ENCLOSURE 1

SALP BOARD REPORT

(Amended)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

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SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION REPORT NO. 50-333/86-99

NEW YORK POWER AUTHORITY

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

ASSESSMENT PERIOD: December 1, 1986 to April 30, 1988

BOARD MEETING DATE: June 15, 1988

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## I. INTRODUCTION

### A. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

An NRC SALP Board, composed of the staff members listed below, met on June 15, 1988, to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

### B. SALP Board Members

Board Chairman

W. Kane, Director, Division of Reactor Projects

Members

H. Abelson, Project Manager JAF, NRR
R. Capra, Director, Project Directorate No. I-1, NRR
J. Durr, Chief, Engineering Branch, DRS
J. Johnson, Chief, Projects Section 2C, DRP
W. Johnston, Acting Director, Division of Reactor Safety, DRS
A. Luptak, Senior Resident Inspector, James A. FitzPatrick, DRP
M. Shanbaky, Acting Chief, Facilities Radiological Safety and Safeguards Branch, DRSS
E. Wenzinger, Chief, Reactor Projects Branch 2, DRP

Attendees

N. Blumberg, Chief, Operational Programs Section, DRS
T. Dragoun, Senior Radiation Specialist, DRSS
G. Hunegs, Resident Inspector, Indian Point 3, DRP
R. Keimig, Chief, Safeguards Section, DRSS
W. Lazarus, Chief, Emergency Preparedness Section, DRSS
R. Plasse, Resident Inspector, James A. FitzPatrick, DRP
W. Thomas, Radiation Specialist, DRSS

## II. CRITERIA

Licensee performance is assessed in selected functional areas, depending on whether the facility is in a construction, preoperational, or operating phase. Functional areas normally represent areas significant to nuclear safety and the environment, and are normal programmatic areas. Special areas may be added to highlight significant observations.

One or more of the following evaluation criteria were used to assess each functional area.

1. Management involvement and control in assuring quality.

2. Approach to resolution of technical issues from a safety standpoint.

3. Responsiveness to NRC initiatives.

4. Enforcement history.

5. Operational and Construction events (including response to, analysis of, and corrective actions for).

6. Staffing (including management).

7. Training effectiveness and qualification.

Based upon the SALP Board assessment, each functional area evaluated is classified into one of the three performance categories. The definitions of these performance categories are:

Category 1 Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used so that a high level of performance with respect to operational safety and construction quality is being achieved.

Category 2 NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and reasonably effective so that satisfactory performance with respect to operational safety and construction quality is being achieved.

Category 3 Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used so that minimally satisfactory performance with respect to operational safety and construction quality is being achieved.

The SALP Board has also assessed each functional area to compare the licensee's performance near the end of the assessment period to that during the entire period in order to determine the recent trend for functional areas as appropriate. The trend categories used by the SALP Board are as follows:

Improving: Licensee performance was determined to be improving near the close of the assessment period.

Declining: Licensee performance was determined to be declining near the close of the assessment period.

A trend is assigned only when, in opinion of the SALP Board, the trend is significant enough to be considered indicative of a likely change in the performance category in the near future. For example, a classification of "Category 2, Improving" indicates the clear potential for "Category 1" performance in the next SALP period.

## III. SUMMARY OF RESULTS

### A. Overall Facility Evaluation

The FitzPatrick facility continues to be operated in a conservative and safety conscious manner. The site and corporate management have demonstrated their commitment to plant safety and reliability through the resources and programs directed at plant improvements. These include new training facilities, a new plant computer system, a corporate engineering reorganization, and preventive maintenance programs. Throughout the plant staff, there exists a strong dedication, pride in ownership, and accountability for performance.

Plant operations continues to be a strength. The lack of operator errors and the absence of plant trips caused by operators as well as a small number of lit annunciators is indicative of the safety perspective and conscientious approach taken by operators. The efforts to improve control room decorum and professionalism are noteworthy.

In the radiation protection and chemistry areas significant program improvements were noted this period. Following an extremity overexposure event early in the period (attributed to radiological program weaknesses), program oversight and adherence to procedures showed marked improvement. Program strengths noted were in the areas of respiratory protection and training.

In the maintenance area licensee efforts to implement vendor manual updates and a preventive maintenance program are showing slow progress. Continued emphasis for timely implementation is necessary. Increased attention is needed to improve work practices and procedural adherence in the maintenance area.

The surveillance program satisfactorily implements a large number of test requirements to assure reliable equipment operation. Weaknesses continue to be noted in the administration of testing programs. In particular, the administrative controls for the Inservice Testing Program were found to be deficient due to limited staffing and lack of management attention.

In the area of engineering support, limited staffing and lack of coordination of engineering efforts have caused inconsistent performance. Although actions have been taken to correct some of these deficiencies, continued management attention is required.

The licensee continues to implement a strong and effective security program. The licensee's Emergency Preparedness continues to be of high quality; however, weaknesses identified in the areas of audits and protective action recommendations indicate a need for increased in management attention.

In the licensing area, significant improvements have been noted. Management involvement has increased in this area and an improved attitude of cooperation was noted. Increased attention is required to correct long standing deficiencies in the plant's Technical Specifications and assuring consistent technical quality of submittals.

A positive worker attitude and strong management commitment towards assuring quality have maintained the FitzPatrick facility on a positive performance trend. Principal areas which require increased attention are engineering support, correcting discrepancies in Technical Specifications, and emphasis in the area of procedural control and adherence.

B. Background

1. Licensee Activities

The licensee began the assessment period with the facility operating at 90% power, conducting an end of cycle power coastdown. On January 15, 1987, the plant was shut down for a scheduled three month refueling outage, which lasted until April 22, 1987. During this outage, the licensee removed the recirculation loop discharge bypass lines, replaced the residual heat removal-reactor water cleanup tee connection, replaced 6 neutron monitoring instrument dry tubes, replaced 18 power range neutron monitors, and replaced 20 control rod blades. Following testing, a plant startup commenced April 22, 1987. The plant returned to power operation on April 30, 1987.

From the refueling outage until the next scheduled maintenance outage, normal power operation was interrupted by 6 unscheduled outages, lasting between one and four days. The plant also operated at reduced power during various periods due to equipment problems, low condenser vacuum, and restrictions while operating with 3 out of 4 main steam lines. On June 10, 1987, the reactor tripped from 100% power due to the loss of 'A' reactor feed pump. On July 10, 1987, power was reduced to near 70% to investigate the 'A' reactor feedpump control circuit and returned to full power on July 12, 1987. From July 13 - July 31, 1987, the plant operated at reduced power (95-98%) due to vacuum restraints caused by high lake temperatures.

From August 1 - August 7, 1987, the plant operated near 75% due to the availability of only 3 of the 4 main steam lines, due to a slow closing time on one main steam isolation valve. Power was raised to 88% on August 7, 1987, following analysis of 3 steam line operation. After approval of an emergency Technical Specification Amendment, the plant returned to normal 4 steam line operation on August 20, 1987, and subsequently returned to full power operation. On August 28, 1987, the reactor tripped following a turbine trip due to a generator load reject caused by a generator field ground fault. On September 7, 1987, the reactor tripped following a turbine trip due to a generator load reject, similar to the August 28 event. On September 24, 1987, the reactor tripped due to a loss of the 'A' reactor feed pump. The plant restarted and operated near 60% power while troubleshooting the 'A' feedpump and returned to full power operation on October 11, 1987. On November 5, 1987, the plant reduced power to near 60% to allow repair to 'B' reactor feed pump. In the process of increasing power after completion of the repair, the reactor tripped from 80% power on November 8, 1987. The trip was due to a recirculation pump speed controller failure. On December 9, 1987, the reactor tripped from 100% power due to a false low reactor vessel level indication caused by personnel error during surveillance testing.

The facility was shutdown from January 9, 1988, until January 23, 1988, for a scheduled maintenance outage. Major work accomplished during this outage involved replacement of sixteen control rod drive mechanisms, inspection of the torus coating, recirculation scoop tube modifications, and preventive

maintenance on electrical equipment. During the subsequent startup on January 23, 1988, a drywell inspection at 500 psig reactor pressure noted leakage from a reactor water cleanup (RWCU) system weld. The plant was shut down, the RWCU system weld was satisfactorily repaired, and another reactor startup was conducted January 26, 1988. The plant was operated at near full power throughout the remainder of the assessment period with a reduction in power to near 60% from March 14 - March 18, 1987, to allow repairs to 'B' reactor feed pump.

Section III.D provides a description (including NRC classification) of the cause of all reactor trips and unscheduled plant shutdowns during this assessment period.

2. Inspection Activities

An NRC senior resident inspector was assigned for the entire assessment period; an additional resident inspector was assigned in December 1987.

During a 17 month assessment period, the NRC expended a total of 3143 inspection hours equating to 2219 hours on an annual basis. Functional area distribution of inspection hours is documented at the beginning of each individual functional area.

During the period, three NRC team inspections were conducted in the following areas:

a. Health Physics Appraisal
b. Environmental Qualification
c. Design Change/Modification, Maintenance, and QA/QC

An NRC team also evaluated a routine, unannounced, full-participation emergency exercise performed on December 15, 1987.

