

U.S. NUCLEAR REGULATORY COMMISSION

Region I

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INSPECTION SUMMARY: Routine NRC inspection of plant operations, maintenance, engineering, plant support, and quality assurance/safety verification.

RESULTS: See Executive Summary

EXECUTIVE SUMMARY

James A. FitzPatrick Nuclear Power Plant

Inspection Report No. 50-333/95-21

Plant Operations: The licensee has continued to monitor leaking safety relief valves (SRVs). The severity of leakage is indicated by the torus heatup rate. Currently, there are four SRVs which are exhibiting minor pilot valve leakage.

A detailed walkdown of the emergency service water system showed that overall, the material condition of the system was good.

An inadvertent half scram signal in the "B" reactor protection system during surveillance testing was caused by an incorrect switch position. The safety significance was determined to be minor as the instrument was in the conservative (failed) position. The licensee concluded that the switch misposition was the result of an operator error in failing to properly restore the equipment following the performance of previous surveillance testing. The NRC concluded that operators exhibited poor system awareness by not identifying that the switch was out of position, as the switch could have been out-of-position for as many as seven days. The licensee's corrective actions were good and the critique was self-critical.

All four residual heat removal (RHR) pumps were operated for a period of ten hours in the suppression pool cooling mode using normal station procedures to satisfy requested actions specified in NRC Bulletin 95-02. There were no system abnormalities, pump performance or operator issues noted. Subsequent to the operation of these pumps, additional concerns related to the adequacy of the licensee's review of the potential for RHR system water hammer were raised. Pending determination of the RHR system susceptibility to water hammer on restart of the pumps following a LOCA and review of the licensee's safety evaluation, this issue will be unresolved (URI 95-21-01).

Maintenance: While performing a surveillance procedure for the primary containment isolation switch the licensee determined that one of the two reset switches had failed in the group one reset position. The switch was replaced that day; however, two weeks later the switch was found to not be working properly when another surveillance was performed. The maintenance, planning and operations staff were not thorough in completing the work to replace a switch. The significance of this particular event is not great, however numerous barriers were broken in the work control process. Procedures appear to have been followed, however, not in the most judicious manner. Non-conservative assumptions were made and attention to detail was lacking in several aspects of the job.

During surveillance testing a senior reactor operator observed that an air operated damper was not closing properly. The mechanical linkage had failed on one damper causing it to fail, although the position indicator showed that the damper was operating satisfactory. The identification of the defective damper by operations management showed good management oversight and thoroughness while conducting surveillance testing.

Engineering: The high pressure coolant injection system turbine steam inlet valve has increased leakage, resulting in hourly control room alarms. The leakage causes a concern because of the detrimental effects to the turbine lube oil systems, potential water hammer damage to the exhaust line and adverse effects on turbine back pressure. The licensee has in place criteria to monitor the system to ensure that leakage past the valve does not represent an operability issue. The hourly alarms are a minor distraction to the operators, but not a major operator work around. The inspector did not consider the alarm rate to have an impact on operator actions.

Several non environmentally qualified (EQ) fuses in safety related applications were identified. The systems that were affected were determined to be operable. The licensee developed an action plan to perform inspections to verify no other problems exist. At the end of the inspection period, the licensee was continuing to review their program and process for installation of environmentally qualified fuses. The issue will remain unresolved (URI-95-21-02).

Plant Support: The fire protection program and procedures were appropriately established and implemented. Controls over fire risk activities demonstrated continuous improvement and training provided to fire brigade members effectively prepared the brigade for fighting fires. Procedures and training information discrepancies were identified regarding assignment of responsibilities among fire protection personnel. However, this concern had been identified by the licensee and a schedule was developed for resolution of the issue. The licensee's approach for replacing inoperable emergency lights was excellent and housekeeping was very good. Effective oversight was established for monitoring the fire protection program. In conclusion, proper controls had been established and implemented to ensure an appropriate level of fire protection.

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ATTACHMENT

Attachment 1 - Documents Reviewed for Fire Protection Inspection

DETAILS

1.0 SUMMARY OF FACILITY ACTIVITIES

1.1 NYPA Activities

The unit operated at 100% power throughout the inspection period. The licensee has continued to monitor leaking safety relief valves (SRVs). The severity of leakage is indicated by the torus heatup rate. Currently, there are four SRVs which are exhibiting minor pilot valve leakage.

1.2 NRC Activities

A region based inspection was conducted of the fire protection program during the weeks of October 16 and 23, 1995 (see section 5.3) and included in this report.

A region based inspection was conducted of the licensee's Generic Letter 89-10, Safety-Related Motor-Operated valve Testing and Surveillance, program during the week of October 23, 1995 (reference NRC inspection report 50-333/95-20).

A region based team inspection was conducted to observe the licensee's full-participation emergency preparedness exercise the week of October 16, 1995 (reference NRC inspection report 50-333/95-19).

Senior NRC managers responsible for conducting the licensee's Systematic Assessment of Licensee Performance (SALP) board visited the site during this inspection period. Visiting the site were Messrs. L. Marsh, Director, Project Directorate I-1, Office of Nuclear Reactor Regulation and A. Blough, Acting Deputy Director, Division of Reactor Safety, Region I.

The inspection activities during this report period included inspection during normal, backshift and weekend hours by the resident staff. There were 55.5 hours of backshift (evening shift) and 13.5 hours of deep backshift (weekend, holiday and midnight shift) inspections during this period.

