

Ralph E. Beedle
Executive Vice President
Nuclear Operation

October 15, 1992
JPN-92-063

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: **James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Reply and Answer to Notice of Violation
NRC Inspection Reports 50-333/91-22, 50-333/91-26, 50-333/92-80
and 50-333/92-81**

REFERENCES: 1. NRC letter, T. T. Martin to R. E. Beedle dated September 15, 1992 regarding the same subject.

Dear Sir:

This letter provides the Authority's Reply to the Notice of Violation in accordance with the provisions of 10 CFR 2.201. The reasons for the violations, the corrective actions that have been taken and the results achieved, the corrective actions to be taken to avoid further violations and the date when full compliance will be achieved for each of violations is included in Attachment I.

The Authority agrees with problems underlying the violations. These violations were identified during inspections conducted at the FitzPatrick plant covering almost all functional areas associated with the operation and maintenance of the plant over the past year. Violations were issued in the areas of engineering, operations, licensing, fire protection and maintenance.

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The Authority requests that the Commission reconsider the \$500,000 civil penalty. The Power Authority believes that a civil penalty of this size is unwarranted under the circumstances. While acknowledging the "positive attitude and significant effort of NYPA in addressing the root causes of the violations," the NRC imposes the civil penalty "to provide a message to both NYPA and other licensees that the violations at issue are significant and represent unacceptable performance." As evidenced by the Authority's commitment of financial and personnel resources and commitment to safety over the past year, we are very aware of the importance of these issues and are acting aggressively to correct them.

The Authority's decision to shut FitzPatrick down and keep it shutdown for almost a year to address safety issues is an example of our commitment to safety. Financial expenditures during the past 12 months have exceeded 200 million dollars. Of this figure, fire protection modifications alone cost in excess of 20 million dollars and lost revenue for almost a year exceeds 140 million dollars. The cost of the current outage is sufficient penalty. The imposition of a civil penalty does not convey a positive message.

Senior management changes at FitzPatrick have already been made in order to improve management control of plant operations. For example, as previously discussed with the NRC, a new site management team and organizational structure have been put in place. Changes have been made at the Resident Manager, General Manager, Technical Service Superintendent, and headquarters Fire Protection supervisory levels.

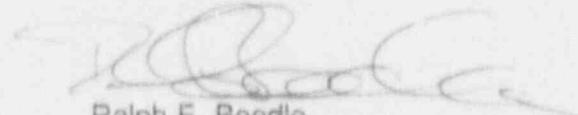
The Authority has been actively looking for areas to improve, and has been very responsive to concerns originating at the NRC or within the Authority. Plant modifications, new programs and corrective actions have been implemented at a significant cost. Root cause analyses are being done much more frequently. Both headquarters and plant personnel are being trained on the AQCR (Adverse Quality Condition Report) system. Plans for future improvements are in place or under development. The Results Improvement Program (RIP) is an Authority initiative to address many of these concerns. The RIP has resulted in real progress towards improving performance at FitzPatrick. We believe we have been very responsive and aggressive in resolving the issues.

The Authority has already paid a substantial price for the decline in performance. The plant has been shutdown for an extended period to improve operations and to address specific concerns such as those related to fire protection. The NRC's prior decision to include FitzPatrick on the NRC Watch List was a message in itself; one that has extracted a price in terms of increased NRC scrutiny, adverse public perceptions, and a shift in Authority resources to FitzPatrick improvement programs.

Pursuant to the provisions of 10 CFR 2.205, Attachment 2 is an "Answer to a Notice of Violation." It demonstrates extenuating circumstances and other reasons why the penalties should not be imposed.

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

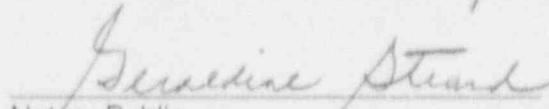
Very truly yours,



Ralph E. Beedle

STATE OF NEW YORK
COUNTY OF WESTCHESTER

Subscribed and sworn to before me
this 15th day of October, 1992



Notary Public

GERALDINE STRAND
Notary Public, State of New York
No. 4991272
Qualified in Westchester County
Commission Expires Jan. 27, 1994

cc: Regional Administrator
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Common Root Causes

The Authority believes that most of the violations cited by the NRC in the current enforcement action resulted from a common root cause. Specifically these violations resulted from, and were symptomatic of, the same underlying causes of overall performance decline at the FitzPatrick plant cited by the NRC. The Authority is well aware of that past decline in performance and has kept the plant in an extended shutdown in order to address this decline, and many of the issues cited by the NRC, in a comprehensive manner. The Authority has instituted a comprehensive, and costly, effort to improve overall plant performance. In addition, in the time since many of the violations occurred, the Authority has made significant senior management changes organizational changes at FitzPatrick in an attempt to improve management control and effectiveness.

Common Correct Actions

As previously discussed with the NRC, a new site management team and organizational structure has been put into place. Also, the Results Improvement Plan (RIP) has been implemented to correct performance deficiencies through enhanced management oversight and technical support for plant organizations, improved root cause analysis capabilities, better interaction between the headquarters and plant, and enhanced performance standards and accountability. A capital improvement program for FitzPatrick has been adopted. Progress already has been noticed regarding improved plant performance. The NRC noted in the letter accompanying the NOV eight distinct areas (including the RIP) where actions have been initiated by management to correct these violations and to prevent their recurrence, as well as generally improve operations at the facility.

Senior management changes at FitzPatrick have already been made in order to improve management control of plant operations. For example, as previously discussed with the NRC, a new site management team and organizational structure have been put in place. Changes have been made at the Resident Manager, General Manager, Technical Service Superintendent, and headquarters Fire Protection supervisory levels.

Notice of Violation I

I. VIOLATIONS ASSOCIATED WITH DESIGN AND TESTING OF ANALOG TRANSMITTER TRIP UNIT SYSTEM (ATTS) RELAYS

- A. 10 CFR Part 50, Appendix B, Criterion III, Design Control, states, in part, that measures shall be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety related functions of systems and components. Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design.

Contrary to the above, the licensee incorporated a design change in 1985 to install Amerace Agastat GP series relays in the analog transmitter trip unit system used to initiate reactor trip signals in the reactor protection system (RPS), a safety related system, and as of January 25, 1992, these relays were not properly evaluated in order to establish their qualified service life in the energized state.

- B. 10 CFR Part 50, Appendix B, Criterion XI, Test Control, states, in part, that testing is required to demonstrate that systems and components will perform satisfactorily in service and in accordance with the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, since the installation of the ATTS modification, F1-82-053, in 1985, the ATTS and RPS had not been appropriately response time tested in accordance with the ATTS design document (namely, the General Electric document, NEDO-21617-A, dated December 1978) to verify system operability and to detect any degraded performance. Although the ATTS modification provided additional logic elements and a trip relay, these additional components were not tested, as required.

These violations are classified in the aggregate as a Severity Level III Problem (Supplement I).

Cumulative Civil Penalty - \$100,000 (assessed equally between the two violations).

Reply to Notice of Violation I.A

I. VIOLATIONS ASSOCIATED WITH DESIGN AND TESTING OF ANALOG TRANSMITTER TRIP UNIT SYSTEM (ATTS) RELAYS

Admission or Denial of Alleged Violation

The Authority agrees with the violation and acknowledges that the normally energized ATTS relays in question were in service longer than the vendor recommended service life and that no formal evaluation of the service life requirements had been conducted prior to January 1992.

However, mechanistic root cause analyses concluded that the Reactor Protection System remained functional. The annunciator function was the only feature affected by the observed and reported condition of the relays in service.

Reasons for the Violation

The Authority funded an independent root cause analysis to determine the programmatic and organizational reasons why the qualified service life for the relays was not properly evaluated and established. The root cause analysis, performed by the Failure Prevention Incorporated (FPI), identified four findings:

- Inadequate Organizational Interfaces

- Lack of Attention to Interface Requirements in the Modification Process

- Lack of Commitment to Operating Experience Review

- Inadequate Staff Organization and Training

Corrective Steps That Have Been Taken And Result Achieved

All ATTS relays were replaced with new relays as of July 2, 1992.

A formal, mechanistic root cause analysis was also conducted by FPI. The relays removed from service were operable and did not fail during testing. Excessive contact resistance in conjunction with low amperage, and low voltage annunciator circuit design was the failure mechanism observed at FitzPatrick.

The root cause analysis also observed that the GP series relays manufactured in 1979

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"should be good for 10 years based on the fact that they were still operational. A conservative life of five years would definitely avert the development of long term wearout mechanisms."

The Preventative Maintenance Engineering (PME) Group at FitzPatrick has conducted a service life study for GP series relays and has established a replacement interval of 5 years. The Instrumentation and Control Group at FitzPatrick has incorporated this replacement interval for GP series relays in their Preventative Maintenance Program.