C. Facility Performance Analysis Summary

Last Period Dates: 12/1/85 - 11/30/86

Present Period Dates: 12/1/86 - 4/30/88

| Functional Area | Category Last Period | Category This Period | Recent Trend |
|---|---|---|---|
| 1. Plant Operations | 2, Improving | 1 | |
| 2. Radiological Controls | 2 | 2 | |
| 3. Maintenance | 2 | 2 | |
| 4. Surveillance | 2 | 2 | |
| 5. Engineering and Technical Support** | 2 | 2 | |
| 6. Security and Safeguards | 1 | 1 | |
| 7. Emergency Preparedness | 1 | 1 | Declining |
| 8. Training and Qualification Effectiveness* | 2 | N/A | |
| 9. Licensing Activities | 2, Declining | 2 | Improving |
| 10. Assurance of Quality | 2, Improving | 2 | Improving |

* During the previous assessment period, training and qualification were discussed under a separate functional area. During this assessment period, training will be evaluated in the appropriate functional areas and will not be considered as a separate area.

** During the previous assessment period, this area combined Outage Management and Engineering Support and was considered as a separate functional area. During this assessment period, Outage Management will be evaluated in the Maintenance functional area, and Engineering and Technical Support will be evaluated as a separate functional area.

D. Unplanned Shutdowns, Plant Trips and Forced Outages

| No. | Date | Power Level | Description | Cause | Functional Area |
|---|---|---|---|---|---|
| 1. | 06/10/87 | 100% | Reactor trip due to reactor vessel low level. (LER 87-08) | Equipment Failure/: Design Problem Reactor Feed Pump (RFP) A tripped due to a seal failure while operating with the scoop tube positioners locked up. | Engineering Support |
| | 06/10/87 | | Startup | | |
| 2. | 08/28/87 | 100% | Reactor trip due to turbine trip caused by generator field ground fault. (LER 87-12) | Initially Unknown: Troubleshooting and discussion with vendor could not determine cause. Following second event on 9/7, the phenomena discussed below was determined to be the cause. The ground was present only when the generator was on-line. | N/A |
| | 08/31/87 | | Startup | | |
| 3. | 09/07/87 | 100% | Reactor trip due to turbine trip caused by generator field ground fault. (LER 87-12) | Equipment Failure: A deposition of material on the teflon insulation tube of the exciter rectifier bank for the turbine generator resulted in a ground fault. | N/A |
| | 09/11/87 | | Startup | | |

UNPLANNED SHUTDOWNS, PLANT TRIPS AND FORCED OUTAGES

| No. | Date | Power Level | Description | Cause | Functional Area |
|---|---|---|---|---|---|
| 4. | 09/24/87 | 100% | Reactor trip due to reactor vessel low level. (LER 87-17) | Equipment Failure/: Design Problem Reactor Feed Pump (RFP) A tripped due to high vibration while operating with the scoop tube positioners locked up. | Engineering Support |
| | 09/25/87 | | Startup | | |
| 5. | 11/08/87 | 80% | Reactor trip due to Average Power Range Monitor (APRM) High Flux Trip. (LER 87-18) | Equipment Failure: High flux trip was initiated by a sudden Reactor Water Recirculation System Pump speed increase caused by a random failure in the pump speed controller. | N/A |
| | 11/09/87 | | Startup | | |
| 6. | 12/09/87 | 100% | Reactor trip due to a reactor vessel low level signal. (LER 87-20) | Personnel Error: While performing surveillance test I&C Technician trainee did not fully close reactor water level instrument isolation valve, resulting in a false reactor water low level transient. | Surveillance |
| | 12/10/87 | | Startup | | |

UNPLANNED SHUTDOWNS, PLANT TRIPS AND FORCED OUTAGES

| No. | Date | Power Level | Description | Cause | Functional Area |
|---|---|---|---|---|---|
| 7. | 01/23/88 | 0% | During a startup from a scheduled maintenance outage a leaking weld on the Reactor Water Cleanup System was found requiring a plant shutdown to repair. | Equipment Failure: Installation deficiencies (within code requirements) plus cyclic stresses were determined to have caused a crack in the weld. | Engineering Support Construction |

## IV. PERFORMANCE ANALYSIS

### A. Operations (1001 hours, 31.8%)

#### 1. Analysis

During the previous assessment period, this functional area was rated as Category 2, improving. A marked improvement was noted in the plant operations with no significant personnel errors occurring during the period and two reactor trips from power. Other improvements were made in the area of control room professionalism and event critiques. Poor performance on past replacement operator licensing exams was attributed to poor screening. In addition, weaknesses were noted in the administration of the requalification program; however, this did not adversely affect plant operations.

Plant operations have continued to be a strength. The operations staff continues to exhibit a safe and conservative approach to plant operations. Management attention is highly evident and control room operators continue to demonstrate professionalism and dedication in the conduct of their duties. These are evidenced by the absence of plant transients caused by operations personnel and the conscientious approach taken during plant startups and other evolutions.

During this assessment, improvements continue to be made in this functional area. Policies have been implemented to require formalized pre-shift briefings. Organization and control of work activities continue to be improved through better operation of the Work Control Center, which includes a computerized tagging system. Changes to the control room, based on the Control Room Design Review, were implemented to improve the control room from a human factors standpoint. These changes included new label plates for all equipment, which standardized the labeling and nomenclature; improved mimicking and demarkation of systems; and new annunciator windows, which incorporate standard nomenclature and format. These changes have standardized the control room and have given it a more professional appearance. A commendable effort to reduce the number of continuously lighted annunciators in the control room has resulted in having normally 3 or 4 continually lit (out of a total of 800) in the control room. These initiatives are indicative of the licensee's management commitment to improving plant operations.

None of the scrams which occurred during this period were caused by plant operators. It was determined that the operators' actions to attempt to prevent scrams due to equipment malfunction were timely and correct. Operators' actions during other operational events were also timely, effective, and correct.

During the previous period, procedures and procedural adherence were noted as being generally strong with minor exceptions that required plant management attention. Although improvements have been made, isolated cases of inadequate procedures or lack of procedural compliance were noted. Two

examples involved a failure to follow procedures during radioactive liquid discharge and an inadequate procedure resulting in a recirculation pump trip during testing. Continued emphasis in this area is warranted by plant management.

The operations department is staffed to its full complement, with a six shift rotation; there has been a low staff turnover rate. The operations staff works closely with other departments in recognizing, troubleshooting, and correcting deficiencies. A strong interface between departments provides for more efficient operations and good communications. In addition, operations personnel take active roles in the review of modifications, implementation of inservice testing, and improvements in training. Strong management involvement is evident throughout plant operations. Managers are involved in day-to-day operations, as well as plant problems. Examples of management involvement include the identification of an unauthorized discharge during a log review and on-shift coverage during high activity periods, such as plant startup following maintenance outages.

During this appraisal period, LERs in general adequately described the major aspects of each event, failures contributing to the event, and the corrective actions to prevent recurrence. The reports were thorough, detailed, and easy to understand. Sufficient details were given to provide a good understanding of the event.

The licensee's review and corrective actions related to operational events were generally thorough and adequate to prevent recurrence. In particular, the licensee displayed aggressive and conservative actions to test safety relief valves following notification of a concern at another boiling water reactor. Detailed reviews and troubleshooting were conducted following an unusual main generator ground fault problem which included an extensive startup testing phase to assure the cause had been identified following a second trip. Additionally, a detailed review was conducted following identification of a reactor water cleanup system weld leak to determine possible causes or other cracks.

However, isolated examples of insufficient review or corrective actions were noted. These involved the failure to fully determine the cause of a main steam isolation valve closure which occurred while the plant was shut down and ineffective corrective action to prevent a repeat of an emergency diesel generator actuation during transfer of house loads.

During this assessment period, improvements continued in the training area. A new training complex was nearly completed at the end of this assessment period. A rigorous program for simulator verification is in progress. In addition, the licensee is incorporating recent detailed control room design review improvements, made to the main control room, into the simulator during construction. The delivery of the simulator is scheduled for the summer of 1988. An NRC requalification examination was administered to 10 operators to evaluate the requalification program based on previous weaknesses. Six out of seven Senior Reactor Operators and one out of three

Reactor Operators passed their respective requalification written examinations. All six Senior Reactor Operators and two out of three Reactor Operators passed their respective requalification operating examinations. Based on the NRC criteria, the licensee requalification program is considered marginal, having six out of ten operators pass all portions of the examination. No generic weaknesses were identified. The licensee implemented corrective actions to address the specific deficiencies identified during the examination. The good operating record of the plant is indicative of an effective requalification program.

One Fire Protection inspection was conducted during this SALP period. The licensee's Fire Protection program, including administrative controls, fire brigade organization, staff training, and surveillance and maintenance of Fire Protection equipment were found satisfactory. Associated records were well organized and were easily retrievable. Licensee audits of the station Fire Protection activities were conducted by trained and qualified individuals. Concerns identified in the audits were properly dispositioned in a timely manner.

Housekeeping and material condition, in general, was considered above average. Plant cleanliness was very good; however, equipment storage, scaffolding control, and control of equipment doors and covers were noted as needing improvement.

In summary, plant operations continue to be a strength. Operations personnel are knowledgeable, dedicated, and highly motivated toward safe operations. Licensee management promotes a safety conscious attitude and accountability for performance. They are committed to improving plant performance as demonstrated by the importance placed in new training facilities and by improvements made to the control room.

