that clearly identifies the origins and heritage of each of the issues discussed in the plan. Finally, a schedule for the completion of each issue is also included in the plan.

To improve the Fire Protection Program at FitzPatrick, the Authority is enhancing procedures, training, systems and equipment used for fire protection.

The highlights of this Fire Protection Improvement Program are presented in Attachment 1, which consolidates over two hundred fire protection issues from many sources (e.g., Short Term Actions, Long Term Actions, Diagnostic Evaluation Team, Appendix R Re-Analysis, Special Inspection (92-80), and Licensee Event Reports) into the improvement program tasks.

As shown in Attachment 1, the Authority will complete most of these tasks prior to startup from the current refueling outage. If the corrective actions cannot be completed prior to startup as scheduled, the Authority will develop Compensatory Action Plans that will be presented to the NRC for review. These Compensatory Action Plans would remain in effect until the respective corrective action is completed.

Through the implementation of this improvement program, the Authority will have in place the necessary controls to assure that the Fire Protection Program is properly maintained and that it will continue to comply with the applicable NRC criteria.

If you have any questions, please contact Mr. J. A. Gray, Jr.

Very truly yours,



Ralph E. Beedle
Executive Vice President
Nuclear Generation

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ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

For the tasks discussed in this attachment, please note the following:

- 1 In some cases, the Authority is proceeding on parallel paths by developing a modification package while the evaluation is ongoing. If the evaluation determines that the present configuration is acceptable, the modification will be cancelled. If the evaluation determines that the modification is necessary, the modification will be implemented according to the schedule provided.
- 2 If the Authority determines that new modifications result from any of the evaluations discussed below, these modifications will be implemented according to the schedule provided.
- 3 For any of the modifications discussed below or resulting from 1) or 2) above, that are required for startup but cannot be completed prior to startup, the Authority will submit for NRC approval, Compensatory Action Plans that will be implemented until the modifications are complete.

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

1.1 Complete New Appendix R Analysis

A new Appendix R Analysis, which includes the following tasks, will be completed prior to startup.

- 1 Completion of the new Appendix R model.
- 2 Identify safe shutdown equipment list.
- 3 Perform a Multiple High Impedance Fault Study for inclusion in the Appendix R Analysis.
- 4 Perform an AC Coordination Analysis for the Appendix R safe shutdown power supplies.
- 5 Perform a DC Coordination Analysis for the Appendix R safe shutdown power supplies.
- 6 Submit Appendix R reassessment of the safe shutdown capability to NRC for review and approval.

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 2 of 8)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.2 Safe/Alternate Shutdown

Perform evaluations and/or modifications, including the following tasks, of the safe/alternate shutdown systems prior to startup.

- 1 Protect, reroute, bypass and/or isolate cables to prevent component maloperation (i.e., spurious valve operation) and/or maintain component operability.
- 2 Provide alternate and/or uninterruptable power supplies to assure component operability which includes power supplies for: the LPCI circuitry, the CST level indication and the RHR Service Water isolation valves.
- 3 Replace components to assure operability, which includes the 125 VDC distribution system and thermal overload relay heaters for several valves.
- 4 Review ESW flow configuration to determine the effects of flow diversion and manual actions on safe/alternate shutdown.
- 5 Evaluate the configuration and availability of the Nitrogen Supply System and, if necessary, modify the system.
- 6 Evaluate the configuration of the Emergency Lighting System and, if necessary, modify the system.
- 7 Evaluate the effects of a postulated fire in the Torus Room on the Torus Temperature Detection System.
- 8 Evaluate the need to trip the Reactor Coolant Pumps (Recirculating Pumps).

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 3 of 8)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP
(continued)

1.3 Suppression and Detection Systems

Perform evaluations and/or modifications, including the following tasks, of the suppression and detection systems prior to startup.

- 1 Evaluate the configuration of the manual suppression systems including standpipe and hose stations to the code requirements of NFPA-10 and -14 and, if necessary, implement compensatory actions.
- 2 Modify and/or install the Cable Tunnel Spray System. The engineering for this modification has been initiated. However, the modification will not be completed prior to startup (Targeted completion by December 1992).
- 3 Modify and/or install a suppression system in the Battery Room Corridor and a detection system in the area north of the Electric Bays in the Turbine Building. As portions of this task are completed, affected exemption requests transmitted in letters JAFP-91-0454 (dated July 31, 1991), JAFP-91-0455 (dated July 31, 1991) and JPN-91-040 (dated August 6, 1991) will no longer be required.
- 4 Evaluate the effectiveness of the configuration of the EDG Switchgear Room and the East and West Electric Bays Carbon Dioxide Systems with regard to NFPA code compliance and manual actions. If necessary, modify or resolve the affected systems for Appendix R concerns.
- 5 Evaluate and modify the configuration of the Reactor Building Water Curtain System for effectiveness and impacts on other systems/components.
- 6 Resolve audit findings on NFPA code compliance and design reviews.

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 4 of 8)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.4 Fire Barriers

Perform evaluations and/or modifications, including the following tasks, of the fire barriers prior to startup.

- 1 Evaluate, inspect and/or qualify fire barriers.
- 2 Evaluate, install, modify and/or qualify fire penetration seals.
- 3 Modify, install and/or repair fire dampers.
- 4 Qualify the cable raceway one-hour fire wrap configurations in the East and West Cable Tunnels to support Appendix R updates.
- 5 Inspect, modify and/or replace the fire doors consistent with the barrier rating.

1.5 Ventilation Systems

Perform evaluations and/or modifications, including the following tasks, of the ventilation systems prior to startup.

- 1 Evaluate Appendix R ventilation requirements, including manual actions, for the Relay Room, Cable Spreading Room, Cable Tunnels, Switchgear Rooms, Battery Rooms and Battery Room Corridor and, if necessary, modify the systems.
- 2 Modify ventilation/cooling in the RHRSW/ESW Pump Rooms and the Diesel Fire Pump Room. The engineering for these modifications has been initiated. However, the modifications will not be completed prior to startup (Targeted completion is prior to startup from the next refueling outage).
- 3 Evaluate the need for and provide, if necessary, portable ventilation for Division A and Division B Electric Bays.

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

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1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.6 Tests and Inspections

Perform tests and inspections, including the following tasks, of the fire protection systems prior to startup.

- 1 Perform Technical Specification Surveillance 4.12.F for fire barrier penetration seals.
- 2 Test and inspect fire protection water systems as follows: testing the hydraulic gradient on the main fire loop, inspecting ten percent of the check valves for silt deposition and/or corrosion, inspect one strainer and flush dead end manifold at the south end of the West Cable Tunnel.
- 3 Perform a discharge or an acceptable NFPA Code test on the Relay Room carbon dioxide system.
- 4 Perform an eight-hour discharge test on the Appendix R Emergency Lights.
- 5 Test alternate shutdown equipment in accordance with Generic Letters 81-12 and 88-12.

1.7 Procedural Improvements

Review, revise and/or implement procedures, including the following tasks, of the fire protection program prior to startup.

- 1 Review, revise (if necessary) and/or implement fire protection procedures including: AOP-28, AOP-43, AOP-58, DCM-11, DCM-12, DCM-13, IES 4.2, MCM-2, MCM-3, MCM-5, MCM-9, MCM-12, MCM-23, WACP 5.6, WACP-10.1.7, WACP-10.1.10, WACP-10.1.13, WACP-10.1.14, WACP-10.1.16, IS-E-03, Plant and Environs Combustible Control Procedures, Standing Fire Watch Procedures and Hot Process Fire Watch Procedures.
- 2 Improve both checking of design documents and compliance with modification procedures for fire protection evaluations.
- 3 Improve the existing Pre-Fire Plans administrative controls and to facilitate fire fighting activities. A further upgrade to the Pre-Fire Plans is scheduled for after startup as discussed in Item 2.2.4.

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 6 of 8)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.8 Training

Review, revise and/or implement fire protection training, including the following tasks, of the fire protection program prior to startup.

- 1 Provide operator training and walkthroughs of AOP-20, AOP-43 and AOP-58.
- 2 Train Fire Brigade personnel in accordance with the requirements of two in-plant drills per calendar year with each Fire Brigade receiving one unannounced drill on the back shift.
- 3 Train standing fire watch personnel and hot process fire watch personnel on the revised fire watch procedures.

1.9 Miscellaneous

Perform the following tasks involving the fire protection program prior to startup.

- 1 If needed, provide exemption requests (this includes clarification of existing exemptions).
- 2 If needed, provide Compensatory Action Plans for those fire protection actions, modifications and/or evaluations that cannot be completed prior to startup. Each of these plans would remain in effect until the action, modification and/or evaluation is completed satisfactorily.
- 3 Evaluate and, if necessary, enhance the communication systems for the operating staff and the Fire Brigade.
- 4 Upgrade the Fire Brigade equipment and provide electric safe hose nozzles where necessary.
- 5 Review the GE recommendations to minimize hydrogen fires in the offgas system and, if modifications are necessary, develop an action plan.
- 6 Review twenty randomly selected, previously installed modifications for fire protection and Appendix R concerns and resolve identified concerns.