The PME Group has also conducted a broad ranging study of service lives for other equipment that have QA Category I functions and are installed in mild environments. The results of this study have been documented in report PME-120 (Reference 2) and will be reviewed for incorporation into the Preventative Maintenance Program.

The Site Engineering Manager at FitzPatrick has issued a directive to the engineering staff requiring the use of internal and industry operating experience data in the development of future modifications.

Twenty-seven individuals from FitzPatrick and 61 from the headquarters office attended a two day root cause training course during 1992.

Over 500 previously reviewed OER (Operating Experience Review) documents have been re-reviewed and identified hardware and programmatic action items which have been completed. A complete revision of PSO-28 (Reference 5), which controls the OER program at FitzPatrick, has been issued.

DCM-13, "Conduct of Engineering," effective August 30, 1991 includes a design input summary checklist which addresses operating experience, licensee event reports and NRC generic letters.

Corrective Steps That Will Be Taken To Avoid Further Violations

The Instrumentation and Controls Group at FitzPatrick will incorporate changes in their working procedure (ICSO-16 "Preventive Maintenance Program") by December 31, 1992 to implement the service life information forwarded to them by PME.

The Maintenance Department at FitzPatrick will incorporate the results of the service life study, PME-120, into the overall Preventative Maintenance Program at FitzPatrick by December 31, 1993. (See ACTS item 4800.)

Modification procedures will be improved to require that operating experience data be considered. This revisions will be completed by December 31, 1993.

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Implementation of the October 1992 revision of PSO-28, which controls the OER program at FitzPatrick, will assure an appropriate commitment to future OERs.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current refueling outage. On July 2, 1992, all ATTS relays were replaced with new relays. On September 26, 1992, Supplement 1 to PME-120 that evaluated these relays and established their qualified service life was issued.

References

1. FPI-92-293, dated June 2, 1992, "Mechanistic Root Cause Analysis."
2. FPI-92-295, dated June 9, 1992, "Programmatic Root Cause Analysis."
3. PME-120, Revision 0, July 1992, "Service Life Evaluation Program," and Supplement 1, September 1992.
4. ACTS (Automated Commitment Tracking Systems) Commitment 4800.
5. PSO-28, "Industry Operating Experience and Vendor Technical Information Assessment*," (including seven implementing procedures), October 1992.
6. ICSO-16, "Instrumentation and Control Department Standing Order for the Preventative Maintenance Program," Revision 5, dated March 20, 1992.
7. DCM-13, "Conduct of Engineering," effective August 30, 1991.

Reply to Notice of Violation I.B

I. VIOLATIONS ASSOCIATED WITH DESIGN AND TESTING OF ANALOG TRANSMITTER TRIP UNIT SYSTEM (ATTS) RELAYS

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation:

The response time testing and the associated Technical Specifications were not adequate or complete for ATTS or RPS. This condition was identified during the review which followed the original failure of the card-out-of-file relay for ATTS which was perceived at that time to be a delay in drop-out time of the relay. This led the FitzPatrick staff to investigate the plant surveillance procedures (response time testing) to determine if incipient failure in critical channels (RPS, Emergency Core Cooling Systems, Primary Containment Isolation System and Emergency Diesel Generators) would have been detected. The investigation concluded that the surveillance test in effect at that time would not be able to detect incipient failure.

Prior to the installation of the ATTS modifications, response time testing for the instrument loops for these critical channels which used mechanical sensors began at the output contacts of the sensor. With ATTS, the comparable contacts are located at the output of the ATTS relays rather than at the sensor. Since the ATTS installation in 1985, the response time testing was conducted starting at the output of the ATTS relays. Accordingly, the measured response time did not include the sensor nor the time required for the sensor output signal to be processed by the relays and other ATTS components. The Authority agrees that General Electric Licensing Topical Report NEDO-21617-A, "Analog Transmitter Trip Unit System for Engineered Safeguard Sensor Trip Inputs," forms the bases for Amendment 89 of the Technical Specifications for FitzPatrick and the subsequent NRC approval of the ATTS installation. The existing RPS surveillance test for response time (ISP-60) did verify the then required Technical Specification response time of less than 50 msec for the portion of the instrument channel from the output of the first RPS logic relay through their scram contactors.

Root Cause

The programmatic root causes identified by Failure Prevention Incorporated in the Authority's response to part I.A of this Notice of Violation also apply to response time testing.

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The applicable root causes were:

- Inadequate Organization Interfaces

- A Lack of Attention to Interface Requirements in the Modification Process

- Inadequate Staff Organization and Training

At a more detailed level, the specific causes were:

- Inadequate review of the General Electric design documents for ATTS

- Failure to have a process that would have assessed and verified the adequacy of existing test procedures and Technical Specifications versus the new design features inherent in the ATTS modification.

- Lack of an Adequate Modification Closeout Process

Corrective Steps That Have Been Taken And Result Achieved

The Authority and General Electric conducted a comprehensive review of response time requirements for ATTS and non-ATTS channels based on the transient and accident analyses as described in the FSAR.

The Authority prepared an application for a Technical Specification amendment to incorporate appropriate response time testing requirements based on a test methodology document. The amendment was submitted to the NRC and subsequently approved as Amendment 183.

Ten new response time test procedures have been prepared to incorporate the appropriate changes including the entire instrument channel. Specific channels were as described in the amendment application.

Since installation of the ATTS modification, the Authority has issued additions to the Modification Control and the Design Control Manuals which specifically address:

- Closeout of Modifications

- Review of Vendor Design Documents

- Consideration of Design Bases information

- Technical Specification Considerations

- FSAR Changes

Corrective Steps That Will Be Taken To Avoid Further Violations

FitzPatrick has completed an independent review of fiity modification packages completed between 1980 and 1990. The Authority will evaluate the results of the Modification Review Project and implement programmatic changes as appropriate.

The ten new response time testing procedures will be implemented for testing prior to startup from the current refueling outage.

The Authority will trend response times for each critical channel to predict any degradation in performance (incipient failures).

Date When Full Compliance Will Be Achieved

The Authority will be in full compliance with the requirements of 10 CFR 50, Appendix B, Criterion XI, as it applies to the ATTS and RPS systems prior to startup from the current refueling outage upon implementation of the new response time testing procedures.

References

1. General Electric Topical Report, NEDO-21617A, "Analog Transmitter Trip Unit System for Engineered Safeguard Sensor Trip Inputs"
2. Amendment 183 to the FitzPatrick Technical Specifications dated September 9, 1992.

Notice of Violation II

II. VIOLATION ASSOCIATED WITH IDENTIFICATION/CORRECTION OF CONDITIONS ADVERSE TO QUALITY

10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, deficiencies and deviations, are promptly identified and corrected.

Contrary to the above, conditions adverse to quality existed at the Fitzpatrick facility, and the conditions were not promptly identified and corrected to preclude repetition, as evidenced by the following examples:

1. From August 19, 1991 until October 5, 1991, the unit operated with a main steam system leak (several thousand gallons per day) that resulted from seat leakage in the high pressure coolant injection (HPCI) system to residual heat removal (RHR) system cross-tie isolation valve, Valve No. 10 MOV-70A, in the RHR system. This leakage constituted a condition adverse to quality since the steam heated the water within the RHR heat exchanger, thereby producing a steam bubble in the heat exchanger, and rendering the "A" RHR system inoperable due to potential water-hammer damage. This condition adverse to quality was not corrected until the issue was raised by NRC inspectors in October 1991.
2. Since the early 1980's, the low pressure coolant injection system motor operated containment isolation valves have had numerous motor failures (potentially indicative of valve disc binding) and valve failures (vibration induced external valve damage). Although the licensee corrected the specific problems when the specific failures were identified, the licensee did not determine the root cause of the numerous failures, and take corrective action to preclude recurrence until the subsequent failure of valves 10 MOV-27A and 10 MOV-25B, on May 7, 1991.
3. Since April 1988, six documented small bore piping failures in various plant systems have occurred, including a high pressure coolant injection system line break during the week of September 22, 1991. As of September 27, 1991, the licensee had not conducted a comprehensive small bore piping attachment analysis to determine the root cause of the pipe failures or the appropriate corrective action needed to preclude recurrence.
4. Based upon a licensee report issued in 1988, the Fitzpatrick environmental qualification (EQ) program established that the low pressure coolant injection battery inverters were required to remain operable for a period of 30 days

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following a loss of coolant accident (LOCA); however, the licensee did not adequately evaluate the potential radiation damage which would occur following a LOCA and could cause the inverters to fail within 24 hours. In addition, appropriate corrective action to protect the battery inverters from the potential radiation damage was not determined, until this issue was identified by NRC inspectors in October 1991.

This is a Severity Level III violation (Supplement I).