2. Conclusion

Rating: 1

3. Board Recommendations

None

B. Radiological Controls and Chemistry (504 hours, 16.0%)

1. Analysis

During the previous SALP assessment period, the radiological controls area was rated as Category 2. Weaknesses included delayed responses to NRC findings and lack of management attention relative to conforming to radiation protection procedures.

During this assessment period, one health physics appraisal and three routine inspections were conducted. Resident inspectors reviewed this area on a continuing basis. Three violations related to locked high radiation area controls and audits were cited. In addition five violations related to an extremity overexposure were cited.

Radiation Protection

Program weaknesses identified during the previous assessment period continued to exist and impacted performance during the early part of this assessment period. The licensee's inadequate supervision of radiation protection activities during the beginning of this assessment period may have contributed to several instances of personnel failing to follow procedures, and the extremity overexposure of an employee. This overexposure occurred when a worker threw a piece of highly irradiated material back into the spent fuel pool when it was inadvertently removed during cutting of instrument dry tubes. Immediate program improvements were noted in this area after the overexposure incident.

The radiological protection program is staffed with qualified personnel. Previous problems associated with the lack of an health physics general supervisor were corrected near the beginning of this assessment period by the appointment of a well qualified and knowledgeable individual to this position.

The licensee has shown increased responsiveness to NRC concerns during this assessment period. Programmatic and equipment weaknesses identified in NRC inspection reports early in the assessment period were generally resolved by the end of the assessment period. A notable exception continues to be the radiological survey instrument controls and calibration facility. Although the facility is adequate to support normal plant operation, it is severely taxed during outage conditions.

During this assessment period the individual frisking units located within the radiation controlled area were removed from service due to concerns expressed by NRC inspectors concerning high background count rates in the frisker areas. These were replaced with seven IPM-7 complete personnel contamination monitoring systems installed at the access control points. These monitors are state-of-the-art instruments and should facilitate detection of personnel contamination.

The radiation protection training and qualification program for radiological and environmental services personnel was found to be very good. An initial training program has been established for all personnel and a continuing training program has been established for radiological and environmental technicians. These training programs have received INPO accreditation during this period.

The ALARA program is well organized with good management support and represents a program strength. ALARA reviews of planned work, completed work, and continuous exposure evaluation of work in progress are good. Major projects that are in place or planned which will reduce exposure include source term reduction through a complete primary system decontamination, installation of removable lagging, use of high radiation area video mapping, use of a drywell closed circuit television system, and use of a tele-dose monitoring system. During the course of two inspections during this assessment period, the ALARA program was examined and found to be of consistently good quality.

The licensee's ALARA person-rem exposure goal for the site was 950 person-rem for 1987, a refueling year. Actual exposure accumulated was 940 person-rem which continues to be high. Although the ALARA section was able to plan and control many jobs well, inspectors observed instances of non-productive work involving the very large contracted work force. For example, approximately 25 personnel were observed standing at the refuel guard rail in a 25 mr/hr area and watching the decontamination of the cavity. Also, controls of work involving exposure were lax during the refueling outage (i.e. contamination of personnel during cavity decontamination, unmarked containers with radioactive material contributing to personnel unplanned exposure, and poor radiological controls of dry tube cutting operation). However, exposure goals for 1988 and beyond indicate a much more aggressive approach to ALARA. By 1990, the licensee's goal is 500 person-rem for a three year average. This is ambitious considering the age and history of the plant.

The program for external and internal exposure control, after the over-exposure incident, reflects an increased commitment to safety. Following the over-exposure event, increased attention has been placed on strict adherence to radiation work procedures and radiation work permits.

The respiratory protection program continues to be of high quality. It is apparent that the licensee has placed a high priority on this program as evidenced by effective respirator selection, training, issue, use, and maintenance practices.

Licensee quality assurance audits of the radiation protection program were found to be technically sound and thorough. The NRC identified one deficiency regarding the lack of audits of the qualifications of radiation protection supervisors below the level of the Radiological and Environmental Services Superintendent, which was promptly corrected. Audit findings were resolved in a timely manner.

Chemistry/Radiochemistry

An extensive plant chemistry upgrade program was noted during the assessment period indicating a management commitment to improve performance in this area. Corporate involvement in, and support for, the program were clearly evident. Technically sound and thorough approaches to improve sampling and measurement capabilities, introduction of hydrogen water chemistry and monitoring for control of intergranular stress corrosion cracking demonstrated a clear understanding of the issues. Chemistry staffing at the facility was adequate, fully cognizant of their duties and responsibilities, and knowledgeable of the licensee's sampling and analyses procedures. State-of-the-art analytical capabilities were provided. Analytical capability intercomparisons showed the licensee's analyses to be adequate with all results within agreement of NRC values. Technicians demonstrated both theoretical and practical knowledge of the operation of the equipment while attempting to resolve disagreements with NRC measurements. Adequate radiochemical capabilities were demonstrated by the licensee during a measurements intercomparison with NRC-supplied radioactivity standards.

Radioactive Waste Management

The licensee's radioactive waste management program was generally adequate. The liquid and gaseous waste systems meet 10 CFR 50, Appendix I design objectives but the licensee takes a more conservative approach treating all liquid waste before release and requiring the offgas treatment system to be operational virtually at all times when the plant is operating. The licensee has adequate procedures for handling and discharging liquid and gaseous effluents. Procedures address, as appropriate, valve line-ups, sampling and analysis, alarm and isolation setpoints and tracking of releases to ensure compliance with technical specification limits. In response to self-identified weaknesses, the licensee has initiated a program to improve the Offsite Dose Calculation Manual and related procedures to better address the Radiological Effluent Technical Specifications.

Summary

Several radiological program weaknesses noted early in this assessment period may have contributed to an extremity overexposure of a worker. However, significant program improvements in the areas of program oversight and adherence to procedures were later achieved during this assessment period. Increased responsiveness to NRC concerns, a good radiation protection training and qualification program, and further improvements in the ALARA program were noted. Supervisory staffing levels were appropriate to ensure program oversight and effective implementation. Subsequent to the extremity overexposure incident, there exists an increased commitment to safety and strict adherence to radiation work permits and procedures.

Programs for the control of plant chemistry and radioactive wastes are effective and indicate strong site and corporate management support for these two programs.

2. Conclusion

Rating: 2

3. Board Recommendation

None

C. Maintenance (571 hours, 18.2%)

1. Analysis

During the previous assessment period, the maintenance functional area was rated as Category 2. Improvements were noted in this area with the absence of personnel errors and proficiency in properly completing work. Progress was generally good in implementing improvement programs. Procedural compliance and root cause analysis were areas where attention was warranted.

The area of outage management was combined with engineering support during the previous assessment period. This area was rated as Category 2 with improvements noted in the planning and managing of two short outages (24 days total). During this assessment period, outage management and maintenance are addressed under one functional area.

During this period, three routine inspections were conducted covering activities associated with outage maintenance. In addition,throughout the assessment period, the resident inspector frequently reviewed activities in this area.

The licensee continued to make progress implementing the extensive improvement programs already begun. Although progress is slow, the scope and thoroughness of the programs and large volume of information needed makes this a difficult task. The Master Equipment List (MEL) was completed during this period, and is the first key to the comprehensive preventive maintenance program. The licensee gathered all pertinent data (manufacturer, drawings, nameplate) and assigned safety classification (including basis) for 36,000 components. The next significant portion of the program begun was the determination of preventive maintenance requirements. As part of this effort, the licensee began a program to validate all of the vendor technical manuals. This effort is designed to ensure that the licensee's technical manuals are up to date with the vendor's latest revision and any other information, plus gather information concerning recommended maintenance, spare parts, and drawings.

In 1983 (Generic Letter 83-28), the NRC requested that all licensee's upgrade or confirm their MEL and validate their vendor supplied information, including the appropriate technical manuals. The NYPA efforts described above, although slow and indicative of limited resources, are responsive to these issues. The licensee is committed to completing the update of vendor manuals by December 1988.

During this period, maintenance personnel continued to exhibit a good safety perspective concerning the potential impact of their activities on plant operation. This is evidenced by the absence of plant transients or equipment failures attributed to personnel error during maintenance. Maintenance personnel generally exhibit pride and professionalism in the conduct of their activities. Management involvement in and control of the quality of maintenance was evident by adequate planning and prioritization

of maintenance activities including ample QA/QC coverage for these activities. Individual responsibilities and authorities are well defined for control of maintenance activities. Maintenance staffing is adequate to perform the existing work load, with a very low turnover rate. During the 1987 refueling outage, three maintenance supervisors, thirty-four craft personnel, and containment integrated leak rate testing consultants were added to support the maintenance activities.

Generally, maintenance personnel conduct work activities in a quality manner, as noted during replacement of an emergency diesel generator turbocharger, calibration of instrumentation, and during the generator ground troubleshooting. However, several examples of poor workmanship or practices were noted. These involved inadequate troubleshooting which failed to recognize a low control oil pressure and corrective maintenance which damaged a valve operating cylinder of a High Pressure Coolant Injection system, insufficient testing of reactor mode switch in all modes, failure to tighten fasteners for a Limitorque valve operator switch component, and continuing maintenance problems for reactor feed pumps. Although these are considered isolated occurrences, they indicate a need for more effective supervision. In addition, although the licensee's program implementation for control of measuring and test equipment is generally satisfactory, three instances of not recording test instrument usage were found. Although some improvement in procedural adherence was observed, continued emphasis should be placed in this area. Two examples of inattention to procedures were noted during Standby Liquid Control pump maintenance involving system tagout recommendations and inattention to the expiration date of the procedure.

