

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 85-20

Docket No. 50-333

License No. DPR-59

Priority -

Category C

Licensee: Power Authority State of New York  
James A. FitzPatrick Nuclear Power Plant  
P. O. Box 41  
Lycoming, New York 13093

Facility Name: James A. FitzPatrick Nuclear Power Plant

Inspection At: Scriba, New York

Inspection Conducted: June 17 - 21, 1985

Inspectors: Ari G. Krasopoulos Aug. 13, 1985  
A. Krasopoulos, Reactor Engineer date

Also participating in the inspection and contributing to the report were:

T. Chandrasekaran, Auxiliary Systems Branch NRR  
A. Singh, Auxiliary Systems Branch, NRR  
A. Coppola, Mechanical Systems Specialist, BNL  
H. Thomas, Electrical Systems Specialist, BNL  
P. Koltay, Senior Resident Inspector, Region I  
D. Kubicki, Chemical Engineering Branch, NRR  
S. West, Chemical Engineering Branch, NRR

Approved by: C. J. Anderson 8/13/85  
C. J. Anderson, Chief, Plant System date  
Section, DRS

Inspection Summary: Inspection on June 17-21, 1985 (Report No. 50-333/85-20)

Areas Inspected: Special, announced team inspection of the licensee's efforts to comply with the requirements of 10 CFR 50, Appendix R, Sections III. G, J and O, concerning fire protection features to ensure the ability to achieve and maintain safe shutdown in the event of a fire. The inspection involved 272 inspector-hours onsite and 36 inspector hours in-office by a team consisting of 8 inspectors.

Results: One violation was identified (Failure to maintain separation of redundant components). Seven items remained unresolved at the end of the inspection. See Attachment 3 for a summary of the inspection findings.

## DETAILS

### 1.0 Persons Contacted

#### 1.1 Power Authority of the State of New York (PASNY)

B. Bernstein, Plant Engineer Technical Services  
R. Burns, Vice President BWR Support  
\*R. Converse, Superintendent of Power  
M. Cass, Licensing Engineer  
M. Curling, Training Superintendent  
F. DePoalo, Project Support Engineer  
J. Ellmers, Senior Nuclear Licensing Engineer  
\*W. Fernandez, Operations Superintendent  
N. Garofalo, Senior Plant Engineer Technical Services  
\*H. Glovier, Resident Manager  
\*J. Gray, Jr., Director Nuclear Licensing  
\*L. Guaquil, Director Project Engineering  
R. Heath, Fire Protection Supervisor  
\*D. Holliday, Senior Plant Engineer  
\*L. Jonston, QA Supervisor  
J. Kerfiev, QA Supervisor  
R. Locy, Waste Management Superintendent  
S. Muckherjee, Supervisory Engineer

#### 1.2 Licensee Contractors - Stone and Webster Engineering Corp (SWEC) EMP Inc.

S. Burke, Fire Protection - EMP Inc.  
D. Cirrone, Project Manager - SWEC  
A. Faramarzi, Systems Engineer - EMP Inc.  
S. Kuhr, Power Engineer - SWEC  
R. Tworek, Senior Electrical Designer (SWEC)  
R. Ulfstam, Fire Protection Supervisor - SWEC

#### 1.3 Nuclear Regulatory Commission (NRC)

\*H. Abelson, Project Manager - ORB  
\*A. Luptak, Senior Resident Inspector (Acting)

\*Denotes those present at the exit meeting.

### 2.0 Purpose

This inspection was to ascertain that the licensee is in conformance with 10 CFR 50, Appendix R, Sections III. G, J, and O, including exemptions approved by the Office of Nuclear Reactor Regulation (NRR).