Civil Penalty - \$100,000

Reply to Notice of Violation II Examples 1-4

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

The problems identified in the NOV were not properly assessed for safety significance. The root causes of these problems were not promptly identified so effective corrective actions could be implemented. Programs for corrective action were weak.

Corrective Steps That Have Been Taken And Result Achieved

An Operational Review Group was established to screen individual plant events for significance. If appropriate, based on the significance of the event, a critique or root cause analysis is performed. To date approximately 140 critiques and 10 root cause evaluations have been performed.

The industry Operating Experience Review (OER) program has been enhanced to provide screening of industry events for significance upon receipt. A review of operating experience documents has been performed in order to address potentially significant documents prior to plant startup.

Plant staff awareness of the need to identify and evaluate problems has been heightened through departmental meetings and training. The result of this action is evidenced by the increased number of ORs (Occurrence Reports) and AQCR (Adverse Quality Condition Reports).

Table 1
Increase In Number of ORs at FitzPatrick

	1/91-9/91	1/92-9/92	Percent Increase
Occurrence Reports	214	296	38

Table 2
 Increase In Number of AQCRs at FitzPatrick

	9/90-8/91	9/91-8/92	Percent Increase
Adverse Quality Condition Reports	119	326	173

Deficiencies are being trended so that significant adverse trends can be identified and corrected.

Corrective Steps That Will Be Taken To Avoid Further Violations

A single deficiency reporting system has been developed to replace the existing reporting system. This new system will be implemented eight weeks after startup from the current refueling outage. This will facilitate identification of significant adverse trends, better define and lower the threshold for reporting of relevant conditions and enhance consistency of reporting, and action tracking.

The Industry Operational Experience (OE) program is being integrated with the in-house event program. The integration of these programs is intended to improve feedback from the in-house event database to be used to assess the effectiveness of the industry OE program on continued improvement. This integration will be completed not later than June 30, 1993.

Equipment root cause assessment program will be improved to address the capability for evidence preservation and initial failure analysis. These improvements will be implemented by September 30, 1993.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved by September 30, 1993 when the corrective steps outlined above have been completed.

III. VIOLATIONS ASSOCIATED WITH FIRE PROTECTION PROGRAM

- A. Facility Operating License, DPR-59, was amended on August 1, 1979, by Amendment 47, to add Paragraph 2.C(3) which states, in part, that the licensee is required to implement the administrative controls identified in Section 6 of the Safety Evaluation (SE). Section 6 of the SE states that the existing fire protection administrative program will conform to NRC's guidance document, "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance," which states that plans and procedures stipulating the management and staff organization and the qualifications of personnel, a fire brigade training program, controls over combustibles and ignition sources, and pre-fire plans for fighting fires will be developed and implemented.

Contrary to the above, as of March 20, 1992, plans and procedures set forth in "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance," stipulating the management and staff organization and the qualifications of personnel, the fire brigade training program, controls over combustibles and ignition sources, and the pre-fire plans for fighting fires were not adequately developed and implemented, as evidenced by the following examples:

1. Attachment 1.0, Section 1.d.(1), Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, requires, in part, that periodic inspections of the plant are implemented to minimize the amount of combustibles in safety-related areas and assure the availability and acceptable condition of all fire protection systems/equipment, emergency breathing apparatus, emergency lighting, communication equipment, fire stops, penetration seals, and fire retardant coatings.

As of March 20, 1992, the requirements of Attachment 1.0, Section 1.d.(1), were not adequately implemented in that a review of a sample of completed periodic fire protection inspection tour report forms, for tours conducted between November 1991 and March 1992, found that no deficiencies were noted on any of these report forms, even though the NRC inspection conducted in March 1992 identified numerous examples of: improper storage of combustibles materials; damaged, misaligned and blocked emergency lighting; fire protection equipment deficiencies; and poor maintenance of fire brigade equipment.

2. Attachment 2.0, Section 3.e, Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, requires, in part, that fire brigade drills be performed at regular intervals not to exceed three months for each fire brigade. At least one drill per year should be performed on a backshift, and not less than one shall be unannounced.

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The requirements of Attachment 2.0, Section 3.e, were not met in that the fire brigade training program did not require drills at three month intervals, nor require one backshift and one unannounced drill per brigade shift per year, and as of March 20, 1992, the requirements to conduct drills at these specific intervals were not met.

3. Attachment 3.0, Sections c and e, Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, require, in part, the removal of all waste, debris, scraps, rags, oil spills, or other combustibles resulting from work activities, in the area following completion of activities, or at the end of each work shift whichever is sooner; and that all wood used in safety-related areas be treated with flame retardant.

As of March 20, 1992, the requirements of Attachment 3.0, Sections c and e, were not met in that numerous examples of the accumulation and improper storage of combustible materials were found, such as four barrels of lube oil and scaffolding found stored together in the East Crescent area, and flammable liquids and paint found in the Control Room ventilation complex; and the licensee failed to control the use of wood in safety-related areas in that all wood was not treated with fire retardant.

4. Attachment 4.0, Sections 2.a, Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, requires, in part, that all cutting, welding, grinding or open flame work should be authorized by the responsible foreman or supervisor through a work permit.

As of March 20, 1992, the requirements of Attachment 4.0, Section 2.a, were not met in that cutting, welding, grinding or open flame work were authorized by individual welders, as well as the responsible foremen and supervisors.

5. Attachment 4.0, Sections 2.b.(3), Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, requires, in part, that a fire watch is trained to prevent and combat fires.

As of March 20, 1992, hot work fire watch personnel were not adequately trained to prevent and combat fires in that they were not provided hands on training in the use of an extinguisher on a live fire although these individuals are expected to extinguish fires which result from hot work. In addition, there were no formal training requirements, training records, nor lesson plan for compensatory fire watch personnel.

6. Attachment 5.0, Sections d.(2), (3), and (8), Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance, require, in part, that the strategies (preplans) established for fighting fires should include information on fire extinguishants best suited for controlling the

fires associated with the combustible loadings in that zone; the most favorable direction from which to attack a fire; and ventilation system operation when the ventilation flow is modified for fire containment.

As of March 20, 1992, the requirements of Attachment 5.0, Sections d.(2), (3), and (8), were not met in that the fire fighting pre-plans did not provide specific information concerning the best extinguishants for the specific combustible loading in the fire area, specific information concerning permanent or temporary ventilation system operation required to provide smoke ejection, or information on the most favorable direction from which to attack a fire in each area.

- B. 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, as of March 20, 1992, conditions adverse to quality existed at the Fitzpatrick facility involving the Fire Protection Program, and these conditions were not promptly identified and corrected. Specifically, measures that were established to correct fire protection and prevention program deficiencies were limited, ineffective and were not prompt, as evidenced by the fact that the deficiencies identified in the licensee's Quality Assurance audits, dating back to 1983, had not been corrected as of March 20, 1992. The lack of effective corrective actions was evidenced by the following examples:

1. A Quality Assurance audit in 1983 (JAF-FA-83-3) identified that the control of combustibles needed to be improved to meet internal requirements, since 26 oil drums (55 gallon) were stored outside the oil storage room in the Turbine Building.

This finding was not appropriately evaluated and corrected, in that, the NRC inspection team found in excess of 4000 gallons of used turbine oil stored in the Turbine Railroad Bay in March 1992.

2. A Quality Assurance audit in 1987 (JAF-FPA-87-R03) recommended that the fire protection plant inspection procedure be changed to increase the procedure's effectiveness. The recommendations included sending the responsible department a copy of the inspection tour deficiency report, specifying a required response date for correcting the deficiency, providing a copy of the tour deficiencies to upper management at the time they are found, and providing upper management a summary of deficiencies still outstanding at the end of each month.

This finding was not appropriately evaluated and corrected, in that, as of March 20, 1992, these recommendations for corrective actions were not incorporated

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into the fire protection plant inspection procedure.

3. Quality Assurance audits in 1984 (JAF-FPA-84-14) and 1991 (JAF-FPA-91-07-04) identified that the fire fighting pre-plans required review and updating to reflect current as-built conditions in safety related areas.

This finding was not appropriately evaluated and corrected, in that, as of March 20, 1992, the pre-plans had not been reviewed and updated to reflect the current as-built conditions in safety related areas. Specifically, the pre-plans did not consider the effects of changes to an area's fire loading.

These violations are classified in the aggregate as a Severity Level III problem (Supplement I).

Cumulative Civil Penalties: \$100,000 (assessed equally between the two violations).