During this period, a refueling outage of 105 days and a planned outage for plant maintenance of 14 days were conducted. This was the first refueling outage under the recently established Planning and Contract Services Department and Work Control Center. Improvements were evident in the planning, scheduling, and control of activities under these newly established programs. Work progressed smoothly and problems were effectively communicated and resolved. The licensee took prompt corrective action following an overexposure incident on the refuel floor, and conducted extensive analysis and review of a missing Control Rod Blade roller guide ball, and the failure of bolts in the High Pressure Coolant Injection Turbine.

During the 1987 refueling outage, it was observed that the licensee made a concerted effort to produce quality welds by training welders in the use of the automatic welding equipment. However, review of other welding activities indicated poor judgment or lack of technical support for not properly evaluating the adequacy of the welding requirements involving dissimilar metal joints. This is indicative of a need for more supervisory oversight in this area.

Improvements continue to be made in training of personnel. Benefits from implementation of the four year apprentice training program are, in general, evident in the conduct of work activities. The licensee effectively utilizes mock-ups of equipment in training personnel. INPO accreditation was received in December 1987 for the maintenance training program. Management's commitment to improvements in performance is evidenced by the emphasis placed in the training of personnel.

In summary, the maintenance program is adequately staffed with well-trained and experienced personnel. Slow, steady progress is being made on a very comprehensive maintenance program, although continued emphasis is required to ensure timely completion. Management attention should be focused on improving supervisory oversight to ensure proper workmanship and procedural compliance.

2. Conclusion

Rating: 2

3. Board Recommendations

Licensee: Expedite upgrading the preventive maintenance program including validation of vendor manuals.

D. Surveillance (406 hours, 12.9%)

1. Analysis

During the previous assessment period, this functional area was rated as Category 2. A strength noted was the lack of personnel errors during testing. Improvements were noted in the procedures which fall under the inservice testing (IST) program, including providing for a thorough review of data by the operator and the addition of the acceptable values. However review of data by plant performance personnel was, at times, excessively slow. Increased management attention was warranted in the area of program administration, as evidenced by three missed surveillance tests.

During the current assessment period, inspections were conducted in the areas of containment local leak rate testing (LLRT), containment integrated leak rate testing (CILRT), and inservice testing of pumps and valves. The resident inspectors reviewed routine surveillance activities regularly.

The licensee surveillance program is, in general, technically adequate and sufficiently controlled. Each department is responsible for scheduling, tracking, and performing their own surveillance testing. Approximately 5000 surveillance tests were completed during this assessment period. The scheduling and tracking of surveillance tests utilizes computerized systems. Procedures generally are clearly written and sufficiently detailed for effective implementation.

One reactor scram and three Engineered Safety Feature (ESF) actuations occurred while conducting surveillance testing during this assessment period. The cause of the scram was mainly due to personnel error in that an instrument isolation valve was not tightly shut. Following shutting of the valve by the technician trainee, a very small amount of valve movement (approximately 1/16th of a turn) was found by a supervisor, during initial review of the scram. During followup investigation of the trip, this occurrence was verified. Contributing to this event is the fact that these valves are original plant equipment and require a slightly larger amount of torque to fully close, due to years of operation. Two of the three ESF actuations were reactor core isolation cooling system isolations; both involved personnel error. The third ESF actuation involved a core spray system and emergency diesel generator start during integrated leak rate testing; this occurred due to a procedural inadequacy involving lifted leads. In addition, isolated cases were identified, by the NRC, where surveillance test procedures were in error or confusing. These were promptly corrected by the licensee. In general, operators and technicians readily identify and correct surveillance test inadequacies during performance of testing activities.

Training of Instrument and Control (I&C) Technicians, who are involved in a large portion of the surveillance testing, is considered to be a strength as indicated by the small number of plant transients or equipment failures caused by surveillance testing. Improvements were made in this area throughout the assessment period. Implementation of the four year

apprentice training program has improved the technicians overall performance. Except as noted above, the I&C department on-the-job training for technicians involved in surveillance testing assures personnel are adequately trained prior to becoming responsible for conducting testing. Plant management's increased attention and emphasis on training indicate a commitment to improved performance.

During the previous assessment period, three surveillance tests were missed or late; two of which were missed due to surveillance test scheduling inadequacies. Following these missed surveillances, the licensee took prompt action to strengthen their administrative controls through increased audits and improved tracking programs. In this period, two Technical Specification surveillance test requirements were identified by the licensee as being missed. These surveillance test problems were of little or no safety significance. One involved the failure to calculate drywell leak rate during one four-hour period. This occurred while the plant was shut down preparing for a reactor startup and instrumentation was operating to detect any abnormal leak rate. The second missed surveillance test was a TS required test of the standby gas treatment system during secondary leak rate tests (normally once per cycle). This requirement had been overlooked and had never been scheduled at the plant because these tests have also been performed on a six month interval as required. Although these two examples of missed surveillance tests occurred, overall improvement in the scheduling and tracking of required surveillance tests was noted.

Administrative controls for LLRT were good. Positive aspects of this control included individual acceptance criteria for valves, good record keeping of LLRT results, and a good tracking system for valve maintenance. Management involvement and control of LLRT activities, and response to NRC concerns and initiatives were satisfactory, which was reflected through the licensee's effective performance of the control rod drive removal hatch seal test and LLRT. However, it was observed that, although the QA personnel had conducted LLRT surveillances, no evaluation of the LLRT program was performed. The licensee recognized the concern and instituted an LLRT effectiveness audit.

In the area of CILRT, the licensee's technical staff demonstrated good knowledge and competency in CILRT methodology and test performance. The licensee hired a CILRT consultant who collected test data, analyzed the test results and provided technical assistance. The progress of CILRT preparation and execution were discussed daily by the licensee management and technical staff. However, administrative control of the test and its related activities appeared weak in some areas. The test director did not have complete control over test preparation or containment access prior to the test. The operations and I&C departments worked independently of the test director and he was not apprised of the status of such preparations as CILRT sensor installation and operability, and valve lineup. In one instance, the I&C department accessed the containment to check a dewcell and upon exiting could not secure the equalization valves properly. This led to large leakage during pressurization. This lack of administrative

control was also evident in another instance during the initial containment pressurization for the test when incorrect leads were lifted which actuated emergency diesel generators and the core spray system.

During the previous period, the review of data by plant performance personnel following the test was, at times, excessively slow. Administrative controls have adequately addressed this concern, however, continued ineffective control and implementation of the IST program indicate poor management oversight of the program. Lack of proper allocation of resources, including staffing, and lack of attention to detail and review of the test activities were identified. Test implementation and corrective action were also inadequate. Two specific concerns were identified: (1) failure to follow IST procedures, and (2) failure to verify and document the acceptability of the new High Pressure Coolant Injection pump reference data, per ASME Section XI. These instances indicated inconsistency in data recording and general program implementation, which were attributable to the lack of formal methodology to generate and retain test data, and inattention to details by the cognizant test reviewer. Many of the IST program implementation related changes were made on-the-spot without appropriate safety committee review and attention to details. This contributed to lack of reference to differential pressure in the test program, lack of incorporation of Alert and Required Action values in the test reports, and existence of various transposition errors in the test reports, including stroke times, valve designation, and white-out of test data. These deficiencies indicate a lack of management attention to the IST program.

In summary, the licensee continues to implement an adequate surveillance program. Although improvements have been made in some areas, weaknesses continue in program administration. These are noted by inadequate staffing in the IST program area and deficiencies in the management involvement and administrative control of the IST and CILRT programs. Personnel are well qualified and conscientious; however, continued emphasis needs to be placed in procedural control and adherence.

2. Conclusion

Rating: 2

3. Board Recommendation

Licensee: Review IST program and evaluate reasons for continued ineffectiveness in program administrations.

E. Engineering and Technical Support (323 hours, 10.3%)

1. Analysis

This area was not evaluated as a separate functional area in the previous assessment, but was discussed under the functional area of Outage Management and Engineering Support. In the previous period, this area was rated as a Category 2. Although the engineering support group generally performed well in assuring technical adequacy of modifications, several inadequacies noted required the need for increased management attention. During this assessment period, this functional area addresses the adequacy of technical and engineering support for all plant activities, including design of plant modifications and engineering support for operations, outages, maintenance, and surveillance.

The engineering support evaluation for this period is based on four inspections which covered the licensee's Equipment Qualification (EQ) program implementation, evaluation of the pipe supports per NRC Bulletin 79-14, plant design changes and modification activities, and drawing control activities. In addition, the resident inspector reviewed this area throughout the assessment period.

The plant technical services department is resporsible for reviewing and designing modifications, resolving plant engineering problems, administering the EQ program, and supplying engineering support as needed. The major modifications installed in the plant for most of this period were originated and controlled from the utility's corporate office in White Plains, New York. In addition, an Operations and Maintenance Support group located in the corporate office assists in providing engineering support to the facility.