ATTACHMENT 1 TO JPN-92-023

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 7 of 8)

2.0 WORK ITEMS TO BE COMPLETED AFTER STARTUP

2.1 Fire Protection Design Basis

An evaluation of the fire protection design basis, which includes the following tasks, will be completed after startup as indicated by the dates in parentheses.

- 1 Perform a design basis reconstitution of the Fire Protection Program and Systems (Targeted completion by March 1993).
- 2 Address compliance and document deviations to the NFPA codes of the Fire Protection Program and Systems (Targeted completion by March 1993).

2.2 Fire Protection Program

The revision and implementation of the Fire Protection Program, which includes the following tasks, will be completed after startup as indicated by the dates in parentheses.

- 1 Implement newly purchased cable and raceway management software, including Appendix R module (Targeted completion by August 1992).
- 2 Revise and update the Fire Hazards Analysis (Targeted completion by March 1993).
- 3 Consolidate the existing fire protection elements into a single comprehensive Fire Protection Program (Targeted completion by March 1993) and, if necessary, develop an action plan to resolve any findings.
- 4 Perform a Pre-Fire Plan upgrade which includes development of Operations and Activity Pre-Fire Plans (Targeted completion by March 1993).

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 8 of 8)

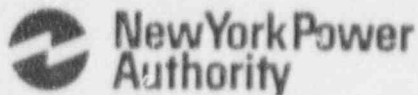
2.0 WORK ITEMS TO BE COMPLETED AFTER STARTUP

(continued)

2.3 Miscellaneous

The following tasks involving the fire protection program will be completed after startup as indicated by the dates in parentheses.

- 1 Review and, if necessary, update fire protection surveillance test program including tests for doors, dampers and sea , taking into account ALARA concerns (Targeted completion by December 1992).
- 2 Improve training of design engineers dealing with fire protection issues (Targeted completion by December 1992).
- 3 Evaluate the noise levels of the evacuation alarm and the fire alarm in the Control Room and their impact on Control Room communications (Targeted completion by March 1993).
- 4 If necessary, revise the NYPA Nuclear Generation Business Plan and/or the FitzPatrick Plant Results Improvement Plan based on the findings of the overall root cause analysis (Targeted completion by March 1993).
- 5 Modification or upgrade of operable dampers not installed per an acceptable configuration (Targeted completion is prior to startup from the next scheduled refueling outage).
- 6 Improve labeling on the safe/alternate shutdown panels as part of the overall labeling program (Targeted completion by March 1993).
- 7 Evaluate the configuration and necessity of the intake structure deicing heaters and, if necessary, modify the heater circuitry (Targeted completion by December 1992).
- 8 The Fire Protection Program Manager is tracking, resolving and closing the open items from the QA Audits of the Fire Protection and Prevention Program (Targeted completion by March 1993).



Memorandum

May 27, 1992
JAG-92-104

TO: DISTRIBUTION

FROM: J. A. GRAY, JR.

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT
FIRE PROTECTION IMPROVEMENT PROGRAM

As a result of the NRC Special Inspection (92-80), the Authority committed to provide to the NRC a comprehensive plan and schedule to address the FitzPatrick fire protection issues. BWR Licensing has reviewed the fire protection issues and consolidated them into the Fire Protection Improvement Program tasks delineated in Attachment 1.

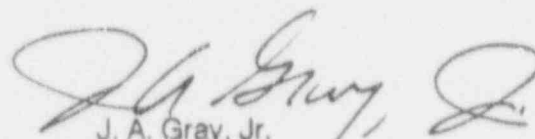
Attachment 1 consolidated the fire protection issues from the following sources:

OPEN ITEM TYPE	APPENDIX
Short Term Actions	A
Long Term Actions	B
Diagnostic Evaluation Team	C
Appendix R Re-Analysis	D
Special Inspection (92-80)	E
Licensee Event Reports	F

In preparing Attachment 1 for submittal to the NRC in NYPA Letter JPN-92-023 (dated May 27, 1992), the Authority edited Attachment 1 by not providing Section 3.0 of the attachment; and deleting from the attachment any references to modifications, evaluations and Appendices A through F.

Attachment 1 to this memo includes the deleted information and, in addition, this memo includes Appendices A through F so that Authority personnel can track to closure the individual open items.

If you have any questions please contact Mr. G. G. Hofer (WPO-11th Floor, x6725).


J. A. Gray, Jr.
Director
Nuclear Licensing-BWR

JAG/GGH

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

The Authority has reviewed the Open Items delineated in Appendices A through F and has developed a plan which consolidates these Open Items in order to remove duplication and to group similar actions together. In providing this consolidation, cross reference numbers to the original Open Items have been provided.

For the tasks discussed in this attachment, please note the following:

- 1 The cross reference numbers in the square brackets refer to the Open Items listed in Appendices A through F. The Cross Reference Key is as follows:

PREFIX	APPENDIX	OPEN ITEM TYPE
ST	A	Short Term Actions
LT	B	Long Term Actions
DET	C	Diagnostic Evaluation Team
AR	D	Appendix R Re-Analysis
FP	E	Special Inspection (92-80)
LER	F	Licensee Event Reports

A historical synopsis of each Open Item type is provided in the respective appendix. NA means that there is not an applicable Open Item in Appendices A through F.

- 2 In some cases, the Authority is proceeding on parallel paths by developing a modification package while the evaluation is ongoing. If the evaluation determines that the present configuration is acceptable, the modification will be cancelled. If the evaluation determines that the modification is necessary, the modification will be implemented according to the schedule provided.
- 3 If the Authority determines that new modifications result from any of the evaluations discussed below, these modifications will be implemented according to the schedule provided.
- 4 For any of the modifications discussed below or resulting from 2) or 3) above, that are required for startup but cannot be completed prior to startup, the Authority will submit for NRC approval, Compensatory Action Plans that will be implemented until the modifications are complete.

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 2 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

1.1 Complete New Appendix R Analysis

A new Appendix R Analysis, which includes the following tasks, will be completed prior to startup.

- 1 Completion of the new Appendix R model (Evaluation II.A.03). [DET-10, DET-18, AR-41, FP-1, FP-4, FP-5, FP-16, FP-17, FP-20, FP-21]
- 2 Identify safe shutdown equipment list. [LT-20, FP-12]
- 3 Perform a Multiple High Impedance Fault Study (Evaluation II.A.02.05) for inclusion in the Appendix F Analysis. [DET-11, FP-2, FP-4, FP-6]
- 4 Perform an AC Coordination Analysis for the Appendix R safe shutdown power supplies (Evaluation II.A.02.04). [NA]
- 5 Perform a DC Coordination Analysis for the Appendix R safe shutdown power supplies (Evaluation II.A.02.03). [NA]
- 6 Submit Appendix R reassessment of the safe shutdown capability to NRC for review and approval. [NA]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 3 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP (continued)

1.2 Safe/Alternate Shutdown

Perform evaluations and/or modifications, including the following tasks, of the safe/alternate shutdown systems prior to startup.

- 1 Protect, reroute, bypass and/or isolate cables to prevent component maloperation (i.e., spurious valve operation) and/or maintain component operability (Modifications F1-92-133, F1-92-078, F1-92-131, F1-92-134, F1-92-135, M1-92-111, M1-92-166, Evaluation III.E.19.a). [AR-1, AR-2, AR-3, AR-4, AR-5, AR-6, AR-7, AR-8, AR-9, AR-10, AR-11, AR-12, AR-14, AR-15, AR-18, AR-19, AR-22, AR-23, AR-27, AR-30, AR-31, AR-34, AR-39, FP-16, FP-18, LER-57, LER-64]
- 2 Provide alternate and/or uninterruptable power supplies to assure component operability which includes power supplies for: the LPCI circuitry, the CST level indication and the RHR Service Water isolation valves (Modifications F1-91-305, M1-92-069, Evaluation III.E.14.c). [LER-64]
- 3 Replace components to assure operability, which includes the 125 VDC distribution system and thermal overload relay heaters for several valves (Modifications M1-90-063, M1-90-174, M1-92-122). [AR-7, FP-16, LER-64]
- 4 Review ESW flow configuration to determine the effects of flow diversion and manual actions on safe/alternate shutdown (Evaluations III.E.17.a, III.E.17.b, III.E.31.b, III.E.44). [AR-16, AR-43, FP-16]
- 5 Evaluate the configuration and availability of the Nitrogen Supply System and, if necessary, modify the system (Modification M1-92-152, Evaluations III.E.21.a, III.E.21.b, III.E.22.a). [AR-20, AR-21, FP-16]
- 6 Evaluate the configuration of the Emergency Lighting System and, if necessary, modify the system (Modification F1-92-178, Evaluations III.E.01, III.E.01.b). [DET-16, DET-23, FP-5, FP-29, FP-30]
- 7 Evaluate the effects of a postulated fire in the Torus Room on the Torus Temperature Detection System (Evaluation III.E.18). [AR-17, FP-16]
- 8 Evaluate the need to trip the Reactor Coolant Pumps (Recirculating Pumps) (Evaluation III.E.43). [AR-42, FP-16]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 4 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP (continued)

1.3 Suppression and Detection Systems

Perform evaluations and/or modifications, including the following tasks, of the suppression and detection systems prior to startup.