2.0 PLANT OPERATIONS (71707,93702,92901)

2.1 Operational Safety Verification

The inspectors observed plant operation and verified that the facility was operated safely and in accordance with procedures and regulatory requirements. Regular tours were conducted of the plant, focusing on safety related structures and systems, operations, radiological controls and security. Additionally, the operability of engineered safety features, other safety related systems and on-site and off-site power sources was verified. No safety concerns were identified as a result of these tours. Regular tours were conducted of the following plant areas:

- Control room
- Secondary containment building
- Radiological control point
- Electrical switchgear rooms

Emergency core cooling system pump rooms
Security access point
Protected area fence
Intake structure
Diesel generator rooms

Control room instruments and plant computer indications were observed for correlation between channels and for conformance with technical specification (TS) requirements. The inspectors observed various alarm conditions and confirmed that operator response was in accordance with plant operating procedures. Compliance with TS and implementation of appropriate action statements for equipment out of service was inspected. Plant radiation monitoring system indications and coolant stack traces were reviewed for unexpected changes. Logs and records were reviewed to determine if entries were accurate and identified equipment status or deficiencies. These records included operation logs, turnover sheets, system safety tags and temporary modifications log. The inspectors also examined the condition of meteorological and seismic monitoring systems. Control room and shift manning were compared to regulatory requirements and portions of shift turnovers were observed. The inspectors found that control room access was properly controlled and that a professional atmosphere was maintained. Partial control room and in-plant walkdowns of several safety related systems including high pressure coolant injection, low pressure coolant injection, and emergency diesel generator were conducted.

2.1.1 Emergency Service Water System Walkdown

The inspector conducted a detailed walkdown of a representative sample of the accessible portions of the emergency service water (ESW) system. The status and position of system components were observed and compared with the system lineup procedure, plant drawings and design descriptions. The inspector verified that the observed system operating parameters were within the values assumed in the design basis document for the service water systems, DBD-046, revision 0. The equipment condition was assessed through visual observations, the review of plant identified deficiencies associated with the ESW system, and the review of the latest completed system lineup. Supporting equipment and housekeeping were also observed.

Overall, the material condition of the ESW system was good. The position of observed components were consistent with the system lineup procedure and plant drawings. Operating parameters were within the values assumed in the design basis document. No significant material deficiency was observed which would impact system operability.

2.2 Followup of Events Occurring During Inspection Period

2.2.1 Intermediate Range Monitor Mode Switch Out of Position

On October 3, an inadvertent half scram signal in the "B" reactor protection system was received during the performance of weekly surveillance test ST-5B, APRM Instrument Functional Test (Run Mode). The control room supervisor determined the cause to be the mode switch of the B intermediate range monitor

(IRM) being in the standby position vice the operate position. The switch was returned to the proper position and the half scram was reset. The inspectors reviewed the operations department critique, JOPS-CRT-95-018, attended the Performance Enhancement Review Committee (PERC) meeting and discussed the issue with the licensee to review the safety significance of the event and understand the root causes.

The safety significance was determined to be minor as the instrument was in the conservative (failed) position. The likelihood of a unit scram from full power operation was remote, in that it would have required an additional failure on the "A" side of the reactor protection system (RPS) during the 30 minutes that it takes to perform the surveillance test.

The licensee staff reviewed work schedules, test schedules, and alarm type print-outs to determine possible causes for the switch being out-of-position. The licensee critique concluded that the misposition was the result of an operator error in failing to properly restore the equipment following the performance of surveillance testing the week before. The licensee was particularly concerned with the lack of operator awareness of this condition, as the switch could have been out-of-position for as many as seven days. The switch position does not alarm when the mode switch is in the "run" position, thus only visual observation of switch position and the white "INOP" light on the panel is a means for detection. As part of the corrective actions for the event the operations department standing orders (ODSO) were revised to include a joint panel walkdown requirement for control room operators prior to shift turn-over. During these walkdowns, there have been no additional problems identified to date.

The inspectors concluded that the safety significance of the event was minor; the corrective actions were good and that the critique was self-critical. Operators exhibited poor attention to detail by not identifying that the switch was out of position.

2.2.2 Residual Heat Removal Pump Operation

On November 7, 1995, the licensee operated all four residual heat removal (RHR) pumps for a period of ten hours in the suppression pool cooling mode to satisfy requested actions specified in NRC Bulletin 95-02, Unexpected Clogging of a Residual Heat Removal Pump Strainer While Operating in Suppression Pool Cooling Mode, dated October 17, 1995. The operation of the RHR pumps was conducted at full power during the day and early evening shift and was controlled using a routine work request directing the operation of the pumps in accordance with operating procedures. The pump operation was supervised by the shift manager, control room supervisor and the system engineer who was coordinating the evolution. The pumps were run solely in response to NRC Bulletin 95-02.

When the resident inspectors became aware that the licensee was planning to run all four RHR pumps, they questioned the basis for the evolution, how the evolution was to be controlled and what management controls were involved. Discussions were held with the licensing manager; general manager operations; operations manager, and system engineer. The inspectors observed portions of

the test and performed a walkdown of the RHR system and torus. There were no system abnormalities, pump performance or operator issues noted.

System Operation

The RHR system has 7 modes of operation including Low Pressure Coolant Injection (LPCI) mode and torus cooling. The RHR system is normally aligned for automatic initiation in the LPCI mode and operates to restore and maintain the coolant inventory in the reactor vessel after a loss of coolant accident (LOCA). During LPCI operation, the RHR pumps take suction from the suppression pool and discharge into the reactor vessel through the recirculation loops. Spillage through the LOCA break is contained by the drywell and returned to the suppression pool via the downcomers.

The torus cooling mode of the RHR system is used in conjunction with evolutions which add heat to the torus water volume including high pressure coolant injection (HPCI) or reactor core isolation cooling (RCIC) operation, safety relief valve (SRV) actuation, and abnormal or emergency events such as a LOCA. Torus cooling is accomplished by taking a suction on the suppression pool with one or more RHR pumps and pumping the water back to the suppression pool via the RHR heat exchanger and torus cooling/test return line. If a LPCI initiation signal was received during torus cooling, the torus return valves would automatically close upon receipt of a LPCI initiation signal to isolate the flow, therefore realigning the system for LPCI initiation.