### 3.0 Background

10 CFR 50.48 and 10 CFR 50 Appendix R became effective on February 17, 1981. Section III.G of Appendix R requires that fire protection be provided to ensure that one train of equipment necessary to achieve and maintain safe shutdown remains available in the event of a fire at any location within a licensed operating facility. For hot shutdown conditions, one train of the systems necessary must be free of fire damage (III.G.1.a). For cold shutdown conditions, repair is allowed using in place procedures and materials available onsite with the provision that cold shutdown be achievable within 72 hours of the initiating event (III.G.1.b). Section III.G.2 lists specific options to provide adequate protection for redundant trains of equipment located outside of the primary containment. These options are:

- Separation by a fire barrier having a three hour rating (III.G.2.a).
- Separation by a horizontal distance of at least 20 feet with no intervening combustibles and with fire detection and automatic fire suppression installed in the fire area (III.G.2.b).
- Enclosure of one train in a fire barrier having a one hour rating in addition to having fire detection and automatic suppression installed in the fire area (III.G.2.c).

If the protection required by Section III.G.2 is not provided or the systems of concern are subject to damage from fire suppression activities, Section III.G.3 of the rule requires that an alternate or dedicated shutdown capability be provided which is independent of the area of concern. Any alternate or dedicated system requires NRC review and approval prior to implementation.

For situations in which fire protection does not meet the requirements of Section III.G, however, such protection is deemed to be adequate by the licensee for the specific situation, the rule allows the licensee to request an exemption on a case-by-case basis. Such exemption requests are submitted to the NRC for review and approval and must be justified by the licensee on a technical basis.

### 4.0 Correspondence

All correspondence between the licensee and the NRC concerning compliance with Section III.G, J, and O was reviewed by the inspection team in preparation for the site visit. Attachment 1 to this report is a listing of the correspondence reviewed.

### 5.0 Post-Fire Safe Shutdown Capability

#### 5.1 Systems Required for Safe Shutdown

Safe shutdown is initiated from the control room by a manual scram of the control rods. Reactor scram can also be initiated manually by deenergizing the reactor protection system buses. Reactor coolant

inventory can be maintained by either the reactor core isolation cooling system (RCIC), the high pressure coolant injection system (HPCI); or the low pressure coolant injection system (LPCI) or the core spray system (CS) in conjunction with the automatic depressurization system (ADS). Reactor coolant system pressure is controlled by the Safety Relief Valves (SRV) either automatically or manually. Decay heat removal is provided by either the RHR in the shutdown cooling mode; or the LPCI or the CS in conjunction with the RHR in the suppression pool cooling mode.

The support systems required for safe shutdown include the RHR service water system, the emergency service water system, the essential ventilation systems, the emergency diesel generators and the essential electrical distribution system. The above systems are monitored and controlled from the control room or the remote shutdown panel and local control stations.

## 5.2 Alternative Safe Shutdown Areas

The licensee has committed to provide alternative safe shutdown capability in accordance with the requirements of Section III.G.3 and III.L of Appendix R to 10 CFR 50, for the Main Control Room, the Relay Room and the Cable Spreading Room.

## 5.3 Remaining Plant Areas

All plant areas not provided with an alternative safe shutdown system are required to be in compliance with the requirements of Section III.G.2 of Appendix R unless an exemption request has been approved by the Commission.

The licensee requested a number of exemptions to certain provisions of Appendix R which were evaluated and granted by the Commission. The enclosed Attachment 2 lists the requested exemptions and the Commission's date of approval.

## 5.4 Alternative Safe Shutdown Systems

The alternative shutdown capability consists of a remote shutdown panel (25 RSP) and three auxiliary shutdown panels 25 ASP-1, 25 ASP-2 and 25 ASP-3 which contain local control and isolation switches. The remote shutdown panel is located in the reactor building on elevation 300 feet. The alternative shutdown capability utilizes seven safety relief valves and the low pressure coolant injection system (LPCI). The safety relief valves are controlled from the manual automatic depressurization system (ADS) panel located in the reactor building. The LPCI and the supporting RHR service water pump are controlled from the remote shutdown panel. The instrumentation for the alternative shutdown capability is provided at the remote shutdown panel and a local instrument rack. The power supply for the alternative shutdown equipment is supplied by the emergency diesel