- 1 Evaluate the configuration of the manual suppression systems including standpipe and hose stations to the code requirements of NFPA-10 and -14 and, if necessary, implement compensatory actions (Evaluations III.A.05, III.D.03). [NA]
- 2 Modify and/or install the Cable Tunnel Spray System (Modification F1-92-109). The engineering for this modification has been initiated. However, the modification will not be completed prior to startup (Targeted completion by December 1992). [FP-19, LER-57]
- 3 Modify and/or install a suppression system in the Battery Room Corridor and a detection system in the area north of the Electric Bays in the Turbine Building (Modifications M1-91-205, M1-91-211). As portions of this task are completed, affected exemption requests transmitted in letters JAFP-91-0454 (dated July 31, 1991), JAFP-91-0455 (dated July 31, 1991) and JPN-91-040 (dated August 6, 1991) will no longer be required. [ST-4, ST-9, FP-11]
- 4 Evaluate the effectiveness of the configuration of the EDG Switchgear Room and the East and West Electric Bays Carbon Dioxide Systems with regard to NFPA code compliance and manual actions. If necessary, modify or resolve the affected systems for Appendix R concerns (Modifications F1-92-182, M1-92-150, M1-92-151, Evaluations III.D.08, III.E.38.b). [AR-29, AR-37, AR-38, FP-16]
- 5 Evaluate and modify the configuration of the Reactor Building Water Curtain System for effectiveness and impacts on other systems/components (Modification M1-92-180, Evaluations III.C.14, III.E.14.a). [AR-13, FP-16]
- 6 Resolve audit findings on NFPA code compliance and design reviews. [ST-6, FP-11]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 5 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP
(continued)

1.4 Fire Barriers

Perform evaluations and/or modifications, including the following tasks, of the fire barriers prior to startup.

- 1 Evaluate, inspect and/or qualify fire barriers. [LT-4, LT-17, FP-12, LER-9, LER-44, LER-45]
- 2 Evaluate, install, modify and/or qualify fire penetration seals (Modifications M1-91-307, M1-91-355, M1-92-171, Evaluations III.C.01.06, III.C.06). [LT-6, LT-7, FP-12, FP-22, FP-40]
- 3 Modify, install and/or repair fire dampers (Modification M1-91-198). [ST-1, FP-11, FP-22, FP-39, LER-18]
- 4 Qualify the cable raceway one-hour fire wrap configurations in the East and West Cable Tunnels to support Appendix R updates (Evaluation III.C.15). [FP-23]
- 5 Inspect, modify and/or replace the fire doors consistent with the barrier rating (Modification M1-92-121). [NA]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 6 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.5 Ventilation Systems

Perform evaluations and/or modifications, including the following tasks, of the ventilation systems prior to startup.

- 1 Evaluate Appendix R ventilation requirements, including manual actions, for the Relay Room, Cable Spreading Room, Cable Tunnels, Switchgear Rooms, Battery Rooms and Battery Room Corridor and, if necessary, modify the systems (Evaluations II.A.06.a, III.E.29.a). [ST-5, DET-22, AR-26, AR-27, AR-28, AR-37, AR-38, FP-11, FP-16]
- 2 Modify ventilation/cooling in the RHRSW/ESW Pump Rooms and the Diesel Fire Pump Room (Modifications F1-92-107, F1-92-108). The engineering for these modifications has been initiated. However, the modifications will not be completed prior to startup (Targeted completion is prior to startup from the next refueling outage). [AR-35, AR-36, FP-16, LER-31, LER-33, LER-34, LER-35, LER-36]
- 3 Evaluate the need for and provide, if necessary, portable ventilation for Division A and Division B Electric Bays (Evaluations III.E.25.a, III.E.25.b, III.E.26.a). [AR-24, AR-25, FP-16]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 7 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP (continued)

1.6 Tests and Inspections

Perform tests and inspections, including the following tasks, of the fire protection systems prior to startup.

- 1 Perform Technical Specification Surveillance 4.12.F for fire barrier penetration seals (Evaluation III.C.11). [MA]
- 2 Test and inspect fire protection water systems as follows: testing the hydraulic gradient on the main fire loop, inspecting ten percent of the check valves for silt deposition and/or corrosion, inspect one strainer and flush dead end manifold at the south end of the West Cable Tunnel. [DET-4, DET-5, DET-6, DET-7, DET-8, FP-13, FP-22]
- 3 Perform a discharge or an acceptable NFPA Code test on the Relay Room carbon dioxide system. [FP-24]
- 4 Perform an eight-hour discharge test on the Appendix R Emergency Lights. [DET-16, DET-23, FP-5, FP-30]
- 5 Test alternate shutdown equipment in accordance with Generic Letters 81-12 and 88-12. [FP-25]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 8 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP
(continued)

1.7 Procedural Improvements

Review, revise and/or implement procedures, including the following tasks, of the fire protection program prior to startup.

- 1 Review, revise (if necessary) and/or implement fire protection procedures including: ACP-28, AOP-43, AOP-58, DCM-11, DCM-12, DCM-13, IES 4.2, MCM-2, MCM-3, MCM-5, MCM-9, MCM-12, MCM-23, NuAp 5.6, WACP-10.1.7, WACP-10.1.10, WACP-10.1.13, WACP-10.1.14, WACP-10.1.16, IS-E-03, Plant and Environs Combustible Control Procedures, Standing Fire Watch Procedures and Hot Process Fire Watch Procedures. [LT-1, DET-12, DET-15, DET-17, DET-19, FP-3, FP-4, FP-9, FP-10, FP-12, FP-14, FP-25, FP-28, FP-31, FP-32, FP-33, FP-34, FP-35, FP-39, LER-8, LER-21, LER-37, LER-38, LER-59]
- 2 Improve both checking of design documents and compliance with modification procedures for fire protection evaluations. [ST-7, LT-13, FP-11, FP-12]
- 3 Improve the existing Pre-Fire Plans for administrative controls and to facilitate fire fighting activities. A further upgrade to the Pre-Fire Plans is scheduled for after startup as discussed in Item 2.2.4. [DET-12, DET-15, FP-36]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 9 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP

(continued)

1.8 Training

Review, revise and/or implement fire protection training, including the following tasks, of the fire protection program prior to startup.

- 1 Provide operator training and walkthroughs of AOP-28, AOP-43 and AOP-58. [DET-12, DET-15, FP-3, FP-4, FP-26, FP-28]
- 2 Train Fire Brigade personnel in accordance with the requirements of two in-plant drills per calendar year with each Fire Brigade receiving one unannounced drill on the back shift. [FP-35]
- 3 Train standing fire watch personnel and hot process fire watch personnel on the revised fire watch procedures. [DET-17, FP-9, FP-34]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 10 of 13)

1.0 WORK ITEMS TO BE COMPLETED PRIOR TO STARTUP
(continued)

1.9 Miscellaneous

Perform the following tasks involving the fire protection program prior to startup.

- 1 If needed, provide exemption requests (this includes clarification of existing exemptions). [NA]
- 2 If needed, provide Compensatory Action Plans for those fire protection actions, modifications and/or evaluations that cannot be completed prior to startup. Each of these plans would remain in effect until the action, modification and/or evaluation is completed satisfactorily. [NA]
- 3 Evaluate and, if necessary, enhance the communication systems for the operating staff and the Fire Brigade (Evaluations III.A.06, III.E.45). [DET-15, FP-4]
- 4 Upgrade the Fire Brigade equipment and provide electric-safe hose nozzles where necessary. [FP-35]
- 5 Review the GE recommendations to minimize hydrogen fires in the offgas system and, if modifications are necessary, develop an action plan. [DET-1]
- 6 Review twenty randomly selected, previously installed modifications for fire protection and Appendix R concerns and resolve identified concerns. [ST-8, FP-11]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 11 of 13)

2.0 WORK ITEMS TO BE COMPLETED AFTER STARTUP

2.1 Fire Protection Design Basis

An evaluation of the fire protection design basis, which includes the following tasks, will be completed after startup as indicated by the dates in parentheses.

- 1 Perform a design basis reconstitution of the Fire Protection Program and Systems (Targeted completion by March 1993). [LT-2, LT-19, DET-14, FP-8, FP-12, FP-24]
- 2 Address compliance and document deviations to the NFPA codes of the Fire Protection Program and Systems (Targeted completion by March 1993). [LT-14, FP-12, FP-38]

2.2 Fire Protection Program

The revision and implementation of the Fire Protection Program, which includes the following tasks, will be completed after startup as indicated by the dates in parentheses.