During this assessment period, the performance in this area was inconsistent. The technical services department continues to be staffed with dedicated, knowledgeable, and industrious personnel. This department is actively involved in significant improvement programs, which include the Master Equipment List, procurement programs, motor operated valve performance enhancement, and development and implementation of new design change control program procedures from a corporate level. The engineering support organization demonstrates the ability to adequately control major modifications, complete minor plant modifications, and provide support on an as-needed basis. Examples of timely and effective completion of modifications include: installation of the new plant computer system and piping removal and replacement. In addition, numerous modifications in the radioactive waste systems and main control room (recorders and instrumentation) were effectively implemented. In support of plant problems, noteworthy performance was demonstrated in review of operation with 3 of 4 steam lines, analysis of a reactor water cleanup system cracked weld, and follow up and analysis of plant trips and transients.

However, instances where the licensee's design and engineering were not properly reviewed and coordinated and analyses which lacked depth or proper documentation were also noted. Numerous deficiencies were noted in the modification to upgrade the automatic depressurization system pneumatic supply. Examples where the licensee's analysis or documentation lacked details included determining effects on the residual heat removal system components due to missing check valve internals, documenting the test pressure of a hydrostatic test of the core spray system, and analysis of pitting on the core spray system piping.

In addition, some long-standing engineering problems have been slow to be resolved. In particular, a problem with the recirculation pump speed control circuit contributed to 2 scrams during this period. This problem has existed since 1979; several fixes were attempted since that time, however, they had been unsuccessful. In September, 1986, an engineering review, which made use of information from other sites, identified a modification to correct the problem. This modification was installed in January 1988 and has corrected the speed control problem.

In January 1988, a licensee reorganization took place to strengthen the engineering organization. Portions of the previous Engineering and Design group were placed under the nuclear generation department. This change was made so that all activities, including engineering, will fall under the cognizance of one department and are intended to improve communications, management, and control of the activities at the nuclear facilities. In addition, a new field engineering group was added at the FitzPatrick site which reports to the corporate office. Their role is to assist in the engineering of major plant modifications which originate from the corporate office. This group is staffed with 4 engineers, who previously worked for the plant's technical services department and 4 contractor engineers; it provides the interface and work area for engineers from the corporate office during their site visits. Their main function is to review and assist in major modifications and provide an interface with the plant, assuring the modifications accurately reflect the as-built plant and input any operating experience. This group's efforts has allowed the technical services engineers to focus their efforts in supporting minor modifications and day-to-day support of plant activities.

The EQ inspection identified a lack of active site management involvement to address and resolve EQ issues. In addition, limited staffing and expertise were available to properly review, evaluate and comply with the EQ requirements in a timely fashion. The technical service department, which has the responsibility for the EQ program, assigned three individuals, including the department supervisor, to establish and implement the EQ program and maintain station equipment qualification within the guidelines of 10 CFR 50.49. Several concerns were identified. The licensee could not establish qualification of several EQ related components prior to the November 30, 1985 deadline, and did not provide an operability statement (justification for continued operation). The licensee relied heavily on consultants to respond to the NRC concerns; EQ

files consisted of the consultant's review of specific EQ components. This resulted in a lack of self-sufficiency and an inability to resolve the plant specific EQ concerns on their own.

In the area of drawing control, improvements have been noted in reducing the backlog of drawings awaiting update to final as-built conditions. However, examples of drawings not yet updated where the modifications had been completed over two years ago still exist. Additionally, minor discrepancies are continuing to be identified in the control of drawings. Although improvements have been made and discrepancies found are of minor significance, continued attention is warranted in the control of drawings.

In summary, station engineering support has been adequate. Deficiencies have been noted in the quality of modification packages; however, the corporate management has taken measures to improve the communication and control of engineering from the corporate level. From the site engineering group, performance has been inconsistent; this appears to be due to heavy workload of on-site engineers. Efforts should be continued to improve the effectiveness of the engineering support organization.

2. Conclusion

Rating: 2

3. Board Recommendations

Licensee: Evaluate the adequacy and use of site staff in the engineering support area to ensure a high level of performance.

NRC: Perform followup inspection of EQ program open issues including the licensee oversight of the program.

F. Security and Safeguards (126 hours, 4.0%)

1. Analysis

During the previous SALP, the licensee's performance in this area was Category 1. That rating was influenced by the licensee's responsiveness to NRC concerns, initiatives to review the effectiveness of the program, acquisitions of state-of-the-art systems and equipment, and continued support for the program from corporate and site management.

During this assessment period, two routine unannounced physical security inspections were conducted. Routine inspections by the resident inspector continued throughout the period. One violation was identified during the period.

Corporate security management continued to be actively involved in all site security program matters, including visits to the site by the corporate staff to provide assistance, program appraisals and direct support in the budgeting and planning processes affecting program modifications, upgrades and program plan changes. Security management personnel are also actively involved in the Region I Nuclear Security Association and other industry groups engaged in nuclear plant security matters. This demonstrates program support from upper level management.

As in past SALP periods, the licensee continues to utilize a self-appraisal program which is independent of NRC's required annual security program review. This licensee initiative allows management to identify potential problems early and take action to prevent their occurrence. This program, combined with the licensee's annual program review, is a contributing factor in the success of the program and reflects management's commitment to a high quality and effective program. The annual review of the security program, performed by the licensee's quality assurance group, was made more comprehensive in scope and depth than previous reviews at the licensee's initiative; it placed more emphasis on the detailed requirements of the NRC approved Security, Contingency, and Training and Qualifications Plans. Corrective actions on deficiencies identified during the annual reviews were prompt and effective with adequate follow-up to ensure their proper implementation.

There were no security events that required reporting under 10 CFR 73.71 during the assessment period. Review of the licensee's event reporting procedures found them consistent with the NRC's revised regulation (10 CFR 73.71) and implemented by personnel knowledgeable of the reporting requirements.

As during the previous SALP periods, management and training of the proprietary security force continued to be effective, as evidenced by a low personnel error rate, low turnover rate, high morale and a professional attitude toward job performance by members of the security force. Staffing of the security management organization and the security force is adequate as indicated by the limited use of overtime. The security force training

and requalification program is well developed and effectively administered. This is apparent from the excellent job knowledge demonstrated by members of the security force during interviews by NRC personnel. In addition to the initial and requalification training, a self-appraisal program measures the retention and proficiency of individuals with regards to general and specific security program requirements between qualification periods.

The licensee also conducted numerous Safeguards Contingency Plan drills during this assessment period to exercise members of the security force in emergency procedures, however there was very little indication of participation from the operations organization. When this was brought to the licensee's attention, plans were promptly made to conduct joint drills for contingency events.

During the period when a vital area door was found in an unlocked condition by the NRC, immediate compensatory measures were taken and the corrective actions were prompt and extensive. Even thougn, in the case cited, the detection aid was still operable, the licensee took the initiative to change all vital area door locks to a type that will prevent recurrence of the problem. This is further evidence of the licensee's desire to implement and maintain an effective high quality security program.

There were four revisions to the licensee's security program plans submitted to the NRC under 10 CFR 50.54(p) during this assessment period. The plan changes were clear and concise, with detailed explanations of the reasons for change. This is indicative of knowledgeable personnel and adequate management oversight of submittals to the NRC.

In summary, the licensee continues to manage and implement a security program that is effective and goes beyond regulatory requirements and security plan commitments. Licensee initiatives, responsiveness to NRC concerns, and support for the program were readily apparent during the assessment period and combined to provide evidence of a high quality program.

2. Conclusion:

   Rating: 1

3. Board Recommendation:

   None

G. Emergency Preparedness (212 hours, 6.8%)

1. Analysis

(See amended page following)

During the previous assessment period, the licensee was rated Category 1 in this area, based on information gathered during observation of a partial participation exercise, review of the Emergency Preparedness (EP) training program, and support of off-site emergency activities.

During this assessment period, there were two unannounced, routine, safety inspections and observations of the annual exercise. During the inspections, it was noted that Emergency Response Facilities (ERFs) were adequately maintained and Emergency Preparedness procedures, equipment, training and training records were current. About 85% of the 550 full time, on site NYPA personnel are qualified for one or more of the emergency response organization positions. Three or four full activation drills are conducted annually in addition to a number of partial activation drills. During requalification training, licensed operators are given eight classroom hours of EP instruction, plus another eight hours on simulator. The effectiveness of this training was demonstrated by the results of walk-throughs with licensed, senior operators qualified as Emergency Directors (ED). These operators were well trained and capable of discharging ED responsibilities correctly.

Communications and computer systems were functional. The Safety Parameter Display Systems (SPDS) was installed and used during the last exercise. A new, dedicated Emergency Operations Facility (EOF) was built, having an area of about 2500 square feet, and is located beyond the ten mile Emergency Planning Zone (EPZ).

NRC review of the findings of independent reviews/audits required by 10 CFR 50.54(t) disclosed that EP personnel gave the auditors their exercise observation assignments and tracked their findings, which is contrary to the requirement for independence of the auditor. Additionally, the auditors reviewed off-site interfaces for adequacy but failed to notify the County of results until this was called to their attention by the NRC.

During this assessment period, the licensee reduced staffing support in the EP area by one technical position. The site emergency planning coordinator is supported by one professional and one administrative assistant. This reduction has the potential to negatively impact performance and coordination in this area.