generator ("B" train only). The emergency diesel generators are manually isolated from the fire areas and locally started by breakers and controls provided in the local control panel located in the emergency diesel generator switchgear room. The design of the remote shutdown panel and the ADS panel includes control/isolation switches which when activated will electrically isolate the panel from the Control Room, Cable Spreading Room and Relay Room and will transfer control of the shutdown equipment to the panels. A fire at the remote shutdown, the ADS, or any of the auxiliary shutdown panels will result in loss of control for only the equipment controlled from the panel. One train of systems needed for safe shutdown will be available and controlled from the main Control Room.

## 6.0 Inspection Methodology

The inspection team examined the licensee's capabilities for separating and protecting equipment, cabling and associated circuits necessary to achieve and maintain hot and cold shutdown conditions. This inspection sampled selected fire areas which the licensee had identified as being in compliance with Section III.G.

The following functional requirements were reviewed for achieving and maintaining hot and cold shutdown:

- Reactivity control
- Pressure control
- Reactor coolant makeup
- Decay heat removal
- Support systems
- Process monitoring

The inspection team examined the licensee's capability to achieve and maintain hot shutdown and the capability to bring the plant to cold shutdown conditions in the event of a fire in various areas of the plant. The examination included a review of drawings, safe shutdown procedures and other documents. Drawings were reviewed to verify electrical independence from the fire areas of concern. Procedures were reviewed for general content and feasibility.

Also inspected were fire detection and suppression systems and the degree of physical separation between redundant trains of Safe Shutdown Systems (SSSs). The team review included an evaluation of the susceptibility of the SSSs to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems.

The inspection team examined the licensee's fire protection features provided to maintain one train of equipment needed for safe shutdown free of fire damage. Included in the scope of this effort were fire area boundaries, including walls, floors and ceilings, and fire protection of openings such as fire doors, fire dampers, and penetration seals.

The inspection team also examined the licensee's compliance with Section III.J, Emergency Lighting. Section III.O, Oil Collection System for Reactor Coolant Pump is not applicable to the licensee since the containment is inerted during normal operations.

## 7.0 Inspection of Protection Provided for Safe Shutdown Systems

### 7.1 Protection in Various Fire Areas

The team reviewed the protection provided to SSSs in selected fire areas for compliance with Appendix R, Sections III.G.1, 2 and 3.

The following fire areas were inspected:

RB-1E	Reactor Bldg. Crescent Area-East
RB-1W	Reactor Bldg. Crescent Area-West
RB-1A	Reactor Bldg.
RB-1B	Reactor Bldg.
RB-1C	Reactor Bldg.
CR-1	Control Room
RR-1	Relay Room
CS-1	Cable Spreading Room
MG-1	Motor Generator Room Elev. 300'-0"
AD-1	Administration Bldg. Elev. 272'-0"
AD-2	Administration Bldg. Elev. 272'-0"
AD-3	Administration Bldg. Elev. 272'-0"
AD-4	Administration Bldg. Elev. 286'-0"
AD-5	Administration Bldg. Elev. 286'-0"
AD-6	Administration Bldg. Elev. 300'-0"
CT-1	Cable Tunnel West-Elev. 260'0"
CT-2	Cable Tunnel East-Elev. 260'0"
CT-3	Cable Tunnel 3, Elev. 286'-0"
CT-4	Cable Tunnel 4, Elev. 286'-0"
TB-1	Turbine Bldg.
RW-1	Radwaste Bldg. and Pipe Tunnel
SH-1	Screen Well House-Elev. 272'-0"
SW-1	Switchgear Rm Elev. 272'-0" Turbine Bldg.
SW-2	Switchgear Rm Elev. 272'-0" Turbine Bldg.
FP-1	Foam Room Turbine Bldg.-Elev. 272'-0"
SG-1	Standby Gas Filter Room