- 1 Implement newly purchased cable and raceway management software, including Appendix R module (Targeted completion by August 1992). [LT-20, LT-21, FP-12]
- 2 Revise and update the Fire Hazards Analysis (Targeted completion by March 1993). [LT-16, FP-12]
- 3 Consolidate the existing fire protection elements into a single comprehensive Fire Protection Program (Targeted completion by March 1993) and, if necessary, develop an action plan to resolve any findings. [LT-5, LT-9, LT-10, LT-11, FP-12, LER-3, LER-42, LER-46]
- 4 Perform a Pre-Fire Plan upgrade which includes development of Operations and Activity Pre-Fire Plans (Targeted completion by March 1993). [DET-12, DET-15, FP-36]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 12 of 13)

2.0 WORK ITEMS TO BE COMPLETED AFTER STARTUP (continued)

2.3 Miscellaneous

The following tasks involving the fire protection program will be completed after startup as indicated by the dates in parentheses.

- 1 Review and, if necessary, update fire protection surveillance test program including tests for doors, dampers and seals, taking into account ALARA concerns (Targeted completion by December 1992). [LT-3, LT-18, DET-2, FP-12, FP-13, FP-22]
- 2 Improve training of design engineers dealing with fire protection issues (Targeted completion by December 1992). [LT-12, FP-12]
- 3 Evaluate the noise levels of the evacuation alarm and the fire alarm in the Control Room and their impact on Control Room communications (Targeted completion by March 1993). [DET-3]
- 4 If necessary, revise the NYPA Nuclear Generation Business Plan and/or the FitzPatrick Plant Results Improvement Plan based on the findings of the overall root cause analysis (Targeted completion by March 1993). [LER-65]
- 5 Modification or upgrade of operable dampers not installed per an acceptable configuration (Targeted completion is prior to startup from the next scheduled refueling outage). [LT-8, LT-15, FP-12]
- 6 Improve labeling on the safe/alternate shutdown panels as part of the overall labeling program (Targeted completion by March 1993). [FP-28]
- 7 Evaluate the configuration and necessity of the intake structure deicing heaters and, if necessary, modify the heater circuitry (Modification F1-92-132) (Targeted completion by December 1992). [DET-20, DET-21, AR-40, FP-16, LER-48, LER-49, LER-50, LER-51]
- 8 The Fire Protection Program Manager is tracking, resolving and closing the open items from the QA Audits of the Fire Protection and Prevention Program (Targeted completion by March 1993). [FP-37]

ATTACHMENT 1

FIRE PROTECTION IMPROVEMENT PROGRAM PLAN

(page 13 of 13)

3.0 OTHER ITEMS

3.1 NRC Action

NRC to evaluate the basis for the two hours allowed after a fire before beginning the implementation of AOP-58. [FP-27]

3.2 Closed Items

Corrective actions that have been completed at this time, this includes implementation of the fire barrier fire watches. [ST-2, ST-3, DET-9, DET-13, AR-32, AR-33, FP-7, FP-15, LER-1, LER-2, LER-4, LER-5, LER-6, LER-7, LER-10, LER-11, LER-12, LER-13, LER-14, LER-15, LER-16, LER-17, LER-19, LER-20, LER-21, LER-22, LER-23, LER-24, LER-25, LER-26, LER-27, LER-28, LER-29, LER-30, LER-32, LER-37, LER-38, LER-39, LER-40, LER-41, LER-43, LER-47, LER-52, LER-53, LER-54, LER-55, LER-56, LER-58, LER-59, LER-60, LER-61, LER-62, LER-63]

APPENDIX A

SHORT TERM FIRE PROTECTION ACTIONS

New York Power Authority personnel met with NRC staff members on August 2, 1991 at the NRC's Region I offices to discuss recent developments concerning fire protection at FitzPatrick. At that meeting, the Authority committed to submit a schedule for each of the long term and short term actions identified in the meeting handout.

In a letter from R. E. Beedle to the NRC (JPN-91-043, dated August 16, 1991), the Authority identified the short term actions. That listing is reproduced in this appendix.

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
ST-1	1	Modify (or replace as appropriate) the following fire dampers: 67FD-4, 67FD-5, 67FD-13, 67FD-18, 67FD-26, 69FD-35, 70FD-3, 70FD-4, 70FD-5, 70FD-6, 70FD-7, 70FD-10, 72FD-12, 73FD-1A, 73FD-1B, 73FD-1C, 73FD-1D, 73FD-1E and 73FD-1F.
ST-2	2	Complete evaluation of installed fire door closure and gaps. Complete any necessary modifications.
ST-3	3	Complete evaluation to determine need for fire protection of exposed steel in the Battery Charger Rooms. Complete any necessary modifications.
ST-4	4	Install suppression system in Battery Room Corridor (Fire Area XVI/Fire Zone BR-5).
ST-5	5	Complete evaluation of Control Room/Relay Room ventilation (Fire Area III/Fire Zones CR-1 and RR-1). Complete any necessary modifications.
ST-6	6	Resolve audit findings on NFPA code compliance and design reviews.
ST-7	7	Assure compliance with modification procedures for fire protection evaluations.

APPENDIX A

SHORT TERM FIRE PROTECTION ACTIONS

(page 2 of 2)

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
ST-8	8	Complete the review of twenty randomly selected, previously installed modifications for fire protection and Appendix R concerns. Resolve any identified concerns.
ST-9	9	Install fire detection in Fire Area 1E/Fire Zone TB-1, north of the Electric Bays.

APPENDIX B

LONG TERM FIRE PROTECTION ACTIONS

New York Power Authority personnel met with NRC staff members on August 2, 1991 at the NRC's Region I offices to discuss recent developments concerning fire protection at FitzPatrick. At that meeting, the Authority committed to submit a schedule for each of the long term and short term actions identified in the meeting handout.

In a letter from R. E. Beedle to the NRC (JPN-91-050, dated September 13, 1991), the Authority identified the long term actions. That listing is reproduced in this appendix.

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LT-1	II.F.1.a	Fire Protection Program procedure revision.
LT-2	II.F.1.b	Fire protection design basis reconstitution.
LT-3	II.F.1.c	Review of Fire Protection Surveillance Test Program.
LT-4	II.F.1.d	Fire barrier reevaluation.
LT-5	II.F.1.e	Clearly establish element of a 10 CFR 50.48 Fire Protection Program.
LT-6	II.F.2.a	Fire penetration baseline inspection.
LT-7	II.F.2.b	Fire penetration qualification report review/approval.
LT-8	III.F.1	Modification or upgrade of operable damper not installed per an acceptable configuration.
LT-9	IV.F.1	Consolidate the existing elements of the fire protection program into a single comprehensive program.

APPENDIX B

LONG TERM FIRE PROTECTION ACTIONS

(page 2 of 2)

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LT-10	VII.G.1	Consolidate the existing elements of the fire protection program into a comprehensive fire protection reference manual.
LT-11	VII.G.2	Resolve any findings due to VII.G.1.
LT-12	VIII.F.1	Improve training for design engineers dealing with fire protection issues.
LT-13	VIII.F.2	Improve checking of design documents.
LT-14	VIII.F.3	Address compliance to NFPA code or document deviations.
LT-15	X.C.1	Damper modifications for operable damper not installed per Underwriters Laboratories.
LT-16	X.C.2	Fire Hazards Analysis and Fire Protection Reference Manual review and update to 1991.
LT-17	X.C.3	Full fire barrier seal inspection.
LT-18	X.C.4	Review and update the fire protection surveillance tests for doors, dampers and seals.
LT-19	X.C.5	Reconfigure the design basis of the fire protection system and program.
LT-20	X.C.6	Identify optimal shutdown equipment list.
LT-21	X.C.7	Implement newly purchased cable and raceway management software, including Appendix R module.

APPENDIX C

DIAGNOSTIC EVALUATION TEAM REPORT FIRE PROTECTION OPEN ITEMS

The NRC assembled a Diagnostic Evaluation Team (DET) to assess NYPA's effectiveness of licensed activities at FitzPatrick. The assessment took place during September 16 through 27 and October 14 through 22, 1991 and was conducted at FitzPatrick and the White Plains Office. The NRC issued the DET Report via a letter to J. C. Brons (dated December 3, 1991).

Although the report covered many topics, there were several items that pertained to fire protection and it is these items, with their report location by page provided in parentheses, that are delineated below. These DET fire protection items were discussed during the NRC special inspection (see Appendix E).