Observations of an unannounced, off-normal hours, full-participation, exercise indicated that, although the licensee could implement the emergency plan and implementing procedures adequately, performance was not as strong as in previous exercises. Observations indicated protective action recommendations (PARs) were sometimes in error, or reviewed after transmittal to the State and County. This is attributed to a lack of leadership within the Health Physics group at the Emergency Operations

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Facility (EOF). Otherwise, there was good command and control as well as communication within and among Emergency Response Facilities (ERFs). ERF activation was timely. Emergency worker doses were well controlled.

In summary, while the licensee maintains commitments to Emergency Preparedness resulting in an adequate program, weaknesses identified above indicate a reduction in management attention to this area.

2. Conclusion

Rating: 1

Trend: Declining

3. Board Recommendations:

Licensee: Improve administration of protective action recommendations including dose assessment.

## H. LICENSING

### 1. Analysis

In the previous SALP assessment, a Category 2 rating with a declining trend was given to this functional area. Communications and spirit of cooperation with the NRC were noted as the principal areas where licensee improvement was needed.

During the current assessment period, a more active participation on the part of corporate management has been evident in the area of licensing. Management has been cognizant of the status and priorities of current and anticipated licensing actions, both licensee-initiated and NRC-initiated, and utilizes an expanded, automated commitment tracking system to assist in their oversight. Additionally, there has been increased communication during this period between the licensee and NRC at the corporate Vice-President level concerning licensing activities. In December 1986, the licensee completely revised its procedure concerning the preparation, review, and control of submittals to the NRC. As a result, the licensing staff has been given increased authority to assign work to other organizations and to better control its adequacy and timeliness. Also, under a recent management reorganization, the engineering and design function for FitzPatrick has been assigned to the Nuclear Generation Department. As a result, resolution of problems occurring between the licensing staff and the engineering/design staff, which previously needed to be handled interdepartmentally, is now simplified.

In the previous SALP evaluation, it was noted that corporate and station management had not directed sufficient attention toward correcting errors and upgrading some confusing sections of Technical Specifications (TS). During the current SALP period, no significant progress has been made in this area. Although a large number of TS errors were identified by the licensee early in the rating period, an amendment request to eliminate these errors has not yet been submitted. A majority of the errors are typographical in nature; however, there are several cases where TS are ambiguous, inconsistent, or have wording which does not clearly reflect their intent. Though none of the identified problems, per se, represents a direct or immediate safety concern, this situation may complicate the day-to-day implementation of the TS by operating personnel. During this assessment period, examples of inadequate TS concerning minimum Emergency Core and Containment Cooling System availability while shut down, conflicting TS in the case of spiral offload, and inattention to TS surveillance requirements involving standby gas treatment system were also identified. In addition, several longstanding inadequacies including the TS table concerning containment isolation valves and containment integrated leak rate test acceptance criteria continue to go uncorrected.

Although in the final few months of this rating period, the level of activity devoted to rectifying this situation has increased, these problems demonstrate a lack of sensitivity to the accuracy and clarity of TS from a licensing standpoint. However, the plant operating staff has been attentive in implementing TS requirements.

A second area where additional management attention is needed is in assuring consistency in the technical quality of licensing submittals. Evaluation of the licensee's approach to the resolution of the technical issues, as related to licensing activities, is based on an assessment of the technical quality of various licensing documents submitted, as well as on the licensee's priorities for scheduling these submittals. During the current rating period, variability in the technical quality of licensing submittals has been evident. For the most part, the licensee has presented clear and substantive descriptions and evaluations of the relevant issues, thus minimizing the need for requests for additional information and resubmittals. Examples of high quality submittals include the reload TS amendment request and the Intergranular Granular Stress Corrosion Cracking (IGSCC) evaluations submitted in support of the 1987 refueling outage.

In certain instances, however, the licensee has not provided adequate technical justification to support its position. System/component reliability data, based on plant operating history, which would have clarified the licensee's arguments, were not utilized. Examples are the TS regarding operability of the control room emergency filtration system, and the responses concerning the recirculation pump trip aspect of the anticipated transient without scram (ATWS) rule. Additionally, there were several cases where weak justification was provided for the licensee's no significant hazards determinations. An example of this is the analysis submitted as part of the amendment request regarding license conditions for handling nuclear material. With respect to setting priorities for resolving safety-significant issues, the licensee's performance has been satisfactory overall.

Notwithstanding the need for increased attention to TS improvement and assuring the technical quality of submittals, licensee management has exhibited a greater involvement in managing and directing licensing activities during this rating period than in the past.

In the past three SALP evaluations, it was noted that improved performance was sought concerning the licensee's responsiveness to NRC initiatives. During the current rating period, the licensing staff has exhibited notable improvement in its cooperation with the NRC. As a result, there have been fewer impediments to conducting day-to-day business. The licensee has shown a greater willingness to provide schedules for licensing submittals, has kept the staff better informed on the progress of various activities, and has responded to requests for information in a more timely manner. Additionally, submittals required to support refueling outages or other major activities have, in general, been timely and have been discussed with the NRC in advance. There have been isolated cases, however, where submittals were significantly delayed. A case in point is the additional information required to support an amendment request regarding containment purge/vent valves.

Staffing levels for the licensing group are adequate and have remained constant (at nine persons) from the beginning of the rating period until

January 1988, when one engineering position became vacant following a reorganization. The licensee plans to fill this position in the near future. Presently, the entire licensing staff is situated at headquarters. Communications between the licensing staff and the plant appear strong, with frequent project meetings held on site and a morning conference call held daily.

During this rating period, adequate resources have been allocated to training of the licensing group. In addition to annual requalification training, ALARA training, computer software training, and training in writing and communications, certain members of the licensing staff received more specialized technical training. This included a 3-day Probabilistic Risk Assessment course, a one-week simulator course, and EQ training. In addition, during the last refueling outage, two licensing engineers were sent to the site for a two-month period to assist in refueling operations.

In summary, during this rating period, licensee management has demonstrated a more active involvement in licensing activities and generally satisfactory performance in resolving technical issues. In addition, the licensing group is adequately staffed and trained and has exhibited an improved attitude of cooperation with the NRC. Additional management attention, however, should be directed toward TS improvement and assuring consistent high-quality submittals.

2. Conclusion

Rating: 2

Trend: Improving

3. Board Recommendations

None

## I. Assurance of Quality

### 1. Analysis

Assurance of Quality is a summary assessment of management oversight and effectiveness in implementation of the quality assurance program and administrative controls affecting quality. This functional area is not an assessment of the quality assurance department alone, but is an overall evaluation of the licensee's initiatives, programs, and policies which affect or assure quality. It also assesses the attitude and performance of plant staff personnel.

This functional area was rated as Category 2, improving, during the previous assessment period. Strengths noted were the active role of the Quality Assurance Department in assuring quality at the facility and the aggressive attitude displayed by plant management in improving the quality at the facility. Weaknesses noted were the slowness in implementing programs and corrective actions, and lapses in the requalification training program, root cause analysis, and procedural adherence.

Various aspects of this area were routinely reviewed as part of the NRC routine inspections. In addition, an NRC team inspection assessed the effectiveness of the licensee's quality verification activities. The licensee has maintained a high emphasis on quality throughout all levels of the organization. This is exemplified by the plant management's continuing efforts to improve communications throughout the site organization. Efforts include: meetings with all station personnel to discuss plant and industry problems and promote a quality conscious attitude; training sessions for all station personnel which have improved overall radiological practices; implementing an employee feedback program; and conducting routine meetings between supervisors and department staff. Although additional attention needs to be focused in some areas (as noted in the particular functional areas) and isolated problems occur, an excellent worker attitude and approach to performance of duties is evident by the lack of personnel errors.

Corporate and plant management continue to strive for excellence and foster improvement in performance throughout the organization. For example, more frequent and better quality critiques of events are being performed with more worker involvement in the critique. Approximately 30 individual plant goals have been set with these goals extending over a 3 year period to track long term improvement. Individual tasks have been developed to help achieve these goals. Many of these goals are tracked on a monthly basis with some posted for all personnel to review. The above actions are aimed at making long lasting improvements through increasing the awareness and pride of ownership through each individual.

Management has also demonstrated their commitment towards plant improvement in other areas. The completion of a new training complex, including plant specific simulator, installation of a new plant computer, reduction of the number of lit control room annunciators, implementation of Hydrogen Water

Chemistry program, significant efforts to detect and mitigate IGSCC, equipment upgrade for local leak rate improvements, motor operated valve performance enhancement programs, improvement in the procurement area, and planned construction of a new warehouse and maintenance facilities are examples of this commitment. Reorganization of the corporate engineering staff is indicative of management's active role in identifying and taking action to correct weaknesses.

Progress, although slow, has been noted on some of the licensee's long term improvement programs. In particular, the Master Equipment List has been completed and training conducted on use of the computerized system, and the vendor manual validation program has begun. Although these are longstanding concerns, the licensee is following an extensive and detailed planned maintenance program approach. This approach includes developing detailed procedures for establishing component classification, closely monitoring of the vendor to assure the desired product is achieved, and conducting extensive material history reviews and equipment reliability studies to formulate a preventive maintenance schedules. The licensee is expending a large amount of effort to ensure the job is done right the first time to assure a quality product with long term benefits.

Management involvement has also been demonstrated by increasing the effort to get supervisors into the plant, providing oversight by assigning management coverage of outage activities and plant startups, and implementing lessons learned, throughout the organization, from an overexposure incident.