Discussion

NRC Bulletin 95-02, was issued to alert licensees to complications experienced during a recent event in which a licensee initiated suppression pool cooling in response to a stuck open safety relief valve and subsequently experienced clogging of one RHR pump suction strainer. The NRC bulletin requested that licensees review, evaluate, and verify the operability of the suction strainers through appropriate testing and inspection.

The licensee determined that their preferred course of action to satisfy the bulletin would be to operate four RHR pumps in the suppression pool cooling mode. Operation of both trains of RHR suppression pool cooling would be the most limiting scenario, resulting in high flow rates and proving significant mixing and agitation of the suppression pool.

Although not documented until after the pump operation, the licensee considered the following, in part, prior to conducting the operation:

1. Operating procedures permit operation of four RHR pumps in the suppression pool cooling mode at power.
2. The design basis document for the RHR system and AP-19.08, Infrequently Performed Tests or Evolutions, were reviewed to determine if operation of four RHR pumps would be an infrequent evolution, requiring a special test.

3. The LPCI mode of RHR was considered by engineering to determine if operating in the suppression pool cooling mode could inhibit LPCI injection upon receipt of a LOCA signal. The LPCI initiation circuits realign the RHR system, automatically closing suppression pool cooling valves, if open, and initiating LPCI.
4. Industry experience from the boiling water reactors (BWR) owners group was considered regarding the operation of the RHR system in the suppression pool cooling mode at power.
5. The licensee's operating history revealed examples of extended operation with RHR in the suppression pool cooling mode during normal operation. During a previous HPCI surveillance test performed in April 1994, the "A" RHR pump operated for approximately 14 hours and four RHR pumps operated in suppression pool cooling for approximately four hours.
6. The FSAR states that the RHR system provides the means to cool the suppression chamber. Additionally FSAR section 4.8.5 states, in part, that suppression pool cooling is a planned operation to remove heat from the suppression pool inventory. There were no changes made to operating procedures described in the FSAR section 13.8.2.1 to support the RHR run. Based on this information and a search of the FSAR, the licensee concluded that there was not a restriction on the number of RHR pumps that can be run in the suppression pool cooling mode.
7. Based on a review of torus maintenance activities, the licensee had a high level of confidence of torus cleanliness and that the ECCS suction strainers would not get clogged during the 10 hour RHR pump run. The following is a summary of these activities:

In 1988, the licensee implemented a suppression pool preservation initiative. As part of this initiative, debris (e.g., sludge) has been cleaned from the suppression pool four times since January 1988. The ECCS suction strainers and all 16 torus bays were cleaned during the 1995 refueling outage in January 1995.

Based on the above, the licensee concluded that it was satisfactory to operate four RHR pumps in the suppression pool cooling mode because: 1) the operation of all four pumps at power was permitted by the existing operating procedures and was not prohibited by TS or the FSAR, 2) the system is designed to be operated in this manner and 3) recent torus maintenance activities have resulted in a clean suppression pool. The licensee's position was that they were taking a conservative approach to ensuring that the strainers were not clogged by debris.

The inspectors reviewed AP-12.03, Administration of Operations and ODS0-3, Procedure for Temporary Operating Procedures, AP 19.08, Infrequently Performed Tests or Evolutions and RHR system operating procedures and did not identify any specific concerns related to the procedures. The evolution was not discussed at the Plant Operating Review Committee (PORC), however, all members of the committee had discussed it at various morning meetings. The licensee

prepared a memorandum dated November 21, 1995 to document considerations given prior to operating four residual heat removal pumps in the suppression pool cooling mode.

Test Performance

The four RHR pump maximum torus cooling flow run was conducted on November 7, 1995 per work request 95-07901. Prior to starting the evolution the operating shift and plant management were briefed on the run, expected plant response, data collection activities and chemistry sampling. Operations placed both trains of the RHR system in maximum suppression pool cooling flow mode per OP-13, Residual Heat Removal System and OP-13B, Containment Control for approximately 10 hours. The 10 hour run time was estimated to cause approximately 20 torus volume changes resulting in complete agitation and mixing of the suppression pool. The pump performance data collected included suction pressure, pump amps, system flow and chemistry samples of torus water.

The licensee's engineering evaluation of the information obtained concluded that there were no signs of pump cavitation, and that insufficient fibrous materials were present to cause ECCS suction strainer clogging. No operability concerns were identified during the operation of the pumps.

The inspectors observed portions of the evolution and performed a field walkdown of the torus area and RHR pumps during the conduct of the evolution. No equipment performance difficulties nor operator problems were noted.

Operating Experience Review

NRC Information Notice No. 87-10, Potential for Water Hammer During Restart of Residual Heat Removal Pumps, was issued to alert licensees of the potential for water hammer in the RHR system under certain conditions. The specific condition of concern involved a design-basis LOCA coincident with a loss of offsite power, while one or more RHR loops are in the suppression pool cooling mode. During the power loss and subsequent valve realignment, portions of the RHR system will void because of the drain down to the suppression pool as a result of elevation differences. A water hammer may occur in those RHR loops that were in the suppression pool cooling mode when the RHR pumps restart after the diesel generators reenergize the buses. If both suppression pool cooling loops were in operation at the time, all LPCI injection could be lost.

In response to Information Notice No. 87-10, the licensee performed a probabilistic risk assessment (PRA) to determine if further engineering evaluation was necessary. In a memo dated October 28, 1991, The licensee documented the results of their PRA considering loss of RHR suppression pool cooling and core spray system due to water hammer. Two cases were analyzed, one case pertaining to a design basis LOCA coincident with a loss of offsite power and the other case being a loss of offsite power during operation of RHR suppression pool cooling or core spray system full flow test. The conclusion was that the mean core damage frequencies of the loss of containment heat removal and loss of low pressure coolant injection due to water hammer induced events were bounded by the licensee's Individual Plant Examination (IPE) results and that the issue did not pose any significant risk concern.