Reply to Notice of Violation III.A

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

An analysis was performed to determine the root cause of the organizational and programmatic problems associated with fire protection at FitzPatrick. This analysis identified three root causes:

Lack of Commitment to the Fire Protection Program by Authority Management

Inadequate Interface between Authority Headquarters and Plant Staff

Inadequate Fire Protection Staff Qualifications

All Examples - Corrective Steps That Have Been Taken And Result Achieved

As discussed in the Authority's letter dated May 27, 1992 (JPN-92-023), the Authority will consolidate the existing fire protection elements into a single Fire Protection Program. As part of this consolidation, the Authority will include its commitments to guidance contained in the NRC's document "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance." The consolidation will be completed by March 31, 1993. If any findings result from this consolidation, an action plan will be developed to resolve the findings. Periodic audits conducted by the Safety Review Committee of the FitzPatrick Fire Protection Program, (See Technical Specification 6.5.2.8.h and 6.5.2.8.i) provide further assurance that the consolidated program will satisfy applicable requirements.

All Examples - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective step described above and in the response to the specific examples below are adequate to avoid further violations.

All Examples - Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current refueling outage for

Examples 1 through 5. Full compliance will be achieved for Example 6 on March 31, 1993.

Example 1 - Corrective Steps That Have Been Taken And Result Achieved

Fire protection equipment is in the process of being upgraded and the fire brigade equipment is being adequately maintained. The fire brigade drill evaluation process now includes provisions to note deficient equipment and initiate remedial actions.

See the Authority response to items III.A (Example 3) and IV (Example 4) for corrective steps regarding combustible material control and emergency lighting.

Example 1 - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Example 2 - Corrective Steps That Have Been Taken And Result Achieved

Fire protection Training procedures were upgraded to include periodic program assessments, lesson plan approvals and periodic review/validation, brigade performance objectives, brigade member qualification and disqualification, and make-up and remedial training requirements.

Upgraded lesson plans were revised to link brigade performance objectives and to include plant specific references where appropriate.

Fire brigade drills, including backshift drills, conducted during the past three months have demonstrated satisfactory performance.

Example 2 - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Example 3 - Corrective Steps That Have Been Taken And Result Achieved

All plant work was stopped for a clean-up of excess combustibles.

Formal standards were introduced through plant directives and the commencement of procedure improvements.

Additional trained inspectors are on site at a level commensurate with plant work.

Attachment I to JPN-92-063

An improved combustible control permit system/procedure has been developed and implemented

Example 3 - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Example 4 - Corrective Steps That Have Been Taken And Result Achieved

All hot work was stopped until a new welding procedure was developed and training was completed. This procedure includes a sign-off by the responsible foreman, an inspection of the work site and a review of the planned hot-work by fire protection personnel, required fire watch signature on the permit, and a close-out inspection of the work area by fire protection personnel.

A new procedure for the hot-work fire watches was developed and the personnel trained.

Example 4 - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Example 5 - Corrective Steps That Have Been Taken And Result Achieved

The following actions assure that fire watches are properly trained.

Interim Retraining was Conducted Based on the Identified Concerns

Revised Qualified Fire Watch Lists were Issued

Job/Task Analyses were Conducted for both Hot-work and Compensatory Fire Watches

Written and Performance Training Evaluations were Implemented Using Job/Task Analyses

Retrained All Fire Watch Personnel (Both Hot-work and Compensatory)

Required Annual Retraining for Continued Qualification

Improved Supervisory Oversight of Fire Protection Training

Attachment I to JPN-92-063

Augmented Fire Protection Training with a second Instructor in Support of Fire Protection Training Program Upgrade

Example 5 - Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Example 6 - Corrective Steps That Have Been Taken And Result Achieved

The existing pre-plans were reviewed to determine the method and process to upgrade them. It was determined that a two phase approach was the best method. The first phase was to input data concerning the safe shutdown equipment located in the area and to improve the sketch of the fire area. Phase I pre-fire plans identify safe shutdown equipment in each area. This provides the fire brigade leader and the Shift Supervisor with the information necessary to determine what safe shutdown equipment may be affected by a fire in an area. This phase has been completed.

Example 6 - Corrective Steps That Will Be Taken To Avoid Further Violations

The second phase will be a more comprehensive upgrade of the pre-fire plans and will conform to NRC's guidance document "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance." These plans will be based on: 1) an understanding of ignition and fire growth; 2) fire fighting strategy and tactics; 3) resources available (personnel, equipment, system, etc.); 4) hazards present; 5) the objectives to be achieved; 6) the building or area features that affect fire growth and fire fighting activities; 7) and systems or equipment which must be operated, isolated, secured or shutdown to achieve the fire protection objectives. The second phase will take approximately six months to complete and issue for training.

Example 6 - Date When Full Compliance Will Be Achieved

Full compliance will be achieved on March 31, 1993. The Authority committed to "Perform a Pre-Fire Plan upgrade which includes development of Operations and Activity Pre-Fire Plans (Targeted completion by March 1993)." See NYPA letter dated May 27, 1992 (JPN-92-023), Item 2.2.4.

Reply to Notice of Violation III.B

Examples 1, 2 and 3

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

FitzPatrick Technical Specifications (Sections 6.5.2.8.h, 6.5.2.8.i and 6.5.2.8.j) require biennial, annual and triennial audits of the Fire Protection Program. The Authority's Safety Review Committee is responsible for performing these audits and has delegated the annual and triennial audits to the Director of Safety and Fire Protection. The responsibility for the biennial audit was delegated to the Director - Nuclear Quality Assurance.

Non-conformances and deficiencies in the Fire Protection Program and its implementation have been documented in Audit Findings and Adverse Quality Condition Reports (AQCRs).

There was insufficient commitment by NYPA management to correct identified deficiencies. This was a result of low standards of performance, inadequate staffing and inadequate management oversight and control of the overall fire protection program. Collectively, this led to an insensitivity to fire protection concerns and to the identified deficiencies not being treated as significant and not being promptly corrected.

Corrective Steps That Have Been Taken And Result Achieved

Increased Awareness and Understanding

There is an increased awareness and understanding by both headquarters and plant personnel of the need to identify conditions adverse to quality and to promptly correct them. There is also increased involvement and commitment by Nuclear Generation management to encourage the identification of these conditions, providing the resources necessary to correct them, and to provide the oversight of the corrective action process.

The Quality Assurance Department is stressing performance based audits as a means of assuring that program objectives and regulatory requirements are fulfilled.

Both headquarters and plant personnel are being trained on the AQCR system. As a result, Nuclear Generation Department personnel initiated 75 of the 229 AQCRs issued in 1992.

Increased Commitment

The increased commitment to correct identified conditions has resulted in 133 AQCRs being closed during the first 6 months of 1992. In comparison, in all 1991, 90 AQCRs were closed. The increased commitment to correct adverse conditions is evident in the staffing and funding dedicated to resolving fire protection program deficiencies (e.g., additional fire protection engineers, fire protection system training, fire protection inspectors, fire watch training, fire barrier inspection and repair, programmatic and procedural improvements).

Corrective actions have been implemented to address both immediate fire protection concerns (control of combustibles) as well as sustained improvements in the overall fire protection program. Details are included in the sections of this reply that outline corrective actions for violations associated with fire protection.

Corrective Action Program Changes

Starting in 1989, fire protection program audit findings were issued within the Quality Assurance Corrective Action System. The system requires prompt response and corrective action and contains an escalation to progressively higher levels of management if due dates are not met. It also provides frequent status reports to management.

Concerns with the adequacy of the Corrective Action Program are not unique to the fire protection program. This weakness was identified in 1991 and efforts to improve the process are continuing.

Additional Resources

Nuclear Generation Department management has increased the commitment for corrective action by dedicating personnel and funds for correcting identified adverse conditions and providing the oversight necessary to assure the actions are prompt and effective.

The QA Department issues bi-weekly corrective action status reports to the highest levels of Nuclear Generation Department management. The status of corrective actions are discussed monthly between the Executive Vice President - Nuclear Generation and the Senior Vice President - Appraisal and Compliance Services."

The QA Manager discusses the status of corrective actions with the Resident Manager, the General Managers and Department Managers each week at the Managers Meeting.

Corrective Steps That Will Be Taken To Avoid Further Violations

A comprehensive integrated causal and corrective action evaluation program is being established at FitzPatrick. This will enhance the existing program of the QA Department. Items are discussed daily at a meeting of the Resident Manager and General Managers.

Attachment I to JPN-92-063

A new Nuclear Generation Department action commitment tracking system is being developed. A new position has been added (but not yet filled) to the Licensing Group for an engineer who will be responsible for verifying that commitments to the NRC are satisfied.

The QA Department surveillance and audit programs are stressing performance assessment. Performance based audits not only verify that procedures are being followed (compliance), but they also verify that the activities or processes observed meet their intended objectives and regulatory requirements.

The FPP (Fire Protection Program) audits were reviewed by the Fire Protection Group, the Director of Safety and Fire Protection, and the QA Department. All identified concerns have been entered into the QA Corrective Action System.

Additionally, all QA audits from 1986 to 1992 were reviewed (240 audits) to assure that there are no additional programmatic concerns. None were found beyond those already identified by the NRC Diagnostic Evaluation Team.