The Plant Operations Review Committee (PORC) continues to take an active role in reviewing plant events and safety evaluations. Noteworthy performance was identified during review of the personnel overexposure, generator field ground problems, and the reactor water cleanup system cracked weld. Safety evaluations for plant modifications were found to adequately address the basis for determining whether an unreviewed safety question existed. However, two examples were noted where a formal safety evaluation was not written for changes made to the facility. In these examples the PORC had considered the safety impact of the changes made.

The site quality assurance (QA) organization has continued to play an active role in assuring quality at the plant. The QA department has established open lines of communications with plant management and all levels of the plant staff and interacts daily with these individuals. During regional based inspections, management support to assure quality in the area of inspection and examination was found to be satisfactory. This was evidenced by the addition of contracted QC personnel who more than tripled the site QC staffs. In addition to the regular QC inspection, the licensee has introduced another level of QC overview, monitoring of safety-related activities. The QC overview was further enhanced by an on-going update of the QA audit program. A liberal use of technical specialists is a noteworthy feature of this audit program.

The licensee's warehouse controls and conditions are satisfactory. The enveloping of other than large items in a porous transparent wrap is an example of the licensee's action to improve quality of storage. Concurrently, the procurement has also improved as evidenced by strengthened controls. The requirements, as established in the source documents such as FSAR, the plant Technical Specifications, and industry standards, are incorporated in the procurement document.

In the area of LLRT and CILRT, QA/QC interfaces have been good. QA provided extensive coverage of the test program, including preparation, initiation and performance of the tests. The test personnel and QA individuals were knowledgeable of test methodology and demonstrated conscientious efforts to complete the test professionally. The QA department communicated effectively with the cognizant test groups to resolve QA findings, including general procedural compliance and tagging of the containment isolation valves.

The above are indicative of an improvement in the licensee's QA/QC interfaces in the areas of audits, inspection, and testing.

Overall, the site and corporate management is doing an effective job of identifying and correcting problems and programmatic weaknesses as described above. As discussed in each of the appropriate functional areas, attention is warranted in improving performance in the review of and corrective actions for events, improvements of Technical Specifications, and surveillance program administration. In addition, efforts should continue to be placed in resolving long standing problems and concerns, such as NRC open items, and the implementation of minor plant modifications.

A professional and conscientious attitude is displayed by all members of the plant staff. Free and open communications are encouraged with outside organizations, including the NRC. The licensee takes a very self-critical and conservative approach towards their activities and performance. This was demonstrated by testing of Safety Relief Valves, on their own initiative, following problems identified at another facility and the prompt and extensive corrective actions following the overexposure incident.

In summary, there exists a sensitivity to Assurance of Quality throughout management and plant staff personnel of the FitzPatrick facility. The management has demonstrated a conservative approach to operation and instituted numerous improvement programs. Continued attention is warranted in the areas of engineering support and Technical Specifications.

2. Conclusion

Rating: 2

Trend: Improving

3. Board Recommendations

None

## V. SUPPORTING DATA AND SUMMARIES

### A. Investigations and Allegations Summary

During this assessment period, a total of three allegations were received and reviewed by the NRC. One was directed towards the Department of Labor and unsubstantiated. Of the remaining two, one was unsubstantiated and the other partially substantiated.

### B. Escalated Enforcement Actions

An Enforcement Conference was held on March 25, 1987, to discuss numerous violations identified from the event on February 13, 1987, leading to the occupational extremity radiation exposure of a contract worker in excess of NRC quarterly limits. A Notice of Violation was issued on March 11, 1987, detailing five instances of violations, citing an aggregate Severity Level III and cumulative $75,000 civil penalty.

### C. Management Conferences

The management meeting for the previous SALP period was held on April 15, 1987, in the NRC Region I Office, King of Prussia, PA.

On January 29, 1988, a meeting was held at the NRC Region I Office, King of Prussia, PA, at the licensee's request to discuss plant performance and programs, future plans, and a recent reorganization of the corporate engineering department.

TABLE 1

INSPECTION HOURS SUMMARY

| AREA | HOURS | % OF TIME |
|---|---|---|
| Operations | 1001 | 31.8% |
| Radcon/Chemistry | 504 | 16.0% |
| Maintenance/Outages | 571 | 18.2% |
| Surveillance | 406 | 12.9% |
| Engineering | 323 | 10.3% |
| Sec/Safeguards | 126 | 4.0% |
| Emergency Preparedness | 212 | 6.8% |
| Licensing | ** | |
| Assurance of Quality | * | |
| TOTALS: | 3143 | 100% |

* Hours expended in the area of assurance of quality are included in other functional areas, therefore, no direct inspection hours are given for these areas. Operator licensing activities are not included with direct inspection effort statistics.

** Hours expended in facility licensing activities are not included in direct inspection effort statistics.

TABLE 2

ENFORCEMENT SUMMARY

A. Violations Versus Functional Area By Severity Level

| Functional Area | No. of Violations in Each Severity Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | LI* | V | IV | III | II | I | Total |
| Plant Operations | 1 | 2 | | | | | 3 |
| Radiological Controls | | | 2 | 1** | | | 3 |
| Maintenance and Outages | | 1 | | | | | 1 |
| Surveillance | 2 | 1 | 1 | | | | 4 |
| Emergency Preparedness | | | | | | | 0 |
| Security and Safeguards | | | 1 | | | | 1 |
| Assurance of Quality | | | 3 | | | | 3 |
| Licensing | | | | | | | 0 |
| Engineering and Technical Support | | 1 | 3 | | | | 4 |
| TOTALS | 3 | 5 | 10 | 1 | 0 | 0 | 19 |

* LI - Licensee Identified Violations (10 CFR 2, Appendix C)
** - 5 violations in aggregate were considered to be a severity level III violation.

TABLE 3

LICENSEE EVENT REPORTS

Cause Determined by SALP Board

An assessment has been conducted to determine the root cause of each event from the perspective of the NRC. The causes fell into the following categories and sub-categories.

Personnel Errors (PE)

1. Lack of Knowledge (LK) - the individual was not properly trained or provided with instructions from supervision.

2. Inattention to Detail (ID) - the individual failed to pay proper attention to a task and was careless.

3. Poor Judgement (PJ) - the individual failed to make the correct assessment with the proper amount of training and attention to facts.

Equipment Malfunction/Failure (EM/F)

1. Random (R) - isolated component problem not of generic concern.

2. Design Deficiency (DD) - poor design was the cause of the malfunction/failure.

3. Construction Deficiency (CD) - improper installation during construction/modification caused or could have caused the malfunction failure.

4. Maintenance Deficiency (MD) - improper preventive or corrective maintenance.

Procedural Error (PROE)

The procedure failed to provide adequate instruction, was poorly worded or was not properly reviewed for use

Ineffective Corrective Action (ICA)

Action was not taken by management or the action taken on a previously identified item was not timely or did not correct the root cause and allowed this occurrence.

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

Causes As Determined By The Licensee

The licensee is required to include cause codes in the reports. These codes are only required when equipment malfunction or failure is determined to be the cause of the occurrence. The following codes are used:

A - Personnel Error
B - Design, Manufacturing, Construction or Installation
C - External Cause
D - Defective Procedures
E - Component Failure
X - Other

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

Summary of Cause Determined by SALP Board by Functional Areas

| CAUSE | OPS | RAD | MAINT | SURV | ENG/TS | SEC | QA | TOTAL |
|---|---|---|---|---|---|---|---|---|
| PE/LK | | | | 1 | | | | 1 |
| PE/ID | 1 | 1 | | 5 | | | | 7 |
| PE/PJ | | | | | | | | 0 |
| EM/F/R | 2 | | 3 | | | | | 5 |
| EM/F/DD | | | 1 | | 2 | | | 3 |
| EM/F/CD | | | | | | | 1 | 1 |
| EM/F/MD | | | 4 | | | | | 4 |
| PROE | | | 2 | 1 | | | 1 | 4 |
| ICA | 1 | | | | 2 | | | 3 |
| TOTAL | 4 | 1 | 10 | 7 | 4 | | 2 | 28 |