Additional Considerations Regarding the Operation of Four RHR Pumps in the Suppression Pool Cooling Mode

Subsequent to the evolution, the NRC raised a concern that the evolution may not be prudent and deserved a formal 10 CFR 50.59 safety evaluation. The licensee was informed of this concern and additional concerns related to the adequacy of the licensee's review of IN 87-10. The licensee documented their review of their determination per Modification Control Manual 4, Nuclear Safety and Environmental Impact Screens and Nuclear Safety Evaluations, regarding the requirement for a 10 CFR 50.59 safety evaluation. The licensee's conclusion was that a safety evaluation was not required; however, they decided to complete one to ensure that no safety issue was overlooked.

Pending determination of the RHR system susceptibility to water hammer on restart of the pumps following a LOCA and review of the licensee's safety evaluation, this issue will be unresolved (URI 95-21-01).

3.0 MAINTENANCE (62703, 61726, 92902)

3.1 Maintenance Observation

The inspector observed and reviewed selected portions of preventive and corrective maintenance to verify compliance with codes, standards and Technical Specifications, proper use of administrative and maintenance procedures, proper Quality Assurance/Quality Control (QA/QC) involvement, and appropriate equipment alignment and retest. The following activities were observed:

Work Request (WR) No. 95-5-69, 72, 73, replacement of pilot assemblies on E, D, H safety relief valves in accordance with MP 2.04, Reactor Vessel Safety/Relief Valve (SSRV) Maintenance. The work was performed on September 7, 1995 and the package was reviewed on October 10, 1995.

WR No. 94-10186, Replace Torque Switch and Spring Pack on 10MOV89B, RHR Heat Exchanger Outlet Isolation Valve, per reference steps of MP-59.41, Limitorque Motor Operator Model SB/SMB-0-4 Corrective and Overhaul Maintenance Requirements. The torque switch was replaced because of industry concerns with roll pin failures.

WR No. 95-05420, Investigate and Repair RHRSW Pump B&D Discharge Strainer Basket No. 2, per maintenance procedure MP-46.03, Twin Basket Strainers, 46STR-5A(B) and 10S-5A(B). One side of the strainer had failed to isolate during a previous surveillance test. The problem was identified as a deteriorated o-ring and out-of-timing valve disk.

WR No. 95-07999, Replacement of expansion joint 46(70)EXJ-2A, Control Room Chiller Service Water Outlet. The flexible boot had ruptured during normal plant operation of the service water system.

No concerns were identified during inspector review of the above activities.

3.1 Previously Identified Items

3.1.1 Closed Unresolved Item URI 95-18-03; Primary Containment Isolation Switch Replacement

On September 5, while performing instrument surveillance procedure (ISP)-100C, Primary Containment Isolation Switch (PCIS) Instrument Functional Test/Calibration, it was determined by maintenance personnel that one of the two reset switches had failed in the group one reset position. The switch was replaced that day; however, two weeks later the switch was found to not be working properly when another ISP was performed. During this inspection period, the inspectors reviewed the licensee's root cause analysis report to better understand the factors surrounding the event.

Background

On February 14, 1995 the reset switch failed to spring-return to the normal position as required. At that time a replacement switch was not available; however, parts from another spare switch were installed by the maintenance staff. The original switch with the installed parts was subsequently tested for proper operation.

On September 5, 1995 the same reset switch failed to return to the normal position. However, the plant was operating at full power this time and the Shift Manager determined that the deficiency was a priority "A6" item and vital to plant operations. This determination put the work into the work tracking system as a reduced planning package work item. The planner preparing the work request, WR 95-06395, utilized the February work package as the information source for the replacement switch part number. The planner however failed to note that the package stated "replaced handle assembly only". The licensee subsequently determined that the part number referenced on both work documents was incorrect. On September 5, the electricians determined that the new switch was not identical to the old switch and brought this to the attention of the maintenance planner and electrical supervisor. The planner and supervisor concluded the switch was correct and direction was given to replace the switch. The electrician performed continuity checks of the switch block against prints to verify proper connections, however, the electrician did not verify switch operation against the drawing to verify contact operation at different switch positions. This is significant because the handle of the switch contains a cam which, depending on its design, determines which contacts are opened and closed in the internals of the switch and ultimately, the function of the switch. The work package had a post maintenance test (PMT) acceptance criteria of "switch cycles smoothly" which was completed by the electricians; however this did not electrically test the switch.

On September 18, 1995 when Instrument and Controls (I&C) personnel were conducting PCIS testing, the technicians noted that the normal control room sounds of relays energizing and de-energizing was not apparent. They subsequently determined that the reset switch was not operating correctly.

The licensee conducted a root cause analysis in accordance with administrative procedure AP 3.03, Deviation and Event Analysis. Several inappropriate actions were identified by the licensee and included: incomplete review of work history by a maintenance planner resulting in the wrong part number being used, the planner and supervisor directing the replacement of the wrong part after being informed by the electricians that the parts were not identical, inadequate post-maintenance testing (PMT) of the switch in that the PMT was mechanical in nature and not an electrical test (i.e., use of meter), and the operations department planner determining that a post-work test was not required based on the fact that a quality assurance form, ISE-07, was being utilized to determinate and reterminate the leads to the switch.

The licensees' summary of causes centered on self checking not being applied in various areas of the work control process. Their determination of the factors that influenced human/equipment performance included the following: insufficient degree of detail; inadequate review of work history; only testing the contact blocks and not the entire switch assembly in the shop; no follow-up when the supervisor and planner were advised by the electricians that the switch was not identical; perceived pressure to complete the job; and wrong assumptions made by the planner and electrical supervisor in that the part number in the material history was correct.