AS-1	Auxiliary Boiler Room
BR-1	Battery Room No. 1
BR-5	Battery Room Corridor
EG-1	Emergency Diesel Generator Room
EG-2	Emergency Diesel Generator Room
EG-3	Emergency Diesel Generator Room
EG-4	Emergency Diesel Generator Room
EG-5	Emergency Diesel Generator Room
EG-6	Emergency Diesel Generator Room
SP-1	Service Water Pump Room (Train B)
SP-2	Service Water Pump Room (Train A)

The team did not identify any unacceptable conditions, except as follows:

#### Inadequate Separation of Safe Shutdown Systems (SSS)

The team observed that spare conduit penetrations of the fire rated walls in the Control Room, Cable Spreading Room and Relay Room were sealed with pipe plugs that have not been tested for fire protection service.

To maintain fire barrier integrity, openings in the fire barrier walls should be sealed with non-combustible materials qualified by tests that are comparable to tests used to rate fire barriers.

Section III.G.2 of Appendix R to 10 CFR 50 requires that redundant SSS and associated non-safety circuits that could prevent operation or cause maloperation of the SSS, shall be separated by either a fire barrier having three hours rating or shall be separated by a horizontal distance of 20 feet with no intervening combustibles with area suppression and detection or shall be separated by enclosing one of the systems within an one hour barrier with area suppression and detection. The licensee also identified cables in both East and West Cable tunnels from redundant SSS to be within the same fire area without proper separation. These cables may effect power to the ventilation dampers of the Emergency Diesels. Failure of the cables may result in damper closure which could result in excessive diesel room temperatures and possible overheating and loss of the diesels. The cables were noted to be located within close proximity to the cables of the opposite train. The licensee explained, that the spare conduit penetration seals were reviewed and the decision to accept unrated seals was made after an informal consultation with the licensee's insurer. The licensee also explained that the unprotected cables in the cable tunnels, was an oversight, identified, during a third party review of the systems. The licensee established fire watches as interim compensatory measures in the areas identified by the team as having degraded fire barriers or inadequate separation and committed to restore the fire barriers to operable status. The

spare conduit penetrations sealed with unrated plugs and the redundant safe shutdown conduits and cables located within the same fire areas constitute a violation of Appendix R Section III.G.2. (50-333/85-20-01)

Fire Detection System not per NFPA Requirements

The licensee by letter dated January 11, 1977, subject, J. A. Fitz-Patrick Fire Protection Program Evaluation committed to provide detection systems that conform to the requirements of NFPA standard No. 72D. The current NFPA standard No. 72D requires that fire detection devices shall be listed, for the protective signaling purpose for which they are used. Listed equipment is equipment included in a list published by an organization acceptable to the "authority having jurisdiction" in this case NRC.

The NRC routinely accepts equipment listed for fire protection service by either the Underwriters Laboratories (UL) or approved for such service by Factory Mutual (FM). The team in reviewing documents furnished by the licensee determined that the detectors used to actuate the water curtains in the reactor building are not listed.

The licensee committed to provide NRC with documentation or proof that the installed detectors are comparable to similar devices listed by a listing organization. This item is unresolved pending review of the evaluation performed by the licensee. (50-333/85-20-02)

Sprinkler System Installation not per National Fire Protection Association (NFPA) Requirements

The licensee by letter dated January 11, 1977, subject, J. A. Fitz-Patrick Fire Protection Evaluation committed to provide sprinkler systems that as a minimum conform to the requirements of NFPA standards No. 13 and 15.

The team observed that the water spray nozzles of the cable tray deluge system located in the East and West cable tunnels are designed to protect wall and window openings, not electrical trays. Also in some cases the sprinklers appeared to be misdirected for the proper coverage of the cable trays.

The above findings are not in conformance with the current NFPA standards.

The licensee explained that the sprinkler design and installation in the areas identified above are in conformance with the applicable NFPA standards in existence at the time the plant was built.

Because these standards were not available for review by the team, the licensee committed to obtain these standards and make an evaluation of the existing installation vs. the NFPA requirements. The



licensee also committed to assess the effectiveness of the spray pattern of the nozzles installed in the East and West cable tunnels.