Date When Full Compliance Will Be Achieved

The Authority is currently in compliance with the requirements of 10 CFR 50, Appendix B, Criterion XVI, as they apply to the prompt and effective resolution of deficiencies in FitzPatrick Fire Protection Program identified in Quality Assurance audits.

Notice of Violation IV

IV. VIOLATIONS ASSOCIATED WITH APPENDIX R REQUIREMENTS

10 CFR 50.48(b), Fire Protection, states, in part, that Appendix R to 10 CFR Part 50, establishes fire protection features required to satisfy Criterion 3 of Appendix A to 10 CFR Part 50 with respect to certain generic issues for nuclear power plants licensed to operate prior to January 1, 1979.

1. Section III.G.2 of Appendix R, requires, in part, that except as provided for in Paragraph G.3 of this section, where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain not shutdown conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:
 - a. Separation by a fire barrier having 3-hour rating (III.G.2.a); or
 - b. Separation by a horizontal distance of at least 20 feet with no intervening combustibles and with fire detection and an automatic fire suppression system installed in the fire area (II.G.2.b); or
 - c. Enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating and fire detectors and an automatic fire suppression system installed in the fire area (III.G.2.c).

Contrary to the above, as of March 20, 1992, cables of redundant trains of systems necessary to achieve and maintain hot shutdown conditions were located within the same fire area outside of primary containment and (1) were not separated by a complete 3-hour fire barrier; (2) had less than a 20 feet distance between them; and (3) although protected by a 1-hour Appendix R required barrier in the West Cable Tunnel, the floor area in and around the raceway fire barriers was not protected by an automatic fire suppression system, as required by III.G.2.c, because the automatic water spray system provided for the cable trays in the West and East Cable Tunnels did not possess the capabilities to control and extinguish a floor based exposure fire.

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2. Section III.G.3 of Appendix R requires, in part, that alternative or dedicated shutdown capability and its associated circuits, independent of cables, systems or components in the area, room or zone under consideration, shall be provided:
 - a. Where the protection of systems whose function is required for hot shutdown does not satisfy the requirement of paragraph G.2 of this section; or
 - b. Where redundant trains of systems required for hot shutdown located in the same fire area may be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems.

Contrary to the above, as of March 20, 1992, the licensee failed to adequately analyze the separation of safe shutdown functions in the North Cable Tunnel and Battery Room Corridor, and provide alternative or dedicated shutdown capability for redundant trains whose functions are required for hot shutdown and do not meet the separation or enclosure requirements of Section III.G.2.

3. Section III.L.1 of Appendix R requires, in part, that alternative or dedicated shutdown capability provided for a specific fire area shall be able to maintain reactor coolant inventory. During post-fire shutdown, the reactor coolant system process variables shall be maintained within those predicted for a loss of normal a.c. power, and the fission product boundary integrity shall not be affected; i.e., there shall be no fuel clad damage, rupture of any primary coolant boundary, or rupture of the containment boundary. Section III.L.7 requires, in part, that the safe shutdown equipment and systems for each fire area shall be known to be isolated from associated non-safety circuits in the fire area so that hot shorts to ground in the associated circuits will not prevent operation of the safe shutdown equipment.

Contrary to the above, as of March 20, 1992, the licensee did not adequately analyze the effects that hot shorts, shorts to ground, and open circuits may have on alternative shutdown capability. Specifically, a fire which caused significant damage in either the Control Room, Cable Spreading Room, or Relay Room (Fire Area VII), could result in the following potentially significant spurious operations or equipment failures which could have an impact on the implementation of alternative shutdown capability and affect the ability to meet the alternative shutdown performance requirements.

- a. Reactor head vent valves 02 AOV-17 and -18 could have opened spuriously, which would have caused the loss of reactor inventory and drywell heating;

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- b. ADS valves (02 SOV-71A1, B1, C1, D1, E1, F1, G1, H1, I1, J1, K1 and L1) were subject to potential spurious opening failures which could have resulted in the rapid uncontrolled loss of reactor inventory prior to establishing RHR/LPCI from the alternative shutdown control panels outside the Control Room;
 - c. RHR valves 10 AOV-71B and/or 36B could have potentially spuriously opened, which could have diverted LPCI flow to the CST and/or RCIC suction, thereby jeopardizing the ability to maintain reactor coolant inventory;
 - d. Redundant containment spray isolation valves 10 MOV-26B and 31B could have spuriously opened which could have diverted LPCI flow, thereby jeopardizing the ability to maintain reactor coolant inventory;
 - e. Inboard and Outboard MSIVs may have spuriously opened which could have resulted in an uncontrolled loss of reactor inventory;
 - f. Loss of cable 1DMSBBK015 would have caused the loss of power to 71BMCC-2 and precluded the closing of outboard HPCI steam isolation valve 23 MOV-60 and Main Steam Line Drain Outboard Isolation Valve 29 MOV-77, thereby jeopardizing the ability to maintain reactor coolant inventory; and
 - g. Containment nitrogen makeup lines could have spuriously opened and depleted the nitrogen supply. Since actuation of the ADS valves is dependent on the nitrogen supply, such an opening could have jeopardized the ability to maintain reactor coolant inventory.
4. Section III.J requires, in part, that emergency lighting units shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto.

Contrary to the above, as of March 20, 1992, areas needed for operation of safe shutdown equipment and in access and egress routes thereto were not provided with adequate emergency lighting needed by an operator to perform the safe shutdown functions. Specifically, illumination of the Alternate Shutdown Panel 25ASP-1, the Remote Shutdown Panel 25RSP-1, and Emergency Diesel Generator Switchgear Rooms A and C were inadequate in that an operator, holding a procedure/instruction at arms length, could not read and perform the functions listed therein, given the existing emergency lighting.

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These violations are classified in the aggregate as a Severity Level III problem (Supplement I).

Cumulative Civil Penalty - \$100,000 (assessed equally among four violations).

Reply to Notice of Violation IV

IV. VIOLATIONS ASSOCIATED WITH APPENDIX R REQUIREMENTS

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

An analysis was performed to determine the root cause of the organizational and programmatic problems associated with fire protection at FitzPatrick. This analysis identified three root causes:

Lack of commitment to the fire protection program by Authority management

Inadequate interface between Authority headquarters and plant staff

Inadequate fire protection staff qualifications

Corrective steps that have been or will be taken and dates when full compliance will be achieved is provided separately for each violation in the sections below.

IV.1 Corrective Steps That Have Be Taken And Results Achieved

LER 92-004-00, issued February 14, 1992, described the condition and cited the cause as

"inadequate design of the original installation fire suppression systems in the cable tunnels. In addition, modifications which installed cables with combustible outer jacketing were installed in trays designed for armored cable as early as 1977. Further, the evaluation of 10 CFR 50, Appendix R, requirements was inadequate. As a result, the inadequate protection of Division 1 conduits and cables crossing the Division 2 tunnel was not discovered until January 1992."

An occurrence report was written and the cable tunnel suppression systems were declared inoperable.

IV.1 Corrective Steps That Will Be Taken To Avoid Further Violations

New cable tunnel suppression systems are in the process of being installed. The system manifold has been modified to accept connections to the new systems.

A exemption request was submitted to the NRC requesting a temporary exemption from the requirements of Sections III.G.2 and III.G.3 until the new system is installed. This exemption was granted in an NRC letter dated September 10, 1992.

IV.1 Date When Full Compliance will Be Achieved

Full compliance will be achieved when the installation of the new cable tunnel systems are complete. Completion is scheduled for July 31, 1993.

IV.2 Corrective Steps That Have Been Taken and Results Achieved

The draft 1992 "Safe Shutdown Capability Reassessment" identified modifications or evaluations that must be installed or completed before FitzPatrick can be brought into full compliance with the requirements of Appendix R. Modifications to correct the identified deficiencies have been engineered and are in the process of being installed.

Exemptions have been prepared, submitted, and NRC approval received for those identified deficiencies that required exemptions.

LER 92-015-00, "Appendix R Rearanalysis Reveals Shutdown Analysis Deficiencies" issued on April 20, 1992 identified seven specific deficiencies and stated that additional deficiencies had been identified and discussed with members of the NRC fire protection inspection team. This LER was preceded by an Emergency Notification System (ENS) phone call deficiencies on March 17, 1992 regarding these.

IV.2 Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations. An exemption from the requirements of Sections III.L.1.b and III.L.2.b of Appendix R to 10 CFR 50 were granted by the NRC in a letter dated September 10, 1992.

IV.2 Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current refueling outage. The temporary exemption granted by the NRC regarding the Battery Room Corridor suppression is no longer required.

IV.3 Corrective Steps That Have Been Taken and Results Achieved

The Authority notified the Commission on March 17, 1992 that deficiencies existed that could have resulted in conditions in which safe shutdown could not be assured as required by the rule. The ENS notification was followed up by LER 92-015-00 on April 20, 1992.