Corrective actions which are planned include reviewing the results of the root cause evaluation with planners, supervisors and maintenance personnel; review of administrative controls to ensure PMT and PWT are adequately specified for electrical device change out to prove operability; and review of all electrical and I&C work conducted since the last maintenance outage where no post work testing was specified. Any instances where the decision to forego post work testing was the reliance solely on IS-E-07 will be reviewed to determine if additional testing is warranted to ensure operability.

Conclusion

The inspector reviewed the maintenance department's human performance evaluation, various administrative and departmental procedures, conducted interviews, and reviewed various work requests. No procedure deviations were identified. As the evaluation pointed out, there were areas where more thoroughness in various areas could have prevented the event from occurring. The inspector noted a wide spectrum of retests performed on the reset switch with varying degrees of control.

The inspector concluded that had the planner done a more thorough review of the work history he would have also noted the sub-work request for the post work testing on the first switch replacement. This could have also been picked up by the operations planner when he was reviewing the package for post work testing.

The maintenance, planning and operations staff were not thorough in completing the work to replace the switch. The safety significance of this particular event is not great, however numerous barriers were broken in the work control process. Procedures appear to have been followed, however, not in the most judicious manner. Concerns identified by maintenance personnel need to be

more thoroughly reviewed by management personnel. Post-work testing was not thorough. Non-conservative assumptions were made and attention to detail could have been better in several places. This unresolved item is closed.

3.2 Surveillance Observation

The inspector observed and reviewed portions of ongoing and completed surveillance tests to assess performance in accordance with approved procedures and Limiting Conditions for Operation, removal and restoration of equipment, and deficiency review and resolution. The following tests were reviewed:

ST-12E, Turbine Building Exhaust Radiation Monitor Instrument Channel Functional Test

ST-2AL, RHR Loop A Pump and MOV Operability, Inservice, and LPCI Keep-Full Switch Functional Test

ST-4B, HPCI Pump and Operability Test

ST-RSP-13, Liquid Process Radiation Monitor Calibration

No concerns were identified during inspector review of the above activities.

3.2.1 Turbine Building Exhaust Radiation Monitor Surveillance Testing

On November 2, the inspector observed the performance of surveillance test, ST-12E, Turbine Building Exhaust Radiation Monitor Instrument Channel Functional Test. The objective of the turbine building ventilation radiation monitoring system is to monitor radiation levels throughout the various building exhaust points in order to permit appropriate action so that the release of radioactive material to the environs is controlled. Basically, the test consists of inserting a trip signal into the monitoring circuit and verifying the ventilation system shuts down and isolation dampers close.

The inspector attended the pre-evolution brief and witnessed performance of the test in the field. Precautions and limitations were discussed as well as the responsibilities of various individuals conducting the test. The pre-evolution brief and test were well conducted. Of particular note was an observation by a senior reactor operator that an air operated damper, 67A0D-110, turbine building vent supply, was not closing properly. The damper is actually four individual dampers in one supply duct. The position indication on the control panel is verified in the surveillance test, however, the indicator only reflects the position of one of the four individual dampers. The mechanical linkage had failed on one damper and gravity was the only closing mechanism. The remainder of the surveillance test was completed without incident. A temporary modification was processed to close the failed damper and plant identified deficiencies (PID's) were written.

In addition, with input from the operations staff, a similar problem was identified during the performance of a surveillance test on the radwaste

building exhaust radiation monitor. A different style damper, 69A0D-103B, was found to be physically damaged and unable to isolate.

The inspector concluded that the identification of the defective damper by operations management showed good management oversight and thoroughness while conducting surveillance testing.

4.0 ENGINEERING (37551)

4.1 High Pressure Coolant Injection Steam Admission Valve Leakage

Following the September 1995 forced outage, the periodicity of high pressure coolant injection system (HPCI) drain pot alarm actuation increased in the control room. The inspector reviewed engineering memorandums and held several discussions with licensee personnel to determine the safety significance of the recurring alarms.

The HPCI turbine steam inlet valve, 23-MOV-14, is a double disc motor operated gate valve which isolates the reactor steam from the ambient temperature and pressure conditions of the HPCI turbine when in the standby line up. The leakage causes a concern because of the detrimental effects to the turbine lube oil systems, potential water hammer damage to the exhaust line and adverse effects on turbine back pressure. The valve design specifications allow a leakage rate of 0.0528 gallons per hour. The HPCI steam exhaust line drain collection pot collects steam leakage and condensate and at a predetermined level actuates an air operated valve to drain the leakage. When the predetermined setpoint is reached an alarm also annunciates in the control room. At the allowable leak rate, an alarm could be expected approximately every nine hours. Currently the alarm is hourly, and thus indicates approximately 0.5 gallon per hour leakage past 23-MOV-14. The valve has a history of seat leakage and has been repaired four times since it was replaced in 1988. In discussions held with the licensee staff, the inspector learned that this is a common problem at other boiling water reactor plants and that the valve manufacturer has no recommendations for valve replacement.

Technical Services memorandum, JTS-95-0527, R1, Criteria for Determining When Maintenance Should Be Performed on 23-MOV-14 for Seat Leakage, discusses monitoring actions and action limits for consideration of valve repair. Monitoring actions include: increased sampling of lubrication oil, monitoring turbine temperature, and determination of drain pot alarm rate. Oil sample analysis and turbine temperature monitoring will give an indication of moisture content and oil quality. Alarm rate is a quantitative measurement of valve leak rate. The engineering memo recommends 120 degrees F oil or bearing temperature limit and an alarm rate of once every 15 minutes as the action point to schedule an outage to repair the valve. If the alarm fails to clear, the memorandum states the system should be declared inoperable and maintenance performed immediately. As the licensee has in-place criteria to monitor the system, leakage past the valve does not represent an operability issue.