The above constitute an unresolved item pending review of the actions taken by the licensee. (50-333/85-20-03)

#### Functional Testing of Fire Dampers

As a result of a recent 10 CFR 21 notice that fire dampers manufactured by Ruskin Corporation may fail to close under normal system flow, the team expressed a concern that similar dampers at this facility may not perform properly.

The licensee agreed with the team's concern and immediately functionally tested all Ruskin dampers of the facility. From the dampers that were tested one failed to close, and the licensee immediately repaired it.

The licensee committed to establish a program to functionally test under air flow conditions all the dampers of the facility every 18 months.

This is an unresolved item pending review of the testing program and testing procedures. (50-333/85-20-04)

### 7.2 Safe Shutdown Procedures

#### 7.2.1 Procedure Review

The team reviewed the following interim safe shutdown procedures:

- Operation During Plant Fires - No. F-AOP-28, Revision 1, June 17, 1985.
- Plant Shutdown from Outside the Control Room - No. F-AOP-43, Revision 3, June 14, 1985.

The scope of this review was to ascertain that the shutdown could be attained in a safe and orderly manner, to determine the level of difficulty involved in operating equipment, and to verify that there was no dependence on repairs except as noted below for achieving hot shutdown. For review purposes, a repair would include installing electrical or pneumatic jumpers, wires or fuses to perform an action required for hot shutdown. For cold shutdown, repairs are allowed using in place procedures and materials available onsite with the provision that cold shutdown be achievable within 72 hours with or without offsite power.

Procedure F-AOP-28 is used to determine which of the existing plant emergency procedures would be utilized to achieve

safe shutdown for a fire anywhere in the plant, except for a fire in the Control Room, Relay Room and Cable Spreading Room. This procedure contains a fire area list, and provides information to operators for system availability such as possible loss of systems in the fire area, available backup systems and required operator actions for a fire in a given area.

For a fire in the Control Room, Relay Room and Cable Spreading Room procedure F-AOP-43 is used, to achieve safe shutdown, utilizing the Alternative Shutdown Systems described in Section 5.4. This procedure is an interim procedure and will be revised once the modifications resulting from the response to I.E. Information Notice (IN) 85-09 "Isolation Transfer Switches and Post Fire Shutdown Capability" are implemented.

IN 85-09 alerted licensees about the possibility of a fire in the Control Room disabling the operation of the plant's alternate shutdown systems by damaging the transfer circuits between the main control panel and the alternate shutdown panels. The licensee determined that this possibility exists at the FitzPatrick Plant and responded to IN 85-09 by submitting a plan, in the form of an exemption request, for interim and permanent corrective actions. The exemption requested, was granted to the licensee by the Commission, in a letter dated May 6, 1985. This was based on the commitment, to provide a fire watch in the control room and provide the capability to replace fuses as needed in the interim. The permanent corrective action is the addition of redundant fuses in the circuits involved for which the scheduler exemption was requested.

Based on the foregoing items the team did not identify any unacceptable conditions in the review of the interim safe shutdown procedures except as follows:

#### Exemption Request To Allow Temporary Core Uncovery

10 CFR 50 Appendix R Section III.L.b requires that the reactor coolant makeup function shall be capable of maintaining the reactor coolant level above the top of the core during and subsequent to, shutdown function.

The current licensee's emergency shutdown procedures for a fire in the Control Room Cable Spreading Room and Relay Room require activation of the ADS for reactor depressurization and LPCI system initiation for coolant injection. These procedures must be implemented promptly, in order not to allow core uncovery. The licensee in order to gain flexibility and to allow the operators to examine all

shutdown options has applied for an exemption from the above mentioned Appendix R requirement. The exemption request dated June 14, 1985, cites the results of certain analysis, that justify an alternate shutdown scenario which allows for the core to be uncovered for a short time period. This item remains unresolved pending NRC's evaluation of the licensee's exemption request. (50-333/85-20-05)

#### 7.2.2 Procedure Walk-Through

The team walked through selected portions of the procedures to determine that shutdown could be attained in an orderly and timely fashion. The walk-through was accomplished by using 4 operators and the shift supervisor.