The Authority also identified during a meeting with the Commission on August 2, 1992 that the 1982 and 1985 Appendix R Reassessments were not in accordance with certain provisions of Generic Letters 85-01 and 86-10.

The draft 1992 "Safe Shutdown Capability Reassessment" identified modifications or evaluations that must be installed or completed before FitzPatrick can be brought into full compliance with the requirements of Appendix R. Modifications to correct the identified deficiencies have been engineered and are in the process of being installed.

Exemptions have been prepared, submitted, and NRC approval received for those identified deficiencies that required exemptions.

IV.3 Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

IV.3 Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current refueling outage by completing modifications to correct all deficiencies current identified.

IV.4 Corrective Steps That Have Been Taken And Result Achieved

Access/egress routes to existing safe shutdown equipment and the equipment areas were walked down to determine the need for additional emergency lights.

Upon development of the draft operating procedures for response to a fire, additional manual operating actions were identified and locations walked down to determine if any additional emergency lights were needed.

Modification packages were engineered to install emergency lights in the areas identified in the two above steps.

IV.4 Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

IV.4 Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current refueling outage.

Notice of Violation V

V. VIOLATION ASSOCIATED WITH SUBMITTAL OF INACCURATE INFORMATION TO THE NRC

10 CFR 50.9 requires, in part, that information provided to the Commission by a licensee be complete and accurate in all material respects.

Contrary to the above, the licensee provided incomplete or inaccurate information to the NRC on multiple occasions, as evidenced by the following examples:

1. Information provided to the NRC by the licensee, in a November 19, 1991, submittal of a proposed change to the Technical Specifications (TS) ASME Section XI and ESW Pump Surveillance Testing (JPTS-90-023), was inaccurate. Specifically,
 - a. Safety Evaluation JPN-91-064, Section III.A.2, System Hydraulics, attached to the proposed change, states, in part, that "the proposed acceptance criteria was based on an ESW test, TOP-117, which demonstrated that each ESW pump could provide minimum flow to the components required following a DBA while also supplying RBCLCS components." This statement was inaccurate in that TOP-117 test results indicated that one ESW pump could not provide adequate flow to the crescent area unit coolers (which are required following a DBA) while also supplying the RBCLCS components. This statement was material because it had the capability to influence an NRC decision to approve the proposed change to the TS.
 - b. Safety evaluation JPN-91-064, Section III.A.2, System Hydraulics, attached to the proposed change, states, in part, that "the calculations based on test data have further demonstrated that the ESW pumps have margin to operate below the ASME Section XI action level on their pump curves and still deliver minimum flow to the components required for the DBA when the RBCLCS components are aligned." This statement was inaccurate in that this calculation was not based on test data. Further, if test data from TOP-117 were used, the conclusion would be that the ESW pumps do not have margin to operate below the ASME Section XI action level on their pump curves and still deliver minimum flow to the components required for the DBA when RBCLCS are aligned. This statement was material because if the information provided had been accurate, the NRC staff would have requested additional information and it is likely that this proposed change would have been denied pending further analysis.

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2. Information provided to the NRC in a June 15, 1989, Licensee Event Report (LER) 88-09-01, "Inoperable Emergency Core Cooling System Area Cooling due to Inadequate Procedures," was incomplete and inaccurate. The LER description of the event describes a number of system inadequacies which would result in the system being unable to perform its intended safety function. However, the analysis of the event section of the LER concludes that temperatures in the crescent area would be acceptable under accident conditions discussed in the FSAR. This conclusion was incomplete and inaccurate in that the assumptions which were used to support operability of the crescent area cooler did not include the failures for which the event report was written, and therefore, the conclusion that the crescent area coolers were acceptable under accident conditions discussed in the FSAR was inaccurate. This statement was material because the NRC staff may have requested additional supporting information or may have conducted an inspection to review the circumstances surrounding this event.
3. Information provided to the NRC in an August 29, 1990, Licensee Event Report 90-12-01, "Normal and Emergency Service Water System Inspection Results Safety Concerns Due to Silt and Corrosion Product Build-Up," was inaccurate. The LER analysis section concluded that a significant safety concern did not exist. However, this statement was inaccurate because a significant safety concern did exist in that the single failure of the "B" ESW system would have resulted in the loss of all control room and relay room cooling. This statement was material because the NRC staff may have requested additional supporting information or may have conducted an inspection to review the circumstances surrounding this event.
4. Information provided to the NRC in a January 25, 1991, Licensee Event Report 90-25-01, "Fire Service Water to Emergency Service Water Swing Check Valves Fail to Close During Testing Due to Corrosion and Silt Accumulation in Hinge," was inaccurate. The analysis section of the report stated that "the ability to manually isolate any of the check valves which failed would have mitigated the consequences of any event and ensured continued and adequate cooling capacity to the electric bays, cable tunnel, and crescent area. Accordingly, the failure of these five valves to close under test conditions would most probably not have had a significant adverse impact on plant safety in the event of the accident postulated in the FSAR." The conclusion that this would not have a significant impact on plant safety is inaccurate in that the same section of the LER states that "the isolation valve for the west crescent area check valve (SWS-60A) is located in the reactor building. Accessibility could be hindered by a post-LOCA environment." This statement was material because the NRC staff may have requested additional supporting information or may have conducted an inspection to review the circumstances surrounding this event.

This is a Severity Level III violation (Supplement I).

Attachment I to JPN-92-063

Civil Penalty- \$100,000.

Reply to Notice of Violation V.1.a

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

To determine the reasons for the inaccurate statements and the violation, a root cause analysis is being performed (Reference 1) by the FitzPatrick Quality Assurance Department. The analysis is being performed by an ASQC (American Society of Quality Control) certified quality engineer, trained and qualified in various root cause investigation and analysis methods. The Authority committed to perform this root cause analysis in its response to the most recent FitzPatrick SALP report (Reference 2).

The investigation used the methods prescribed in INPO's Human Performance Enhancement System (HPES) which assures a complete and objective evaluation of events without the need for a human factors specialist. HPES uses evaluation checklists, fact gathering techniques, and fundamental knowledge of human design specifications and behavior to analyze human performance problems. A modified TOR (Technique of Operations Review) analysis was used since it lends itself to problems involving multiple organizations, programs and their interfaces.

The root cause analysis draft report acknowledged that many of its findings were similar to those identified in the SALP report and that solutions to many of them had been developed and implemented. (The root cause draft report analysis was developed independently and without prior knowledge of the response to the SALP report.)

Specifically, the most recent FitzPatrick SALP report (Reference 2) concluded that Licensing staffing was inadequate; the quality of certain submittals was inadequate; engineering support for licensing actions was of mixed quality; and, certain licensing issues were not resolved on a timely basis.

Corrective Steps That Have Been Taken And Results Achieved

In the Authority's response to the SALP report (Reference 3), the Authority outlined steps to improve licensing. Many of these improvements have already been implemented and will also correct the problems identified by the root cause analysis.

Licensing Staffing

At the beginning of the SALF period, there were seven licensing engineering positions in the White Plains Office which were dedicated to the FitzPatrick plant. Five new licensing engineer positions have been approved and two have been filled. Of the five new positions, two will be at the supervisory engineer level. The addition of these supervisory positions will reduce the Director's over-involvement in day-to-day activities. This will allow the Director to spend more time on improving licensing activities and processes. It will also help to make the Director's review of submittals to the NRC more independent.

In addition to these new positions, four full time contract engineers have been added to the staff. Three of these engineers are dedicated to the backlog of Technical Specifications. One is dedicated to fire protection issues. Two interns have been added to the staff and an additional intern may be added in the near future.

The total licensing staff for the FitzPatrick Plant now includes nine permanent Power Authority engineers and four contractors. Two permanent vacancies were recently filled with contractors. This will bring the total number of licensing engineers to fifteen. In addition, the staffing includes the Director, Nuclear Licensing - BWR and interns.

The professional qualifications of the nuclear licensing staff are also being improved. The licensing staff now includes one senior engineer who was an SRO at the FitzPatrick Plant, two engineers who were SRO certified at FitzPatrick, and one engineer who recently completed Reactor Operator Systems Training. Three of the eight permanent Authority engineers now have systems training equivalent to that required for an operators license. In addition, the Director, Nuclear Licensing - BWR was SRO certified at FitzPatrick.

Additional training has been given to the licensing staff. One licensing engineer attended a two week training course on FitzPatrick administrative procedures and work control processes at the plant. In addition, this engineer plus three others attended a four week systems training course at the FitzPatrick Plant in July and August of this year.

Quality of Licensing Submittals

The Authority is also taking action in related areas which will improve the quality of our submittals. First, the additional licensing staffing will reduce the workload of the individual engineers and thereby improve the quality of their work. The Authority is also increasing the plant specific training being given to the licensing engineers.