The inspector concluded that the licensee's actions were appropriate and that appropriate engineering guidance was in place. The hourly alarms are a minor distraction to the operators, but the inspector did not consider that the

alarm to have a significant impact. The inspectors will continue to monitor the licensee's activities.

4.2 Environmentally Qualified Fuses

On October 24 during electrical maintenance activities, the licensee identified a non-environmentally qualified (EQ) fuse in the motor control center for the B side of RHR low pressure coolant outboard injection (LPCI) valve, 10 MOV-27A. Following this discovery a walkdown of the A side motor control center identified an EQ fuse of the wrong size. The significance of the issue centers on the ability of the equipment to perform its' safety function in a harsh environment. The licensee reviewed the adequacy of the A side fuse and replaced the B side fuse. A determination was made that the affected valves were operable.

Following the identification of this problem, an action plan was initiated by the licensee to review their EQ fuse program. The licensee determined there were inconsistencies between the EQ report on qualified fuses, Administrative Procedure (AP)-5.12, Replacement of Electrical Fuses, and plant drawings. In parallel with this an additional power supply fuse was found not to be EQ in the motor control center (MCC) for the "A" side LPCI inverter.

As a result of these EQ fuse issues, the licensee, among other actions, intends to perform inspections of all 128 QA category 1 EQ MCCs, to verify that no other problems exist. At the end of the inspection period the licensee was continuing to review their program and process for installation of environmentally qualified fuses. This issue will remain unresolved pending completion of the licensee's review and subsequent review by the resident staff (URI-95-21-02).

5.0 PLANT SUPPORT (71750, 71707, 64704)

5.1 Radiological Controls

Radiological protection activities were observed on a periodic basis. The activities observed included radiological work practices, radiation surveys, and compliance with radiological procedures and requirements. No concerns were identified by the inspectors during the inspection period.

5.2 Security

Implementation of portions of the security plan was observed. Areas observed included access point search equipment operation, condition of physical barriers, site access control, security force staffing, and response to system alarms and degraded conditions. These areas of program implementation were determined to be adequate. No unacceptable conditions were identified.

5.3 Fire Protection

The fire protection inspection was performed from October 23-27, 1995. The results were discussed with the licensee at an exit meeting held on October 27, 1995. During this meeting, the licensee agreed with the

inspection findings presented and committed to include a seismic interaction evaluation for the storage of containers within the "C" emergency diesel generator cell. The inspector received proprietary material during the inspection and used the material only for technical reference. No part of this material was disclosed in this inspection report.

5.3.1 Fire Protection Program Review

The inspector assessed the effectiveness and overall adequacy, implementation, and maintenance of the fire protection program for providing assurance that a fire will not prevent the performance of plant safe shutdown functions. The inspection scope included evaluations of the technical adequacy of documents and verifications for consistency with the fire protection policy, procedures, features, and systems described in FitzPatrick's fire hazards analysis (FHA) and fire protection reference manual (FPRM). These verifications were completed in accordance with the guidance provided in NRC Inspection Procedure No. 64704, "Fire Protection/Prevention Program." In addition, three unresolved items related to program weaknesses, fire dampers, and the training of engineers were reviewed and closed.

5.3.2 Fire Risk Activities

The inspector reviewed the administrative processes for the control of ignition sources and combustible materials to prevent fires and to protect safety-related equipment during fire risk activities. The inspector verified that controls had been established for fire risk activities that included special authorization for the use and introduction of combustible, flammable, or hazardous explosive material. Hotwork activities involving welding, cutting, grinding, open flame, or other ignition sources were properly controlled within the plant. The inspector also reviewed log records of permits for combustible materials and hotwork. The licensee minimized the probability of fire by limiting the quantity, form, characteristics and containment of materials to analyzed levels presented in the FHA. The inspector found that training and procedures had been developed regarding fire risk and control and that the licensee had appropriately established firewatches for control of impairments, modifications, and fire risk activities when detection or suppression equipment were not in service.

The inspector found that numerous individual procedures existed to govern the tasks involving hotwork. Separate procedures were found to exist for welding, other hotwork activities, and the establishment of a firewatch. The inspector noted that streamlining of the hotwork process would facilitate better control and end-user understanding. The inspector found that the licensee had identified this concern and was tracking the issue for further evaluation and resolution.

The inspector found that the number of Deviation/Event Reports (DERs) associated with the fire protection system had increased over the past two years. However, a thorough root cause analysis report, completed by the licensee under action commitment tracking system (ACTS) number 17306, concluded that the increased number of DERs was a result of an increased awareness by plant staff and fire protection personnel of fire program

requirements and management expectations that lowered the previous threshold for initiating DERs. The inspector noted that the safety significance of recently issued DERs were very minor in comparison to older DERs. The inspector concluded that performance improvements were evident over the past few years. A mid-1995 fire protection personnel reorganization and enhanced communications, through regularly scheduled fire protection department meetings, were considered by the inspector to be contributors to the improvement in performance. The inspector did not identify any performance concerns associated with the DER review.

The inspector concluded that the enhanced communications and reorganization efforts to increase personnel awareness toward fire protection had been completed and additional improvements were planned to maintain a good fire protection program. Appropriate controls had been implemented by the licensee for minimizing fire risk due to the introduction of ignition sources and combustibles. The inspector concluded that controls over fire risk activities continued to show improvement.

5.3.3 Training

The inspector reviewed the program requirements, training records, and qualification lists for fire brigade members. This review verified the completion and adequacy of the type and frequency of training provided to personnel for qualification and preparedness as a fire brigade member or leader.