A scenario for a Control Room fire was established and the operators proceeded to simulate the steps described in the procedure. All steps were simulated in order to demonstrate feasibility, timely response to the emergency, ability to communicate etc.

The walk-through began at the Control Room and all steps required for hot shutdown were completed in less than 45 minutes.

No unacceptable conditions were identified except as follows:

#### Difficult Access of Fuse Box for Fuse Replacement

During a simulated attempt to replace fuses the team observed that fuses located high on the fuse panels may be inaccessible to the operators. The licensee agreed with the team and committed to review all of the panels where fuses may need replacement during an emergency and provide means for access to the fuse boxes. The team also observed that the box containing spare fuses, ear phones etc. near Auxiliary Shutdown Panel 25 ASP-2 is located in an area where equipment from the box may be readily lost if dropped. The licensee agreed and committed to provide an additional equipment box in the vicinity of the panel. The licensee committed to provide all of the above by July 19, 1985.

This is an unresolved item pending review of the licensee's action. (50-333/85-20-06)

### 7.3 Protection for Associated Circuits

Appendix R, Section III.G requires that protection be provided for associated circuits that could prevent operation or cause

maloperation of redundant trains of systems necessary for safe shutdown. The circuits of concern are generally associated with safe shutdown circuits in one of three ways:

- Common bus concern
- Spurious signals concern
- Common enclosure concern

The associated circuits were evaluated by the team for common bus, spurious signal, and common enclosure concerns. Power, control, and instrumentation circuits were examined on a sampling basis for potential problems.

#### 7.3.1 Common Bus Concern

The common bus concern may be found in circuits, either safety related or non-safety related, where there is a common power source with shutdown equipment and the power source is not electrically protected from the circuit of concern.

The team examined, on a sampling basis, 4160V, 600V and 125V DC bus protective relay coordination. The licensee presented sample coordination curves dated October 31, 1974, at the time of the audit. The team also examined, on a sampling basis, the protection for specific instrumentation, controls, and power circuits, including the coordination of fuses and circuit breakers. The licensee plans to perform relay setting at approximately 24-month intervals.

No unacceptable conditions were identified.

#### 7.3.2 Spurious Signals Concern

The spurious signal concern is made up of 2 items:

- False motor control and instrument indications can occur such as those encountered during 1975 Browns Ferry fire. These could be caused by fire initiated grounds, short or open circuits.
- Spurious operation of safety related or non-safety related components can occur that would adversely affect shutdown capability (e.g., RHR/RCS isolation valves).

The team examined, on a sampling basis, the following areas to ascertain that no spurious signal concern exists:

- Current transformer secondaries
- High/low pressure interfaces
- General fire instigated spurious signals

The team determined that the licensee conducted an analysis which identified a number of high/low pressure interfaces. In order to protect against the possibility of spurious actuation of high/low pressure interfaces, the license is 1) removing power from some valves during normal operation and 2) is utilizing isolation switches to enable the operators to remove power when necessary. The current transformer secondaries of concern are protected by the installation of transfer switches which provide the capability to isolate and short the secondaries.

Each fire area was analyzed to determine the impact of general fire instigated spurious signals. The licensee identified some cases which were resolved by isolations such as "The removal of fuses".

No unacceptable conditions were identified.

#### 7.3.3 Common Enclosure Concern

The common enclosure concern may be found when redundant circuits are routed together in a raceway or enclosure and they are not electrically protected or when fire can destroy both circuits due to inadequate fire barriers.

A number of circuits, selected on a sampling basis, were examined for this concern.

The common enclosure concern was satisfactorily addressed. The redundant cables for divisions A and B are not run in the same tray or conduits. In addition, all circuits are protected with coordinated circuit breakers.