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
DET-1	2.1.2.2	FitzPatrick has not implemented all the GE recommendations to minimize hydrogen fires in the offgas system. (page 6)
DET-2	2.1.3	Annual preventative maintenance was scheduled on a fire hose in a high-radiation area. (page 8)
DET-3	2.1.6	Plant evacuation alarm and fire alarm noise levels in the main control room are too high. (page 11)
DET-4	2.2.1	Fire protection check valves not in the preventative maintenance program. (page 13)
DET-5	2.2.4.1.a	Two check valves in the headers to the reactor building NE and NW fire protection standpipes were neither tested nor inspected for corrosion or silting. (page 17)
DET-6	2.2.4.1.b	Emergency diesel generator suppression system pre-action check valves were neither tested nor inspected. (page 17)

APPENDIX C

DIAGNOSTIC EVALUATION TEAM REPORT FIRE PROTECTION OPEN ITEMS

(page 2 of 3)

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
DET-7	2.2.4.1.c	Several check valves in the flow paths to the turbine oil sprinkler piping were neither tested nor cycled. (page 17)
DET-8	2.2.4.1.d	The check valve in the flow path for the suppression system for the radwaste handling and laundry areas was not tested. (page 18)
DET-9	2.3.2.7	The intake and discharge tunnels have not been inspected since October 1986. (page 26)
DET-10	2.3.2.8 (1)	The fire protection weakness of the assumption of no offsite power for fire scenarios. (page 26)
DET-11	2.3.2.8 (2)	The fire protection weakness of no high-impedance fault analysis. (page 26)
DET-12	2.3.2.8 (3)	The fire protection weakness of a lack of guidance to operators in fire response procedures to achieve a safe shutdown and to assist with diagnosis of significant spurious actuations of equipment. (page 26)
DET-13	2.3.2.8 (4)	The fire protection weakness of the assignment of only one individual part time to walk down the plant for transient combustibles and evaluate the condition of the fire protection system. (page 26)
DET-14	2.3.2.8 (5)	The fire protection weakness of the lack of a design basis document for fire protection. (page 26)
DET-15	2.3.2.8 (6)	The fire protection weakness of a failure to include spurious actuation vulnerabilities in fire response procedures for communications and indication circuitry. (page 26)

APPENDIX C

DIAGNOSTIC EVALUATION TEAM REPORT FIRE PROTECTION OPEN ITEMS

(page 3 of 3)

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
DET-16	2.3.2.8 (7)	The fire protection weakness of a lack of original or subsequent verification of illumination levels of lighting. (page 26)
DET-17	2.3.2.8 (8)	The fire protection weakness of no procedures governing fire watches. (page 26)
DET-18	2.3.2.8 (9)	The fire protection weakness of unreviewed potential common mode failures of electrical cables due to lack of separation. (page 26)
DET-19	2.3.2.8 (10)	The fire protection weakness of the uncontrolled storage of flammables in safety-related equipment rooms. (page 26)
DET-20	2.3.3.4	The design basis does not account for a single failure of either of the two trains of intake deicing heaters. (page 28)
DET-21	2.3.3.6.a	The electrical cables located in the control room to operate the intake deicing heaters did not meet fire protection separation criteria. (page 29)
DET-22	2.3.3.6.b	NYPA reported in November 1991, that a fire could disable both trains of the control and relay room heating and ventilation system. (page 29)
DET-23	2.3.4.6	Post modification tests were not performed for 6 VDC and 125 VDC 10CFR50, Appendix R lighting, as is required by procedures. (page 30)

APPENDIX D

OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

The New York Power Authority has initiated an effort to review and update the Fire Protection Program at FitzPatrick. As part of this effort a new Appendix R Safe/Alternate Shutdown Analysis was developed. In evaluating the new analysis against the plant configuration, a list of forty-three possible open items was developed. This list is currently under NYPA review to determine what corrective action, if any, is necessary.

The open items in this list are delineated below. In addition, the list was provided to the NRC during the special inspection (see Appendix E).

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-1	1	Reactor head vent valves (02AOV-17, -18) may open due to cable failures resulting from fires in Fire Areas IC, VII and X. The spurious opening of these valves would cause the loss of reactor inventory and cause drywell heating. At this time, it is not known if the inventory loss or the drywell heat up would be significant.
AR-2	2	The ADS valves (02SOV-71A1, B1, C1, D1, E1, F1, G1, H1, J1, K1 and L1) are subject to spurious opening failures as a result of a fire in Fire Areas ID, VII and X. The spurious opening of these valves would cause uncontrolled inventory loss.
AR-3	3	Valves 10AOV-71B and 10MOV-36B are subject to spurious opening as a result of a fire in Fire Area VII. This could divert RHR LPCI flow from the reactor vessel to the suppression pool.
AR-4	4	Redundant RCS pressure sensors are affected in Fire Area VIII.

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OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-5	5	Valve 10MOV-16A may be adversely affected in many areas for which it is required to be operable. The fire induced failures only affect automatic actuation circuits associated with the valve, but this could affect valve position.
AR-6	6	Valve 10MOV-16B may be adversely affected in Fire Areas V and X. The potential failures are due to failures of automatic actuation circuitry as well as direct failure of the valve's control circuitry (direct failures of the valve's control circuits occur in Fire Area X).
AR-7	7	As currently configured, a Control Room fire can potentially actuate the control circuitry of valves required for alternate shutdown. If the hot short occurred downstream of the torque/limit switches, the valve motor may remain energized after the valve has reached the end of travel. This may result in motor burnout.
AR-8	8	A fire in Fire Areas VIII and IX can adversely affect the position of valves 10MOV-25A and -27A due to failures of automatic actuation circuitry associated with these valves. Also, motor power to these valves may be lost due to cable failures associated with 71MCC-155.
AR-9	9	A fire in Fire Area X can affect the automatic actuation circuitry associated with valves 10MOV-25B and -27B. Also, a fire in this area can directly damage control circuitry associated with 10MOV-27B (cables 1RHRBBC184 and 1RHRBBC185).
AR-10	10	Redundant containment spray isolation valves (10MOV-26A, -31A) may fail due to a fire in Fire Area VIII. This would divert LPCI flow.

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OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-11	11	Redundant containment spray isolation valves (10MOV-26B, -31B) could fail due to a fire in Fire Area VII. Spurious opening of these valves could divert LPCI flow.
AR-12	12	A fire in Fire Area VIII and IX can cause the loss of the power cable to 71MCC-155 thereby disabling valve 10MOV-66A which is required to be closed for long term reactor and suppression pool cooling. Also, a fire in Fire Area IX may affect the automatic control circuitry associated with this valve.
AR-13	13	A fire in Fire Area IX or X in the vicinity of the water curtain may actuate the water curtain. Spray may damage 71MCC-151 and 71MCC-161 which will cause the failure of redundant RHR service water isolation valves (10MOV-89A and -89B).
AR-14	14	The power cable for pump 10P-3D is potentially lost due to a fire in Fire Area IA, Fire Zone AD-3. All other RHR pumps are potentially affected by a fire in this area.
AR-15	15	RCIC steam supply isolation capability is not assured due to potential cable failures associated with valves 13MOV-131, -15, -16 and -32 in Fire Areas IC, ID, VII and X.
AR-16	16	Isolation of ESW flow to the drywell coolers is required when only one ESW pump is available. The needed valve capability (15MOV-102, and -103) is not assured in Fire Areas ID, VII, X and XI.
AR-17	17	All torus temperature detectors (161TI-131A and -131B) are located in Fire Area XV. A given fire in the torus area will not encompass the entire area due to the lack of combustibles. A concern over Control Room Torus temperature monitoring capability exists.

APPENDIX D

OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-18	18	A fire in Fire Areas IX, X and XI may cause the failure of redundant steam isolation valves (23MOV-14, -15, -16 and -60) to the HPCI turbine.
AR-19	19	A fire in Fire Areas IA, VII and XVI may cause loss of cable 1DMSBBK015. The loss of this cable would cause loss of power to 71BMCC-2. This would preclude closing of valves 23MOV-60 and 29MOV-77.
AR-20	20	A fire in the CAD Building (Yard Area) could potentially isolate the nitrogen supply to the ADS valves (27AOV-126A, -126B, -129A and -129B). Note: A fire in the Yard Area will not necessitate a plant shutdown.
AR-21	21	A fire in Fire Areas ID, VII, IX, X, XI and XV may cause spurious opening of the containment nitrogen makeup lines (valves 27FCV-103A, -103B, 27MOV-131A, -131B, -132A and -132B). Nitrogen is required for ADS actuation.
AR-22	22	Inboard and outboard MSIVs (29AOV-86A, -86B, -86C and -86D) may be affected by a fire in Fire Areas VII and XVI (alternate shutdown areas).
AR-23	23	A fire in Fire Area VII could cause loss of control cable 1ESWBBC098. This could disable ESW Pump 46P-2B.
AR-24	24	A fire in Fire Area IE, Fire Zone TB-1, may disable the Division A Electric Bay Cooler (67UC-16A).
AR-25	25	A fire in Fire Area VII may disable the Division B Electric Bay Cooler (67UC-16B).