The inspector reviewed indoctrination and training procedures (ITP), lesson plans, drill scenarios, and prefire plans to verify the completeness of information presented. An interview was held with the training program administrator who performs the classroom training and monitors the qualification of all brigade members. The inspector found that the training material presented was of very good quality and the administrator thoroughly knowledgeable of the material and fire program requirements. A good tracking system had been established for ensuring brigade member qualification. The inspector noted that student feedback forms evaluated training as highly effective.

The inspector observed an announced fire drill to assess the readiness and abilities of the fire brigade when encountered with a fire within the plant. The inspector found the brigade to be well-organized, careful, and knowledgeable of the proper fire attack approach for the simulated fire scenario. In addition, the inspector noted good command and control by the fire brigade leader and good communications within the brigade and with the control room.

However, the inspector noted discrepancies between the assignment responsibilities presented in fire protection and prevention procedures (FPP) and training material with those implemented in the field. ITP-13, "Fire and Rescue Training," and FPP-1.1, "Fire Brigade Duties," differ from each other and with the observed drill implementation in that the ITP and FPP show drill performance to be the responsibility of the fire protection supervisor with support from the training administrator. However, the actual drill was

performed and critiqued by the fire inspector, the fire protection supervisor's designate. Additional discrepancies were identified by the inspector regarding fire protection supervisor duties being performed by fire inspectors for the issuance of hotwork permits. Although the effectiveness of the activities were not reduced and a safety concern did not exist, the inspector discussed these discrepancies with senior site management during the exit meeting. The inspector also found that no position description existed for fire inspectors. The licensee's fire protection supervisor acknowledged these discrepancies and stated that these concerns had been identified and captured under the Summary Report and Action Plan And Program Implementation Report, PEP-APL-95-023, Revision 0. The scheduled completion date for the licensee to resolve these concerns was by the end of 1995.

The inspector concluded that the training provided to fire brigade members was effective and appropriately prepared the brigade for fighting fires. Training material was of high quality and presented by knowledgeable staff. Fire brigade members demonstrated effective fire fighting techniques and appropriately satisfied drill objectives. Discrepancies identified regarding the responsibilities of fire protection personnel were found to have been identified, tracked, and scheduled for resolution in an acceptable manner.

5.3.4 Facility Tour

The inspector toured accessible vital and non-vital areas of the site to assess actual implementation of the fire protection program, including the adequacy of the installed fire protection systems, fire hazard controls including housekeeping, and readiness of fire brigade equipment including emergency lights.

The inspector compared actual fireloading values of selected plant fire areas within the reactor and turbine buildings with those values presented in the FHA. The inspector found the material conditions of the plant to be acceptable and the housekeeping to be very good. Fireloading values for the interim waste storage area and adjacent paint drying area within the turbine building were found to be maintained within the analyzed quantities presented in the FHA. A concern was identified in the recirculation motor generator room regarding the disposal of oily waste rags in the green plastic "clean trash" bags instead of the red metal safety receptacles. The licensee took immediate corrective action to remove the rags and the fire protection supervisor issued a memorandum to operations personnel regarding the proper disposal of oily rags. The inspector agreed with these actions and had no further concerns regarding this issue.

The inspector identified the storage of fourteen empty 55 gallon drums in the "C" emergency diesel generator (EDG) cell and was concerned with the potential consequences of these drums interacting the EDG during a seismic event. Licensee personnel stated that the seismic interaction of the drums with the EDG was not a safety concern based on engineering judgement and was believed to be included in the pending seismic qualification utilities group (SQUG) report. Although the SQUG report was not available for the inspector's review to validate this evaluation, the licensee committed to ensure the seismic interaction determination was included in the report.

In addition, the inspector verified the operability and alignment of emergency lights encountered during this tour. No problems were identified. The inspector had discussions with the fire system engineer to assess the licensee's resolution of electrolyte wicking and caustic vapor problems with emergency lights. The inspector found that these concerns were not an issue at FitzPatrick because all Exide emergency light units susceptible to these conditions had been replaced with newer design units not susceptible to such problems. In addition, the inspector found that the licensee stores personnel tested and ready-qualified emergency light units for immediate field installation when any unit becomes inoperable. This replacement alleviates the need for any compensatory measure when a light becomes inoperable. The inspector concluded that this was an excellent approach for timely restoration of inoperable lights.

The inspector concluded that housekeeping was very good. The readiness of fire brigade equipment was acceptable and fireloading values were appropriately maintained. The inspector noted that the licensee's approach for replacing inoperable emergency lights was excellent.

5.3.5 Quality Assurance

The inspector reviewed the effectiveness of the licensee's application of quality assurance (QA) program measures to the fire protection program. These measures included the incorporation of standards and practices for plant activities and the completion of documentation of these measures as presented in program assessment audits and surveillances.

The inspector reviewed the most recently completed annual, biennial, and triennial audit reports as listed in Attachment 2. The inspector found that the assessment scopes, findings, and recommendations presented in these reports were good. Several recently completed QA surveillance reports of fire protection activities including impairments, material control, and a fire inspection were reviewed and found to be of excellent quality. Referenced requirements and assessment methodology were clear and appropriately supported the recommendations made in the reports. The QA findings indicated improved program control by NYPA over the fire protection program.

The inspector concluded that QA had been applied appropriately by personnel to program activities and audit reports properly satisfied the Technical Specification requirements. QA surveillance reports were found to be of excellent quality.

5.3.6 Program Oversight

The inspector reviewed the effectiveness of the management oversight provided for the fire protection program. This review examined the measures used by management personnel to assess the status and condition of the fire protection system and the collection and receipt of such information to better understand program problems and issues.

The inspector found that a Fire Protection Summary Report/Action Plan had been established and maintained to track all activities necessary to maintain the

fire program in accordance with requirements, commitments, and NRC guidance documentation. This plan effectively presented the status of actions accomplished and planned. The inspector determined that management had focused on resolving the most safety significant issues first and due dates were met.