Summary of Causes of Equipment Malfunctions/Failure Determined by Licensee

| Area | A | B | C | D | E | X | TOTAL |
|---|---|---|---|---|---|---|---|
| Assurance of Quality | 1 | | | | | | 1 |
| Surveillance | | | | | | 1 | 1 |
| Maintenance | | 2 | | 1 | | 5 | 8 |
| Operations | | | | | | 2 | 2 |
| TOTALS | 1 | 2 | 0 | 1 | 0 | 8 | 12 |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 86-19 ** | 11/12/86 | Automatic Actuation of an Engineered Safety Feature (Reactor Core Isolation Cooling Isolation). | PE/ID - Technician failed to check test equipment readiness before commencement of activities. | Surveillance |
| 86-20 | 12/21/86 | TS Violation: Unauthorized release of radioactive liquid. | PE/ID - Radwaste operator did not ensure discharge permit requirements were met prior to commencing discharge. | Operations |
| 86-21 | 12/23/86 | High Pressure Coolant Injection System inoperable due to water intrusion into Battery Motor Control Center. | EF/DD - Battery Motor Control Center was not water tight allowing intrusion of water. | Engineering Support |
| 87-01 X | 01/18/87 | Excessive leakage of Primary Containment Isolation Valves during LLRT. | EF/MD - Cause of failures was attributed to wear, licensee is developing program to review failures and maintenance histories of the failed components to develop preventive maintenance recommendations. | Maintenance |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-02 | 02/13/87 | TS Violation: Extremity overexposure. | PE/ID - Deficiencies included inadequate radiological surveys, training, poor pre-job planning failure to follow procedure. | Rad. Control |
| 87-03 B | 02/19/87 | High Pressure Coolant Injection Turbine throttle valve bolts broken. | EF/MD - Failure mechanism of the bolts caused by high bolt hardness and contributed by pitting due to use of copper antiseizure compound. | Maintenance |
| 87-04 X | 02/04/87 | Three of six Main Stem Safety Relief Valves setpoints found out of tolerance. | EM/DD - No apparent reason for setpoint drift other than sticking of one of the pilot valve disc. | Maintenance |
| 87-05 X | 04/01/87 | Main Steam Line Isolation. | EM/MD - Stem packing leakage from main steam differential pressure isolation valves allowed instrument depressurization creating a simulated high steam flow resulting in PCIS actuation. | Maintenance |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-06 | 04/07/87 | Core Spray and Emergency Diesel Generator Automatic Actuation due to procedure deficiency. | PROE - Procedure did not give adequate instructions to ensure proper electrical leads were lifted. | Surveillance |
| 87-07 A | 04/09/87 | Reactor Vessel Head vent piping inoperability due to missing pipe supports. | EM/CD - During construction supports were not installed as required by plant drawings. | Assurance of Quality |
| 87-08 | 06/10/87 | Low reactor vessel water level scram due to Reactor Feed Pump Trip, while operating with scoop tube positioners locked up. | ICA - Reactor Scram caused by operating with scoop tube positioners locked up, losing the ability to receive an auto recirculation system runback on a loss of feed pump. | Engineering Support |
| 87-09 | 06/11/87 | Emergency Diesel Generator start due to temporary degraded voltage condition during bus transfer. | EM/DD - During transfer of loads voltage drop sufficient to activate protective system before operator action could correct voltage. | Engineering Support |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-10 B | 07/23/87 | High Pressure Coolant Injection inoperable due to Auxiliary Oil Pump low pressure. | EF/R - Auxiliary oil pump bearing failed resulting in lower discharge pressure. Cause of failure was not determined. | Maintenance |
| 87-11 | 07/28/87 | Fire Barrier Electrical Penetration Seals not installed. | PROE - Previous procedures for inspection of fire barriers failed to contain unscheduled penetrations. | Assurance of Quality |
| 87-12 | 08/28/87 09/07/87 | Reactor Trips due to Main Turbine trip caused by generator field ground. | EF/R - Teflon insulation tubes had a cupric oxide layer buildup which under certain electrical conditions becomes fully conductive. | Maintenance |
| 87-13 X | 09/05/87 | Reactor Core Isolation Cooling System Isolations due to spurious Analog Transmitter Trip Unit trip. | EF/R - The trip unit and transmitter were replaced. Vendor analysis could not determine a cause of the spurious trips. | Operations |
| 87-14 | 09/12/87 | Emergency Diesel Generator start due to temporary degraded voltage during bus transfer. | ICA - Corrective actions taken to prevent recurrence of this event were inadequate (see LER 87-09). | Operations |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-15 X | 09/16/87 | High Pressure Coolant Injection inoperable due to unstable suppression chamber level switch. | EM/MD - Malfunctional because of foreign material deposits on internal float mechanism. | Maintenance |
| 87-16 | 09/16/87 | High Steam flow Isolation of Reactor Core Isolation Cooling System due to operator error. | HE/ID - Operator failed to follow prescribed sequence of surveillance test procedure. | Surveillance |
| 87-17 | 09/24/87 | Reactor low level scram following feed pump trip on high vibration. | ICA - Reactor scram caused by operating with scoop tube positioners locked up, losing the ability to receive an auto recirculation system runback on loss of feedpump. | Engineering Support |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-18 X | 11/8/87 | High Flux Reactor Trip due to reactor water recirculation system pump sudden speed increase. | EF/R - Recirculation System Speed Controller malfunctioned; suspected cause was an age effect, controller was replaced with a spare unit. | Operations |
| 87-19 | 12/7/87 | TS Violation: Failure to perform Standby Gas Treatment Surveillance Test as required. | PE/ID - Responsible supervision did not ensure that the specified surveillance test was performed as required. | Maintenance |
| 87-20 X | 12/9/87 | Reactor Trip from low water level actuation caused by personnel error during surveillance test. | PE/LK - Technician failed to fully close an isolation valve prior to valving in test equipment. | Surveillance |
| 87-21 | 12/13/87 | Reactor Water Cleanup Isolation on High temperature due to inadequate procedure. | PROE - Bolt torquing procedure was inadequate, causing improper flange makeup, resulting in a steam leak which resulted in system isolation on high room temperature. | Maintenance |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 87-22 | 12/20/87 | TS Violation: Failure to perform drywell leakage rate surveillance at required frequency. | PE/ID - Operators failed to perform surveillance test at required frequency. | Surveillance |
| 88-01 D | 03/10/88 | High Pressure Coolant Injection System inoperable due to motor operated valve failure as a result procedure deficiency. | PR - Maintenance procedure did not include evaluation of relubrication of of the valve stem and stem nut during maintenance causing motor operated valve failure due to excessive current. | Maintenance |
| 88-02 | 03/10/88 | Reactor Core Isolation Cooling Automatic Isolation during surveillance testing as a result of personnel not following procedures. | PE/ID - I&C technician performing the assigned task did not follow the prescribed procedure; there was no copy of the procedure utilized, which led to the wrong trip unit placed in test. | Surveillance |

TABLE 3 (Cont'd)

LICENSEE EVENT REPORTS

| LER Number/ Cause Code * | Event Date | Description | Cause Determined SALP Board | SALP Functional Area |
|---|---|---|---|---|
| 88-03 X | 04/18/88 | Engineered Safety Feature Actuations due to loss of Reactor Protection System power supply caused by relay failure. | EF/R - The relay coil is normally energized and had been in service for thirteen years. No similar problems with this type relay. | Operations |

* Indicates licensee's cause code for equipment failures only.
** Event occurred during previous assessment period.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

ENCLOSURE 2

07 JUL 1988

Docket No. 50-333

Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant
ATTN: Mr. J. P. Bayne
President
123 Main Street
White Plains, New York 10601

Gentlemen:

Subject: Systematic Assessment of Licensee Performance (SALP): Report No. 50-333/86-99.

An NRC SALP Board conducted a review on June 15, 1988 to evaluate the performance of activities associated with FitzPatrick Nuclear Power Plant. The results of this assessment are documented in the enclosed SALP Board report. A meeting will be scheduled to discuss this assessment. This meeting is intended to provide a forum for candid discussions relating to your performance during the period.

At the meeting, you should be prepared to discuss our assessment and your plans to improve performance. In particular, you should be prepared to discuss your planned actions relative to evaluating the effective use of resources: specifically, staffing in the areas of engineering and technical support, (including inservice testing and environmental qualification) and emergency planning.

Any comments you may have regarding our report may be discussed at the meeting. Additionally, you may provide written comments within 30 days after the meeting.

We appreciate your cooperation.

Sincerely,

W. Russell

William T. Russell
Regional Administrator

Enclosure: As Stated

ENCLOSURE 3

Attendees at FitzPatrick Management Meeting

(July 21, 1988)

Nuclear Regulatory Commission

W. Kane, Director, Division of Reactor Projects (DRP)
W. Johnston, Acting Director, Division of Reactor Safety (DRS)
S. Collins, Deputy Director, DRP
E. Wenzinger, Chief, Reactor Projects Branch 2, DRP
R. Capra, Director, Project Directorate I-1, NRR
J. Johnson, Chief, Reactor Projects Section 2C, DRP
W. Lazarus, Chief, Emergency Preparedness Section, DRSS
C. Anderson, Chief, Plant System Section, DRS
W. Pasciak, Chief, Effluents Radiation Protection Section, DRSS
A. Luptak, Senior Resident Inspector FitzPatrick, DRP
H. Abelson, Licensing Project Manager FitzPatrick, NRR
R. Plasse, Resident Inspector FitzPatrick, DRP
M. Banerjee, Project Engineer 2C, DRP
M. Weber, Radiation Specialist, DRSS

New York Power Authority

J. Bayne, President
J. Brons, Executive Vice President - Nuclear Generation
A. Klausmann, Senior Vice President Appraisal and Compliance Services
R. Beedle, Vice President Nuclear Support
S. Zulla, Vice President Nuclear Engineering
R. Burns, Vice President Operations
R. Converse, Resident Manager FitzPatrick
W. Fernandez, Superintendent of Power
L. Guaquil, Director Project Engineering FitzPatrick
J. Kelly, Director Radiological Health and Chemistry
F. Pesce, Director Quality Assurance
J. Gray, Director Nuclear Licensing - BWR
R. Lauman, Director Operation and Maintenance - BWR
C. Patrick, Director Nuclear Information
D. Lindsey, Operations Superintendent
R. Patch, Quality Assurance Superintendent
A. Zaremba, Emergency Planning Coordinator