No unacceptable conditions were identified.

### 8.0 Emergency Lighting

10 CFR 50, Appendix R, Section III.J, requires that emergency lighting units with at least an 8-hour battery power supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto.

The team examined the plant emergency lighting system to ascertain the licensee's compliance with the above requirements.



The team did not identify any unacceptable conditions except as follows:

#### Marginal Emergency Lighting Conditions

The team observed during a fire area "black-out" that the existing emergency lighting system was marginally adequate to perform the necessary operations on the shutdown panels. The licensee agreed and stated that this condition was identified by a third party review of the system prior to the arrival of the audit team on site. The licensee committed to provide additional lighting in the (4) shutdown panel areas within 45 days.

This is an unresolved item pending installation of the emergency lights. (50-333/85-20-07)

#### 9.0 Oil Collection System for Reactor Coolant Pumps

10 CFR 50, Appendix R, Section III.O, requires that the reactor coolant pumps shall be equipped with an oil collection system if the containment is not inerted during normal operation. As the containment in this plant is inerted during normal operation, the above requirement does not apply to this plant.

#### 10.0 Quality Assurance

During the course of the inspection, the team reviewed several drawings, the fire hazard analysis, fire protection modification packages, procedures, and other fire protection documents. The scope of this review included verification of their technical adequacy, appropriate reviews, design and procurement controls, and other Quality Assurance requirements for the licensee's fire protection program. Except as noted in the previous section of this report, the team did not identify any other unacceptable conditions.

#### 11.0 Unresolved Items

Unresolved items are matters for which more information is required in order to ascertain whether they are acceptable, violations, or deviations. Unresolved items are discussed in Section 7.1, 7.2 and 8.0.

#### 12.0 Conclusions

The significant findings of this inspection are summarized as follows:

- One violation from an Appendix R requirements to provide separation of safe shutdown components and associated circuits.
- Seven items remained unresolved at the end of the inspection as mentioned in Section 11.0 above.

Except as above, no other unacceptable conditions were identified.

### 13.0 Exit Interview

The inspection team met with the licensee representatives, denoted in Section 1.0, at the conclusion of the inspection on June 21, 1985, and the team leader summarized the scope and findings of the inspection at that time.

The team leader also confirmed with the licensee that the report will not contain any proprietary information. The licensee agreed that the inspection report may be placed in the Public Document Room without prior licensee review for proprietary information (10 CFR 2.790).

At no time during this inspection was written material provided to the licensee by the team.

ATTACHMENT 1

DOCUMENT REVIEW LIST

January 11, 1977	Letter from Licensee to NRC commits to meet Section B of APCS 9.5-1 Appendix A
February 9, 1978	Internal NRC Memorandum regarding Fire Protection Review - Require Additional Information
May 23, 1978	Licensee Letter to NRC - Licensee will provide additional information by June 19, 1978
October, 1980	Safe Shutdown Analysis
February 4, 1981	Internal BNL Memorandum - Telephone Conference on January 21, 1981
February 19, 1981	BNL Letter to Chief of Chem. Branch - Interim Report Post Fire Capability
February 24, 1981	NRC internal memorandum - Licensee does not meet Section III.G and L of Appendix R.
March 19, 1981	Licensee Letter to NRC - Request for Scheduler Exemption Request
	Appendix F - Response to NRC Staff's Generic Letter 81-12
	Appendix G - Review Criteria for Spurious Valve Actuation
February 26, 1982	Licensee Letter to NRC - Appendix II to "Safe Shutdown Analysis"
May 12, 1982	BNL Memorandum to File - BNL Interim Report was never transmitted to licensee
May 20, 1982	BNL Internal Memorandum to File - FitzPatrick does not meet III.G.2, III.G.3 or III.L
June 11, 1982	BNL Letter to NRC "Draft" copy of Post Fire Safe Shutdown
June 14, 1982	BNL Memo to File - FitzPatrick does not intend to come in for a meeting to discuss their February 26, 1982 submittal
July 7, 1982	NRC Internal Memorandum to File - Minutes of Meeting in Bethesda on June 29, 1982
July 13, 1982	Licensee Report - A Reassessment of Conformance to Appendix R