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OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-26	26	For all fire areas for which the A Train is relied upon for safe shutdown, it is necessary to manually align the A Train ESW to the Control Room and Relay Room air handling units (70AHU-19A, and -19B).
AR-27	27	A fire in Fire Area XI, Fire Zone CT-3 may affect cable 1CRVNNC024. Loss of this cable can adversely affect the operation of air handling unit 70AHU-12A and damper 70MOD-102A.
AR-28	28	A fire in Fire Area XI, Fire Zone CT-3 may fail fire dampers 70FD-5 and -10. This may adversely affect the Relay Room ventilation system.
AR-29	29	A fire in Fire Area IA may impact cables 1CRVBBC009, 1CRVBBC010, 1CRVBBC011 and 1FPSNNC280. This may impact the B Train Relay Room HVAC by affecting dampers 70MOD-102B and -104B and air handling units 70AHU-12B and -13B.
AR-30	30	A fire in Fire Area IA may impact cables 1CRVNNX567. Failure of this cable will impact 70TCV-123B.
AR-31	31	A fire in Fire Area IB, Fire Zone RW-1 pipe tunnel, may impact cable 1LIEBBK004. Loss of this cable will cause loss of B Train control power to 71L-16.
AR-32	32	A fire in Fire Area IV could result in closure of FD-3, -4, -5 and -6. Failure of these dampers would result in the loss of HVAC operability (air handling unit 72AHU-30A and fans 72FN-31A and -46A) in the A Train Battery Room and Charger Room.

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OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-33	33	A fire in Fire Areas VII and XVI could result in failure of cables and panels required for A and B Train Battery Room HVAC (air handling unit 72AHU-30B and fans 72FN-31B and -46B).
AR-34	34	A fire in Fire Area IC could potentially impact cable 1ABVBBK055. This cable is required to support air handling unit 72AHU-30B.
AR-35	35	A fire in Fire Area II, Fire Zone CT-2 may impact fire protection cables and control panels for the exhaust fan (73FN-3A) and fire dampers (73FD-1C and -1D) associated with the A Train ESW/RHRSW Pump Rooms.
AR-36	36	A fire in Fire Area IB, Fire Zone SH-13 may impact fire protection cables and control panels for the exhaust fan (73FN-3B) and fire dampers (73FD-1A and -1B) associated with the A and B Train ESW/RHRSW Pump Rooms.
AR-37	37	A fire in Fire Area II, Fire Zone CT-2 may impact cables 1FPSNNC233 and 1FPSNNC235. These cables may spuriously actuate the 71HO5 Switchgear Room Carbon Dioxide System (92CD-1 and -3). This would disable the ventilation system for the EDG switchgear room.
AR-38	38	A fire in Fire Area IB, Fire Zone SH-13 may impact the fire protection panels associated with both 71HO5 and 71HO6 Switchgear Room Carbon Dioxide Systems (92CD-2 and -4). This could disable the ventilation systems in these areas.
AR-39	39	A fire in Fire Area VII could disable 3 of the 4 RHRSW pumps. Two RHRSW pumps may be required to support safe shutdown.

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OPEN ITEMS FROM THE APPENDIX R RE-ANALYSIS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
AR-40	40	The deicing heaters are not installed in accordance with Appendix R requirements.
AR-41	41	Instrumentation tubing has not been included in the Appendix R analysis.
AR-42	42	Assess requirements for Reactor Coolant Pump (RCP) seal integrity. RCP tripping may be required during some fires.
AR-43	43	Assess the rate of heatup of the EDGs without ESW available. A spurious start of an EDG during a Control Room fire may cause EDG overheating if ESW is not available.

APPENDIX E

OPEN ITEMS FROM THE NRC SPECIAL INSPECTION (92-80) ON THE FITZPATRICK FIRE PROTECTION PROGRAM

The NRC assembled a team to assess NYPA's progress on the enhancing of the Fire Protection Program at FitzPatrick. This Special Inspection (92-80) took place during March 9 through 20, 1992 and was conducted at FitzPatrick. The NRC issued the Inspection Report via letter to H. P. Salmon, Jr. (dated April 15, 1992).

The open items identified in the Inspection Report, with their location by section and page provided in parentheses, are delineated below.

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-1	92-80-01A	The assumption was made that no offsite power is available for fire scenarios. (Section 2.1.1, page 6)
FP-2	92-80-01B	No high-impedance fault analysis. (Section 2.1.1, page 6)
FP-3	92-80-01C	Lack of guidance to operators in fire response procedures to achieve safe shutdown and assist with diagnosis of significant spurious actuation of equipment. (Section 2.1.1, page 6)
FP-4	92-80-01D	Failure to include spurious actuation vulnerabilities in fire response procedures for communications and indication circuitry. (Section 2.1.1, page 7)
FP-5	92-80-01E	Lack of original or subsequent verification of illumination levels of lighting. (Section 2.1.1, page 7)
FP-6	92-80-01F	Unreviewed potential common mode failures of electrical cables due to lack of separation. (Section 2.1.1, page 7)

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OPEN ITEMS FROM THE NRC SPECIAL INSPECTION (92-80)
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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-7	92-80-02A	Assignment of only one individual to walk down the plant part time for transient combustibles and evaluate the conditions of the fire protection system. (Section 2.1.2, page 8)
FP-8	92-80-02B	Lack of design basis document for fire protection. (Section 2.1.2, page 8)
FP-9	92-80-02C	No procedures governing fire watches. (Section 2.1.2, page 8)
FP-10	92-80-02D	Uncontrolled storage of flammables in safety related pump rooms. (Section 2.1.2, page 8)
FP-11	92-80-02A	Complete Short Term Corrective Actions. (Section 2.2.1, page 11)
FP-12	92-80-02B	Complete Long Term Corrective Actions. (Section 2.2.2, page 11)
FP-13	92-80-03A	Weaknesses in the surveillance and testing program including: ALARA, root cause analysis, and check valve inspections. (Section 2.1.3, page 9)
FP-14	92-80-03B	Need to revise AOP-43 to take into account modifications needed to comply with 10CFR50, Appendix R. (Section 2.1.3, page 10)
FP-15	92-80-03C	A comprehensive punch list of QA findings was not available. (Section 2.1.3, page 10)
FP-16	92-80-04	Resolution of the 43 open items from the 1992 Appendix R reanalysis. (Section 2.3.3, page 17)

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-17	92-80-05	For the ADS/LPCI Safe Shutdown methodology provide the detailed plan, schedule and description. (Section 2.3.4, page 17)
FP-18	92-80-06A	Redundant train separation not meeting the requirements of 10CFR50, Appendix R, Section III.G. (Section 2.4.1.2, page 25)
FP-19	92-80-06B	The existing design of the cable tray fire suppression system in the East and West Cable Tunnels does not provide an equivalent level of fire protection required by 10CFR50, Appendix R, Section III.G.2.c. (Section 2.4.1.3, page 29)
FP-20	92-80-06C	The 1992 Appendix R reevaluation identified potential spurious operations or equipment failures that do not meet the requirements of 10CFR50, Appendix R, Section III.L.7. (Section 2.4.2.2, page 34)
FP-21	92-80-06D	The 1985 Appendix R analysis did not adequately analyze the separation of shutdown functions in the north cable tunnel and battery room corridor, and did not adequately provide alternative shutdown capability per the requirements of 10CFR50, Appendix R, Section III.G.3.a. (Section 2.4.2.2, page 35)
FP-22	92-80-07A	The adequacy of the fire barrier reevaluation program, the fire barrier penetration and damper modifications, the schedule for completion, and the revised surveillance and testing program to assure Appendix R compliance. (Section 2.4.1.3, page 28)

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-23	92-80-07B	The adequacy of the 1-hour electrical raceway fire barrier design to provide a level of fire resistive protection required by 10CFR50, Appendix R, Section III.G.2.c. (Section 2.4.1.3, page 29)
FP-24	92-80-08	The adequacy of the design basis of the carbon dioxide fire suppression and detection systems. (Section 2.4.1.3, page 30)
FP-25	92-80-09	Generate a new periodic surveillance test procedure that conforms to the requirements of Generic letter 81-12 and perform a test of the remote shutdown panels prior to startup. (Section 2.4.2.3.1, page 36)
FP-26	92-80-10	Provide operator training for procedures AOP-28, AOP-43 and AOP-58 in accordance with ITP-5. (Section 2.4.2.3.2, page 36)
FP-27	92-80-11	Completion of NRC review of SWEC Calc. Nos. 02268.5004-US(N)-007 and 02268.5005-US(N)-005 which deals with the increased room temperature due to loss of ventilation in the operable Station Battery Room and Charger Room. (Section 2.4.2.3.3, page 37)
FP-28	92-80-12	Consider revising AOP-43 to isolate and vent the control rod drive instrument air header as the first step taken by the operators to assure reactor trip, to provide a step to verify ESW flow to the B and D EDGs, to provide a screwdriver or other means to open panels 05-6A and 05-6B in the Relay Room, to provide band indicators on meters on the B and D EDG control panels opposite remote shutdown panel 25ASP-3, and on panels used for safe shutdown, upgrade the labeling and add confirmatory lamps. (Section 2.4.2.3.4, page 38)