The Authority is making numerous improvements in the Engineering Department. These efforts will improve the overall quality of engineering work and will also improve the quality of engineering done in support of licensing submittals.

The Authority is also improving the concurrence cycle used to review and approve submittals to the NRC. The list of reviewers is being focused on those individuals who have expertise

Attachment I to JPN-92-063

that they can bring to bear on the subject, or who have a stake in the commitments being made to the NRC. Individual responsibilities for review and verification of information being provided to the NRC will be designated. Reviews will be conducted in parallel to give the reviewers more time to evaluate the document. Standards will be established for documentation required to support input into licensing submittals. The Authority will also check with other utilities to see how the concurrence cycle may be improved. Lessons learned from this effort will also be included in revisions to the concurrence cycle. When this effort is complete, the formal procedure for the concurrence cycle will be revised and the appropriate personnel will receive training.

Additional changes are being considered for the onsite concurrence cycle for licensing submittals developed in the headquarters office. The Authority also plans to have complex proposed technical specification changes presented to PORC by the licensing engineer who prepares them. This will reduce the possibility of misunderstandings and miscommunications which could effect the quality of the proposed technical specification change.

Communications

Licensing is improving communications with the plant and with engineering. A new licensing engineer is permanently stationed at the FitzPatrick Plant. This engineer reports to the Director, Nuclear Licensing - BWR in the White Plains Office and attends daily meetings, planning meetings, and key staff meetings at the plant on a regular basis. This engineer keeps the Director, Nuclear Licensing - BWR apprised of emergent issues as they arise. In addition, headquarters licensing engineers may rotate up to the FitzPatrick plant for one or two week intervals.

Licensing is also represented at the regularly scheduled engineering meetings which take place at the FitzPatrick plant. Periodic licensing meetings will be scheduled following plant startup. Licensing also participates in the twice weekly conference calls between the engineering organizations at FitzPatrick and the White Plains Office.

In the past, a weekly Directors Meeting was held in the White Plains Office. These meetings are now being conducted more frequently with an agenda to make them more productive.

Licensing also attends the monthly Project Meeting held at the FitzPatrick Plant and the White Plains Office Morning Meeting. This meeting is used to highlight the daily or weekly support needed by licensing from other parts of the organization.

Timely Resolution of Licensing Issues

The Authority is adding a verification function to the licensing section, which will be performed by one licensing engineer on a full time basis. This engineer will be responsible for reviewing selected licensing submittals and performing the following tasks:

Verifying the accuracy and quality of the information provided; and,

Verifying that the commitments are satisfied.

A working group was established to better define the role of engineering and technical support. The Director, Nuclear Licensing - BWR participated in this effort.

Formal guidance has been provided to the licensing staff concerning the need to promptly review and resolve licensing issues. All licensing staff have been required to read this guidance and it has been discussed at a licensing staff meeting.

A new Action Item Tracking System has been developed for use in the Nuclear Generation Department. Nuclear licensing will assume responsibility for this system and use it to assure timely resolution of licensing issues. In addition, licensing will use a computerized commitment tracking system to be used for the recording and tracking of commitments to the NRC and other outside organizations. The combination of these two systems will improve the ability of licensing to identify and resolve issues in a timely manner.

The Operations Review Group has been established to review plant internal deviations, conditions, and events. Each morning, the Operational Review Group reviews deficiencies from the various reporting systems, determines significance, and presents findings to the Plant Leadership Team (i.e. Resident Manager and General Managers). This assures the Plant Leadership Team is aware of problems and issues so that resources can be appropriately directed.

Corrective Steps That Will Be Taken To Avoid Further Violations

The Authority's SALP response (Reference 3) also described corrective actions to improve Licensing and avoid further violations.

Licensing Staffing

Two permanent vacancies have been filled with contractors. An additional new engineer will join the staff in October. An additional intern may be added in the near future.

Quality of Licensing Submittals

The formal procedure for the concurrence cycle will be revised and the appropriate personnel will receive training.

Communications

One of the new licensing engineers has been permanently stationed at the FitzPatrick Plant.

Timely Resolution of Licensing Submittals

One licensing engineer will be assigned full time to a verification function. One of the responsibilities of this engineer will be assuring that commitments, including the submittal of written reports or letters, are on time.

Date When Full Compliance Will Be Achieved

The Authority will submit a corrected application for an amendment to the Technical Specifications regarding Emergency Service Water System pump surveillance requirements not later than December 31, 1992.

References

1. NRC letter, T. T. Martin to R. E. Beedle, dated July 24, 1992 regarding Systematic Assessment of Licensee Performance (SALP) Final Report, No. 50-333/89-99 for FitzPatrick.
2. NYPA letter, R. E. Beedle to USNRC, dated June 21, 1992 regarding response to NRC SALP Report No. 50-333/89-99 for FitzPatrick.
3. James A. FitzPatrick Nuclear Power Plant Quality Assurance Department Report "Root Cause Analysis of Licensing Issues Identified by NRC Safety System Functional Inspection," SR No. 1575, dated August 24, 1992.

Reply to Notice of Violation V.2, V.3 and V.4

V. VIOLATION ASSOCIATED WITH SUBMITTAL OF INACCURATE INFORMATION TO THE NRC

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

Inaccurate LERs (Licensee Event Reports) were submitted because of a lack of procedural guidance, poor management oversight and an inefficient and ineffective process for the technical review.

Corrective Steps That Have Been Taken And Result Achieved

An Operating Review Group (ORG) has been established that is responsible for LERs. This responsibility includes providing the oversight necessary to ensure LERs are submitted with consistent detail and have received the necessary technical reviews.

Corrective Steps That Will Be Taken To Avoid Further Violations

The Authority is preparing policies and procedures that will provide guidance on the submittal of information to outside agencies. These policies and procedures will be completed by January 31, 1993.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved by January 31, 1993 when the policies and procedures have been completed. Corrected LERs 88-09, 90-12 and 90-25 will be submitted not later than December 31, 1992.

Notice of Violation VI

VI. OTHER VIOLATIONS OF NRC REQUIREMENTS

- A. 10 CFR Part 50, Appendix B, Criterion III, Design Control, requires, in part, that measures shall be established to assure that applicable regulatory requirements and design basis are correctly translated into specifications, procedures, and instructions.

Contrary to the above, on March 20, 1992, adequate measures were not established to assure that the applicable design basis of the battery-powered emergency lighting units were correctly translated into specifications, procedures, and instructions. Specifically, sufficient vendor recommended maintenance data was not incorporated into the emergency lighting surveillance and test procedures (F-ST-16J and MST-76.5) to ensure that the battery-powered emergency lighting units would function as designed.

This is a Severity Level IV violation (Supplement I).

- B. 10 CFR Part 50.54(i), requires, in part, that, except as provided in 10 CFR 55.13, the licensee may not permit the manipulation of the controls of any facility by anyone who is not a licensed operator or senior operator as provided in Part 55 of this chapter.

10 CFR 55.53(e) requires, in part, that to maintain an active license, the licensee (individual operator) shall actively perform the functions of an operator or senior operator on a minimum of seven 8-hour or five 12-hour shifts per calendar quarter. 10 CFR 55.53(f) requires, in part, that if the requirements of 10 CFR 55.53(e) are not met before resumption of licensed duties, an authorized representative of the facility licensee shall certify the following: (1) that the qualifications and status of the license are current and valid; and (2) that the licensee has completed a minimum of 40 hours of shift functions under the direction of an operator or senior operator. The 40 hours must have included a complete plant tour and all required shift turnover procedures.

Contrary to the above, between the period of June 25, 1990 to September 30, 1991, four inactive staff Senior Reactor Operators (SROs) were allowed to resume senior licensed duties without properly re-activating their licenses and the exceptions of 10 CFR 55.13 did not apply. Specifically, the SROs did not stand the minimum required seven 8-hour or five 12-hour watches for the first, second, and fourth calendar quarters of 1990, and the first calendar quarter of 1991; and, in a subsequent calendar quarter, they performed the duties of a licensed senior operator without completing a minimum of 40 hours of shift functions under the direction of an operator or senior operator and without the authorized representative certification.

This is a Severity Level IV violation (Supplement I).

Reply to Notice of Violation VI.A

VI. OTHER VIOLATIONS OF NRC REQUIREMENTS

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

An analysis was performed to determine the root cause of the organizational and programmatic problems associated with fire protection at FitzPatrick. This analysis identified three root causes:

- Lack of commitment to the fire protection program by Authority management
- Inadequate interface between Authority headquarters and plant staff
- Inadequate fire protection staff qualifications

Corrective Steps That Have Been Taken And Result Achieved

Procedures MST-76.5 "Exide F-100 Emergency Light Surveillance Test" and F-ST-16J "Emergency Lighting Operability Test" are being revised to incorporate appropriate requirements that will ensure that emergency light units are properly maintained. Vendor maintenance recommendations were considered in determining maintenance requirements.

Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved prior to startup from the current outage.

Reply to Notice of Violation VI.B

Admission or Denial of Alleged Violation

The Authority agrees with the violation.

Reasons for the Violation

The violation was the result of inadequate administrative control procedures.

Corrective Steps That Have Been Taken And Result Achieved

In response to this violation, and to ensure individual NRC licensee requirements are satisfied, the Authority has developed Fitzpatrick Operations Department Standing Order (ODSO) ODSO-30 "NRC License Maintenance." This procedure defines the administrative requirements, based on 10 CFR 55, for maintaining an active NRC operator license. To maintain an active license, an operator must perform licensed operator duties for a minimum of seven 8 hour shifts per calendar quarter. In the event that an operator fails to comply with these minimum watchstanding requirements, the individual's license will be declared inactive.

For an inactive operator to be restored to active status, the candidate is required to complete a minimum of 40 hours of on-shift time under the direction of a licensed RO or SRO, as appropriate, and in the position to which the candidate will be assigned. The 40 hours includes a complete tour of the plant and shift turnover. The candidate is expected to fulfill watchstation duties and responsibilities as defined in ODSO-1, "Operating Staff Responsibilities and Authorities." The candidate is logged in the appropriate shift log book and identified as under instruction. When all requirements are fulfilled, the Operations Manager certifies that the qualification and status of the candidate's license are valid, using the attachment in ODSO-30.

To provide oversight and ensure operator qualifications are maintained, responsibilities of the Operations Manager include:

- Ensure personnel performing licensed duties are qualified for that position
- Remove an individual from licensed duties when required by ODSO-30
- Certify the qualification and status of personnel prior to return to licensed duties
- Notify the operator in writing before the start of the next calendar quarter if a licensee

fails to meet the minimum watchstanding requirements

Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above are adequate to avoid further violations.

Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 19, 1992 when Revision 0 of ODSO-30 was issued for implementation. The issues associated with this violation have been addressed and corrected with the implementation of ODSO-30.

References

1. ODSO-30, "NRC License Maintenance," Revision 1, dated July 1, 1992.
2. ODSO-1, "Operating Staff Responsibilities and Authorities*," Revision 18, dated October 2, 1992.

Answer to Notice of Violation

Pursuant to 10 C.F.R. S 2.205, the Authority provides below its Answer to the Notice of Violation. This discussion supports the Authority position that the proposed civil penalty should not be imposed.

Regulatory Perspective

The NRC Enforcement Policy (10 CFR Part 2, Appendix C) notes that the NRC may exercise discretion to reduce the amount of a proposed civil penalty, notwithstanding the outcome of the normal assessment process, to ensure that the penalty reflects the NRC's concern and conveys the appropriate message. The NRC noted in the subject NOV that it has exercised such discretion by limiting the civil penalty amount for each of the five violations or problem areas to \$100,000, the maximum civil penalty for a single violation per day. While the Authority appreciates the NRC's consideration, the actual collective regulatory impact of the proposed civil penalties is still disproportionate to the current situation at FitzPatrick.

The Authority does not deny the cited violations. The violations resulted from, and were symptomatic of, the same underlying causes of the overall performance decline at FitzPatrick. The Authority has undertaken comprehensive measures to address that past decline and the root causes and contributing factors. The Authority believes that enforcement action designed to send a message at this late date is neither timely, necessary, nor warranted.

The Authority has already paid a substantial price for the decline in performance. The plant was voluntarily shutdown for nearly a year to improve operations and to address specific concerns such as those related to fire protection. The NRC's prior decision to include FitzPatrick on the NRC Watch List was a message in itself; one that has extracted a price in terms of increased NRC scrutiny, adverse public perception, and a shift in Authority resources to FitzPatrick improvement programs. Senior management changes at FitzPatrick have already been made in order to improve management control of plant operations. For example, as previously discussed with the NRC, a new site management team and organizational structure have been put in place. Changes have been made at the Resident Manager, General Manager, Technical Services Superintendent, and headquarters Fire Protection supervisory levels.

In addition, the Authority has developed and implemented a comprehensive program to correct the root causes of the performance decline at FitzPatrick. Among other actions, the Results Improvement Program (RIP) has been implemented to enhance technical support for plant organizations, resources available, root cause analysis capability, and interaction between corporate and the plant. The Authority is also implementing better performance

standards and accountability. A capital improvement program for FitzPatrick has also been adopted. The NRC noted in the NOV letter eight distinct areas (including the RIP) where actions have been initiated by management to correct the subject violations and prevent their recurrence, as well as to generally improve operations at the facility. Progress already has been made in improving plant performance.

From a financial perspective, fire protection modifications, evaluations, inspections and other programmatic improvements to correct deficiencies are currently estimated to cost more than 28 million dollars. Lost revenue during the shutdown, to date, exceeds 140 million dollars. These costs have sent a clear message throughout the Authority regarding the monetary cost that results from a broad decline in performance. The costs also serve as a painful reminder of what occurs when regulatory requirements are not met on a broad scale. These lessons-learned by the Authority are penalty enough. Imposition of a civil penalty at this time would not convey any additional regulatory message, and would only have a punitive effect.

An enforcement action against the Authority for past issues at FitzPatrick also should be based on the need to send a message to industry at large. Industry is already well aware of the problems at FitzPatrick and of the extensive, and costly measures being implemented to address those problems. Moreover, the NRC already sent a message through the FitzPatrick December 3, 1991 Diagnostic Evaluation Team Report (which, we understand in some cases, was provided by regional management to licensees as "required reading"). The decision to shut down FitzPatrick, and keep it shut down for almost a year, was a proactive step to better focus personnel on the same kinds of issues cited in the Notice of Violation. While we cannot speak for industry, we believe it safe to assume that no NRC licensee wants to follow a similar path. A \$500,000 punitive civil penalty imposed on top of this history at FitzPatrick serves no purpose.

Enforcement Discretion

The NRC Enforcement Policy (10 CFR Part 2, Appendix C) states that, because the NRC wants to encourage and support licensee initiative for self identification and correction of problems, the NRC may exercise discretion and refrain from issuing a civil penalty under certain circumstances. (See Enforcement Policy at Section VII.B.) In addition, the Policy allows the NRC to specifically tailor a civil penalty to address special circumstances to send an appropriate message. See Section VII.B(6). For the reasons stated above (and including the age of the violations involved, the comprehensive changes since made or underway, and the expenses already incurred), the Authority believes that further discretion should be exercised in this case to refrain from issuing the proposed, extensive civil penalty.

In addition, looking individually at some of the violations cited, discretion would seem appropriate in at least some cases. (The NRC in the proposed action did not do this and assigned a \$100,000 civil penalty to each of the five violation categories.) Specifically, referring to violations identified during extended shutdowns or work stoppages, the

Attachment II to JPN-92-063

Enforcement Policy provides that the NRC may refrain from issuing a proposed civil penalty for a violation related to generally poor performance over a long period of time. Factors that must be satisfied to qualify for this enforcement discretion are:

- (1) The violation was either identified by the licensee as a result of a comprehensive program for problem identification and correction that was developed in response to the shutdown or if the NRC identified the violation, all of the other criteria under this provision are met.
- (2) The violation is based upon activities by the licensee prior to the events leading up to the shutdown.
- (3) The violation was not willful.
- (4) Restart of the facility requires NRC concurrence.

At a minimum, the circumstances involved in Violations III and IV satisfy the above enforcement discretion criteria.

FitzPatrick has been shutdown since November 1991. The shutdown was due in part to the Authority's identification of programmatic Appendix R and fire protection violations. The decision to shut down reflected the Authority's desire to implement a comprehensive program to correct these conditions, including a complete safe shutdown reanalysis and numerous plant modifications. The Appendix R and fire protection program violations covered by this effort are cited in the NOV as the basis for two Severity Level III Problems. The violations were not willful, and the Authority has agreed to correct the fire protection deficiencies prior to restart (and to coordinate restart of FitzPatrick with the NRC).

It is noteworthy that the Appendix R/fire protection violations at FitzPatrick are similar to those noted at the Pheasant Run Edison Company's Pilgrim Nuclear Power Station (see EA 88-263, October 13, 1988) where enforcement discretion was exercised for fire protection-related violations identified during an extended shut down, and no violation was issued. Therefore, based on the fact that the Authority has met all of the required criteria for enforcement discretion, and such discretion would not be unprecedented, the proposed civil penalty for Violations III and IV should be fully mitigated (total of \$200,000).

Section 50.9 Violations

The Authority also believes that the \$100,000 civil penalty proposed for violations of 10 CFR 50.9 is inappropriate and should be mitigated. The Authority recognizes the importance of providing the NRC with complete and accurate information. The violation was not willful and the Authority is implementing measures to provide additional assurance of accuracy.