November 2, 1982	BNL Report - Post Fire Safe Shutdown Capability Report - Based on July 13, 1982 submittal
November 16, 1982	NRC Internal Memorandum - Chem. Branch denies 4 exemption request
December 14, 1982	Internal NRC Memorandum - SER III.G.3 and III.L of Appendix R
December 22, 1982	Internal NRC Memorandum - Chem. Branch again denies 4 exemption requests.
February 2, 1983	NRC Letter to Licensee - Informs licensee of appeal process for exemption denials (Draft SER)
March 1, 1983	Licensee Letter to NRC - Licensee comments on the draft SER
April 26, 1983	NRC Letter to Licensee - Alternate Safe Shutdown Capability SER
May 19, 1983	Licensee Letter to NRC - response to NRC letter dated April 26, 1983
July 1, 1983	NRC Letter to Licensee - grants exemption request for Control Room and the Torus Room
Sept. 29, 1983	Internal NRC Memorandum - grants all outstanding exemption requests
February 1, 1984	NRC Letter to Licensee - notification of granting of outstanding exemptions
July 16, 1984	Licensee Letter to NRC - requests clarification of exemption requests
July 24, 1984	Licensee Letter to NRC - surveillance requirements for the high pressure water fire protection system
January 11, 1985	NRC Letter to Licensee - Exemption Request Water Spray System
March 15, 1985	Licensee Letter to NRC - request for schedular exemption

ATTACHMENT 2

SUMMARY OF APPENDIX R EXEMPTIONS

<u>Exemption Request Description</u>	<u>Date of Letter to PASNY</u>
3 Phase AC and DC Power Circuits	April 26, 1983
Fuse Pulling and Lifting Leads	April 26, 1983
Control Room (automatic area wide suppression)	July 1, 1983
RB-1E and RB-1W (zone interfaces at Elevs. 227'-6" and 242'6")	February 1, 1984/ January 11, 1985
RB-1E and RB-1W (cable separation)	February 1, 1984/ January 11, 1985
RB-1E and RB-1A (stairway from Elev. 227'6" to 272'-0")	February 1, 1984/ January 11, 1985
RB-1A and RB-1B (zone interface on Elev. 272'-0")	February 1, 1984/ January 11, 1985
RB-1B and RB-1C (zone interface on Elev. 300'-0")	February 1, 1984/ January 11, 1985
RB-1A and RB-1B (zone interface on Elev. 300'-0")	February 1, 1984/ January 11, 1985
RB-1A and RB-1C (stairway from Elev. 272'-0" to 300'-0")	February 1, 1984/ January 11, 1985
RB-1C and RB-1A (stairway from Elev. 300'-0" to 326'-0")	February 1, 1984/ January 11, 1985
Torus Room (RHR valve separation)	July 1, 1983
RB-1B and RB-1A (stairway from Elev. 300'-0" to 326'-0")	February 1, 1984/ January 11, 1985



ATTACHMENT 3

SUMMARY OF INSPECTION FINDINGS

<u>Item</u>	<u>Description</u>	<u>Section Reference</u>
<u>Violations</u>		
50-333/85-20-01	Inadequate uncap separation of safe shutdown systems	7.1
<u>Unresolved Items</u>		
50-333/85-20-02	Fire detection systems not per NFPA requirements	7.1
50-333/85-20-03	Sprinkler system installation not per NFPA requirements	
50-333/85-20-04	Functional testing of fire dampers	7.1
50-333/85-20-05	Exemption request to allow temporary core uncover	7.2
50-333/85-20-06	Safe shutdown with inoperable emergency diesel "B" system	
50-333/85-20-07	Difficult access of fuse boxes for fuse replacement	7.2
50-333/85-20-08	Marginal emergency lighting conditions	8.0