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OPEN ITEMS FROM THE NRC SPECIAL INSPECTION (92-80)
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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-29	92-80-13	Provide adequate emergency lighting for access and egress routes to alternate safe shutdown equipment and provide adequate emergency lighting for an operator to perform alternate safe shutdown functions as required by 10CFR50, Appendix R, Section III.J. (Section 2.4.3, page 40)
FP-30	92-80-14	Incorporate into the emergency lighting surveillance and test procedures vendor recommended maintenance and testing to assure operability and availability of emergency lighting units as required by 10CFR50, Appendix B, Criterion III. (Section 2.4.3, page 41)
FP-31	92-80-15A	Implement a program of inspections to minimize the amount of combustibles in safety related areas, assure the availability and acceptability of fire protection equipment, and assure prompt and effective corrective actions for conditions adverse to fire protection as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.1.2, page 43)
FP-32	92-80-15B	Implement a program for control of combustibles as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.2.1, page 46)
FP-33	92-80-15C	Implement a program for ignition source control as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.2.2, page 47)
FP-34	92-80-15D	Revise the program for fire watch training and implementation as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.2.3, page 49)

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OPEN ITEMS FROM THE NRC SPECIAL INSPECTION (92-80)
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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
FP-35	92-80-15E	Implement a fire brigade program as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.3.3, page 55)
FP-36	92-80-15F	Implement and maintain fire fighting pre-plans as required by the FitzPatrick Operating License Condition 2.C(3). (Section 2.5.3.4, page 56)
FP-37	92-80-16	Implement a corrective actions program as required by 10CFR50, Appendix B, Criterion XVI. (Section 2.5.4.1, page 60)
FP-38	92-80-17	Perform an NFPA code compliance review of the Fire Protection Program. (Section 2.5.6, page 62)
FP-39	91-01-04	This previous open item deals with control over temporary modifications and fire damper inspection covers. While corrective action has been initiated, work continues which includes revision of WACP 10.1.3. (Section 2.6.1, page 62)
FP-40	90-09-03	This previous open item deals with fire barrier three-hour penetration seals meeting the requirements of 10CFR50, Appendix B, Criterion XVI and Criterion XI. While corrective action has been initiated, work continues. (Section 2.6.2, page 63)

APPENDIX F

FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

During the last few years NYPA has submitted several Licensee Event Reports (LERs) on fire protection issues. Many of these items have been subsequently discussed in the issues presented in Appendices A through E.

Listed below are the corrective actions/open items from each fire protection related LER. In addition, in parenthesis after each LER number is the transmittal letter number and transmittal date

CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
<u>LER 89-007-01</u>		(JAFP-89-0808, November 13, 1989, Note: this revision supersedes LER 89-007-00 [JAPF-89-0435, June 7, 1989])
LER-1	Short Term 1	Fire watches were established and surveillance of the fire barrier penetration seals in the identified walls, floors, and ceiling which had not been performed within the allowable surveillance interval was completed.
LER-2	Short Term 2	Each identified deficiency has been corrected by repair, replacement, or installation of 3-hour rated seals.
LER-3	Long Term 1	The Fire Protection Reference Manual is being revised to provide clarification of any contradictions or overlapping requirements identified by the engineering review. Revision is expected to be completed by December 31, 1989.
LER-4	Long Term 2	Surveillance procedures will be revised to reflect the changes in the Fire Protection Reference Manual and will include inspection of BTP 9.5.1, Appendix A fire barrier penetration seals. The revised surveillance procedures will be issued prior to the next required surveillance.

APPENDIX F

FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
<u>LER 91-002-00</u> (JAFP-91-0196, April 3, 1991)		
LER-5	1	A fire watch was established and maintained until completion of the job.
LER-6	2	The electricians' foreman has been retrained on fire watch duties and penetration sealing requirements by the lead electrical supervisor and has had this training re-enforced by the department superintendent.
LER-7	3	Pre-job preparations and briefing in accordance with Plant Standing Order PSO #11 will be conducted for work involving fire barriers unless specifically waived by the responsible lead supervisor or department superintendent.
LER-8	4	Installation Specification IS-E-03 will be revised to specify additional areas where a fire watch must be posted. It will also standardize requirements for fire watch and penetration sealing when fire barriers are breached.
LER-9	5	A fire barrier program reassessment is in progress. It will verify the fire barrier requirements of the wall that was breached.
<u>LER 91-008-00</u> (JAFP-91-0440, July 25, 1991)		
LER-10	1	Personnel were counselled concerning the identification of fire barriers and the proper control of breach of barriers.
LER-11	2	The fire barrier plug was replaced by the licensed operator upon completion of tagging of the valves.

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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CROSS REFERENC NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LER-12	3	This and other removable plugs in fire barrier penetrations will be labeled on both sides as fire barriers by December 31, 1991 to indicate that they are not to be removed or opened without shift supervisor approval.
<u>LER 91-010-00 (JAFP-91-0505, August 15, 1991)</u>		
LER-13	A.1	<p>Postulated fire scenario of a loss of EDG ventilation (92FN-1A, B, C, & D) resulting in loss of EDGs and loss of EDG switchgear ventilation due to a postulated fire in the Control Room:</p> <p>The fan indicating lamp circuitry was modified by adding a set of fuses to electrically isolate the lamp circuitry to prevent a loss of control power to the fans in the event of a Control Room fire. Fire watches were maintained until the corrective action was accomplished.</p>
LER-14	A.2	<p>Postulated fire scenario of a loss of electric bay ventilation fans (67FN-12A, B, C, & D):</p> <p>The B side ventilation fan circuits have been electrically isolated from the Control Room. The A side ventilation circuits have been electrically isolated from the local panel located in the Turbine Building. This will prevent loss of these fans in the event of fires in the Turbine Building, the Control Room, the Cable Spreading Room, or the Relay Room. Fire watches were maintained until the corrective action was accomplished.</p>

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LER-15	A.3	<p>Postulated fire scenario of the loss of ESW and RSW Train B Pump Room ventilation fans:</p> <p>The conduit in the East Cable Tunnel has been wrapped in a fire retardant material for the exhaust fan for one of the two pump rooms. Fire watches were maintained until the corrective action was accomplished.</p>
LER-16	B.1	<p>Fire barrier mechanical discrepancies in the EDG Room ventilation carbon dioxide activated fire dampers:</p> <p>The dampers have been repaired and restored to the open position. Fire watches were maintained until the corrective action was accomplished.</p>
LER-17	B.2	<p>Fire barrier mechanical discrepancies in the battery room electrical penetration seals:</p> <p>The fire barrier electrical penetration seals have been replaced with approved materials to restore the 3-hour rated barrier. Fire watches were maintained until the corrective action was accomplished.</p>
LER-18	B.3	<p>Fire barrier mechanical discrepancies in fire dampers:</p> <p>Modifications of the fire dampers will be performed to provide adequate thermal expansion clearance for operation of the 19 fire dampers. Fire watches will be maintained until the corrective action is accomplished.</p>
LER-19	(None)	<p>Perform a root cause analysis on the items discussed in LER 91-010-00.</p>

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
<u>LER 91-012-00</u> (JAFP-91-0513, August 20, 1991)		
LER-20	Short Term	The south cable tunnel door was closed and an additional fire watch was posted. A work request was issued to repair the door. The additional fire watch was subsequently relieved and his duties were assumed by the original fire watch.
LER-21	Long Term	Fire watch duties training will be revised to include this event. The training program will be revised by August 23, 1991.
<u>LER 91-017-00</u> (JAFP-91-0657, October 10, 1991)		
LER-22	Short Term 1	The fire doors were immediately closed by the journeyman operator. (Fire Doors 76FDR-DG-272-8 and -9)
LER-23	Short Term 2	The need to keep the fire door closed or post a fire watch was re-emphasized to the personnel involved. (Fire Doors 76FDR-DG-272-8 and -9)
LER-24	Short Term 1	Plant personnel removed the portable test instrument cable and closed the fire door. One individual remained as a fire watch until the door was closed. (Fire Door 76FDR-DG-272-7)
LER-25	Short Term 2	Personnel involved were held accountable and re-instructed on the requirements of closing fire doors or having a fire watch posted as well as being counseled on their poor performance. (Fire Door 76FDR-DG-272-7)

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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<u>CROSS REFERENCE NUMBER</u>	<u>ITEM NUMBER</u>	<u>ITEM DESCRIPTION</u>
LER-26	Long Term 1	Route the critique and root cause analysis to appropriate plant personnel in the Performance and System Engineering groups, since they are responsible for the conduct of the aforementioned test. It will also be routed to the Maintenance, Training, and Operations Departments as well. (Fire Door 76FDR-DG-272-7)
<u>LER 91-020-00 (JAFF-91-0691, October 25, 1991)</u>		
LER-27	Short Term 1	A Fire watch was established on one side of Fire Door 76FDR-RW-272-16 and maintained until the door was repaired by the installation of a temporary modification and operability of the door was verified.
LER-28	Long Term 1	More emphasis will be placed on stressing the importance of functional fire barriers in the General Employee Training. A new replacement door for Fire Door 76FDR-RW-272-16 has been ordered and is expected within 2 months.
LER-29	Long Term 2	A memorandum to the plant staff was issued informing them of the issue and the importance of maintaining fire doors in an operable condition.
<u>LER 91-021-00 (JAFF-91-0786, November 27, 1991)</u>		
LER-30	1	A fire watch will remain posted until the consequences of closed fire dampers on the pump operability has been determined.
LER-31	2	An alternate method of providing adequate ventilation to the fire safety-related pump rooms, while maintaining adequate barriers to prevent the spread of a fire, will be investigated.

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LER-32	3	The fire damper installation procedure was extensively revised following the event to address the issue of fire damper closure as it related to plant operability.
LER-33	4.a	An engineering calculation will be performed to determine the maximum temperatures which will be experienced in each of the three purrip rooms assuming the closure of the fire dampers, loss of exhaust fans and occurrence of a fire in the adjacent screenwell.
LER-34	4.b	An engineering calculation will be performed to define the expected operating time of the RHRSW, ESW and fire pumps under these conditions.
LER-35	4.c	An engineering calculation will be performed to determine the temperature in the diesel fire pump room relative to the flash point of the fuel.
LER-36	4.d	An engineering calculation will be performed to assess diesel fire pump performance with the dampers closed and/or with failure of the exhaust fan.
LER-37	5	An assessment will be made of the adequacy of training, guidance and procedures relative to improving the writing of installation procedures. This will include the consideration of operability issues; the consideration of total plant system safety consequences; the necessity to assess actual field conditions; the necessity to acquire knowledge of the installation practices which will be used; and the necessity to transcend the boundaries of any given engineering discipline when preparing installation and/or test procedures.
LER-38	6	The process by which installation procedures are developed, reviewed and approved will be assessed for adequacy.

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CROSS
REFERENCE
NUMBER

ITEM
NUMBER

ITEM
DESCRIPTION

LER 91-023-00 (JAFP-91-0837, December 19, 1991)

LER-39	1	A fire watch was posted in Fire Zone AD-3 immediately and will remain posted until the condition is corrected.
LER-40	2	A root cause analysis will be conducted to determine why the presence of the Safety Division 1 conduit and cable necessary for safe shutdown in the event of postulated fires in Fire Zone AD-3 was not discovered and corrected during the original Appendix R work. Due date June 30, 1992.
LER-41	3	The Safety Division 1 MCC-253 feeder cable and conduit will be rerouted or provided with appropriate fire protection in its present location prior to startup following the 1992 Refuel Outage (currently planned for March 24, 1992). Due date March 24, 1992.
LER-42	4	Additional corrective action to reduce the probability of recurrence may be taken as a result of the root cause analysis.

LER 91-024-00 (JAFP-91-0817, December 13, 1991)

LER-43	Short Term 1	Upon verification of the degraded condition of the penetration fire seals, the Shift Supervisor was notified immediately and a fire watch was established within one hour.
LER-44	Short Term 2	Repair/rework actions were initiated for the deficient fire seals.
LER-45	Long Term 1	Safety assessments will be performed for all unsatisfactory penetration fire seals.

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LER-46	Long Term 2	Root causes will be identified and corrective actions will be implemented, as required, to installation procedures and surveillance procedures in addition to any other aspects of the fire protection program.
<u>LER 91-032-00 (JAFP-92-0094, January 27, 1992)</u>		
LER-47	1	The plant was in a safe cold shutdown condition upon determination that the design was not in accordance with the design basis. Therefore no operational changes to the plant were necessary.
LER-48	2	Analysis are being conducted to determine the complete design basis for the deicing heaters. These analyses will be completed prior to startup of the plant from the current refueling outage currently scheduled for March 24, 1992.
LER-49	3	An updated LER will be submitted within 60 days after completion of all analyses necessary to resolve the issues of this LER. Currently scheduled for May 18, 1992.
LER-50	4	The FSAR will be updated to reflect completion of the analyses/evaluations which establish the design bases of the intake heaters. Due date July 1993.
LER-51	5	Additional corrective action (if any) will be determined when the analyses are complete.
<u>LER 92-001-00 (JAFP-92-0106, February 3, 1992)</u>		
LER-52	1	In each case, the required fire watches were reestablished (for the continuous fire watch) or performed during the next one-hour period (for the hourly roving fire watch).

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
LER-53	2	The individual continuous fire watch tours are limited to a maximum of 60 minutes to reduce the probability that a fire watch will require unscheduled relief for personal reasons. Completed on January 17, 1992.
LER-54	3	Fire watches were counseled concerning the duties of fire watches and the requirements for assuring that proper relief takes place. Completed on January 17, 1992.
LER-55	4	Fire watch supervisors were hired and received appropriate training to provide 24-hour-a-day direct supervision. The supervisors also provide a specific individual to which fire watch personnel may bring questions, concerns or schedule difficulties for prompt resolution. Completed January 31, 1992.
<u>LER 92-004-00 (JAFP-92-0154, February 14, 1992)</u>		
LER-56	1	A continuous fire watch was posted in each tunnel within one hour as required by Technical Specification 3.12.D.1.b. Completed at 1820 hours on January 15, 1992.
LER-57	2	The continuous fire watch will remain posted until the fire suppression systems are modified to provide protection against the hazards of the area. This action will resolve any question concerning adequate protection of the Division 1 conduits and cables which cross the Division 2 tunnel. The planned completion date is December 31, 1992.

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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CROSS REFERENCE NUMBER	ITEM NUMBER	ITEM DESCRIPTION
<u>LER 92-006-00</u> (JAFP-92-0158, February 21, 1992)		
LER-58	1	The fire watch was relieved by another individual and disciplined. Completed January 22, 1992.
LER-59	2	Each fire watch and fire watch supervisor will be required to read this LER to reinforce the employee's understanding of plant management expectations concerning fire watch duties. Due date March 20, 1992.
<u>LER 92-010-00</u> (JAFP-92-0209, March 11, 1992)		
LER-60	1	The hourly fire watch patrol of the West Crescent Area was immediately reestablished. The patrol between 0500 and 0600 hours on February 11, 1992 (and later patrols) were completed as required.
LER-61	2	The resignation of the fire watch supervisor was accepted and a replacement was hired. The replacement fire watch supervisor began regular duties (after completion of training) on March 11, 1992.
LER-62	3	Each fire watch and fire watch supervisor was made aware of the fire watch and fire watch supervisor performance deficiencies and what should have been done when difficulties in completing the fire watch patrols first occurred. This action reinforces the employee's understanding of plant management expectations concerning fire watch and fire watch supervisor duties. Completed during shift meetings on February 19, and 20, 1992.

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FIRE PROTECTION LICENSEE EVENT REPORTS OPEN ITEMS

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REFERENCE
NUMBER

ITEM
NUMBER

ITEM
DESCRIPTION

LER 92-011-00 (JAFP-92-0254, March 23, 1992)

LER-63	1	Supervisor and craft foremen who are involved with the erection of scaffolding have been retrained on the requirements of Plant Standing Order PSO #51, "Erection of Scaffolds Near Safety Related Equipment." Particular emphasis was placed on thorough inspection of the work site for potential interferences prior to and subsequent to scaffold erection. Supervisors and foremen were counseled on the requirement to provide detailed instructions to the craft workers and to point out the underlying reason for the job requirements. Completed on March 19, 1992.
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LER 92-015-00 (JAFP-92-0329, April 20, 1992)

LER-64	1	Modifications to correct the seven deficiencies discussed in the LER will be completed prior to startup, or justification for the existing condition (including appropriate compensatory actions) will be completed prior to startup.
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LER-65	2	Corrections for the root causes discussed in the LER are being added to the NYPA Nuclear Generation Business Plan and/or the FitzPatrick Plant Results Improvement Plan.
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June 8, 1992

staff resources and qualification. PASNY stated their fire protection program is now addressing these weaknesses. PASNY plans to provide the NRC staff the results of their root cause analysis and their corrective actions prior to plant restart.

PASNY informed the NRC of a 6-month schedule delay to two previous commitments. PASNY plans to review the fire protection program surveillance test program after plant restart during a planned fire protection code compliance walkdown. This review will be completed by December 1992. PASNY plans to provide a formal Appendix R and fire protection program training course to design engineers by December 1992.

At the conclusion of the meeting, the NRC staff requested PASNY to provide a proposed schedule for PASNY's exemption requests to ensure NRC resources have the ability to plan the necessary technical reviews. PASNY agreed to provide a schedule on June 1, 1992.

Original Signed By

Richard A. Plasse, Acting Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Attendee List
2. Handouts

cc w/enclosures:
See next page

OFFICE	LA:PDI-1	PM:PDI-1	D:PDI-1		
NAME	CSVogan <i>CV</i>	RAPlasse:pc <i>pc</i>	RACapra <i>RA</i>		
DATE	6/5/92	6/6/92	6/8/92	/ /92	/ /92

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