In addition, the inspector found that monthly fire protection staff meeting feedback, deficiency and work order trend reports, schedule adherence, training reports, and fire drill critiques had also been used by management as performance measures. The inspector concluded that effective management oversight had been established for monitoring the fire protection program.

5.3.7 Unresolved Item Review

(Closed) Unresolved Item 50-333/92-80-01, Corrective Action for Appendix R-related Fire Protection Program Weaknesses

The inspector discussed the status of Unresolved Item 92-80-01 with the licensee, and performed a review of the inspection report history for this unresolved item. Based on the inspector's review, all issues associated with the unresolved item were found to have been previously reviewed; however, the closure was not documented. The closure of the individual issues was documented as listed below.

- Diagnostic Evaluation Team (DET) Item 1: The assumption was made that no offsite power is available for fire scenarios. This issue was closed in Inspection Report 50-333/92-14, Section 3.1.1.
- DET Item 2: Lack of a high impedance fault analysis. This issue was closed in Inspection Report 50-333/92-14, Section 3.1.2.
- DET Item 3: Lack of guidance to operators in fire response procedures to achieve safe shutdown and to assist with diagnosis of significant spurious actuation of equipment. This issue was closed in Inspection Report 50-333/92-14 Section 3.1.3.
- DET Item 6: Failure to include spurious action vulnerabilities in the fire response procedures for communications and indication circuitry. This issue was closed in Inspection Report 50-333/92-14, Section 3.1.4.
- DET Item 7: Lack of original or subsequent verification of illumination levels of lighting. This issue was closed in Inspection Report 50-333/92-14, Section 3.1.5.
- DET Item 9: Unreviewed potential common mode failure of electrical cables due to a lack of separation. This issue was closed in Inspection Report 50-333/92-14, Section 3.1.6.

Unresolved Item 92-80-01 is closed.

(Closed) Unresolved Item 50-333/92-80-02, Corrective Action for Non-Appendix R-Related Fire Protection Program Weaknesses

Unresolved Item 92-80-02 consisted of several issues. Most of these issues were previously reviewed by the NRC and found acceptable. A summary of the issues and a listing of the documents that closed them is provided in NRC Inspection Report 50-333/94-25. To complete the review of this unresolved item the following Long Term (LT) Corrective Actions, as documented in NYPA Letter JPN-91-50, dated September 13, 1991, to the NRC, required evaluation.

- LT-6 - The completion of a licensee performed penetration qualification reverification baseline inspection.
- LT-8 - The modification or upgrade of operable fire dampers not installed per an acceptable configuration.
- LT-11 - Resolve findings identified by NYPA during a review of the modification process that was to ensure that the modification process assures continued compliance.
- LT-12 - Improve training for design engineers dealing with fire protection issues.
- LT-15 - Damper modifications for operable dampers not installed per Underwriters Laboratories (UL).

(Closed) LT-6 - Penetration Qualification Baseline Inspection

The inspector discussed the status of LT-6 with the licensee, and performed a review of the inspection report history of this item. The inspector determined that LT-6 was reviewed and found acceptable by the NRC in Inspection Report 50-333/93-18.

(Closed) LT-8 and LT-15 - Fire Dampers

LT-8 and LT-15 both pertain to fire dampers not installed in an acceptable configuration. These issues were initiated based on the deficiencies identified during 1991 and 1992 licensee walkdowns of plant fire dampers. To address these deficiencies, the licensee completed modifications MMP-91-198, for Appendix R fire dampers, and 91-212, for non-Appendix R fire dampers. These modifications upgraded dampers to ensure dampers were installed with enough room for thermal expansion in accordance with UL approved installation methods. Additionally these modifications upgraded some dampers to ensure proper time rating.

The inspector reviewed portions of these modifications and determined them to be acceptable. The inspector also compared the deficiencies identified during the licensee walkdowns to the work completed by the two modifications. This comparison identified approximately twenty additional deficiencies not covered by the modifications. Discussions with the licensee indicated that the remaining deficiencies were minor and not operability concerns. However, at the time of this inspection, record of final disposition of these deficiencies

could not be located. The licensee initiated DER 95-1564 and ACTS item no. 17843 to verify the adequacy of the fire dampers in question. Based on the minor nature of these deficiencies, the inspector considered the licensee's action appropriate.

The inspector walked down selected fire dampers and verified time rating and fusible link temperature ratings. The dampers were found to be clean and of the proper time rating. The inspector identified five fusible links installed such that the ratings were not readable. This contradicts the guidance provided in licensee procedure ST-76Z, which states that the links should be installed with the ratings readable. The dampers in question were dampers 73-1A through 73-1E. Subsequently, the licensee verified that the properly rated fusible links were installed and repositioned so that the rating faced outward for readability. The inspector discussed this issue with the FitzPatrick plant management and was informed that the installation of the identified fusible links with the ratings in a non-readable configuration did not meet their expectation. However, the identified installation of the fusible links did not affect the operability of the dampers.

Based on the above review LT-8 and LT-15 are closed.

(Closed) LT-11 - Findings Identified During the Licensee's Review of the Modification Process

LT-11 pertained to the resolution of findings identified during the licensee's review of the modification process. The purpose of this review was to ensure that the modification process assures continued compliance by developing a comprehensive fire protection manual. This manual is also referred to as the fire protection design bases document (FPDBD). The development of the FPDBD was tracked as LT-10 and was closed in NRC Inspection Report 50-333/93-18. To close LT-11, NYPA needed to resolve the design document open items (DDOIs) created during the development of the FPDBD.

The inspector reviewed the licensee's list of identified DDOIs, consisting of approximately 60 items, of which all but three have been closed by the licensee. The inspector selected five of the closed DDOIs, either at random or based on the inspector's area of expertise, to evaluate the quality of the closed DDOIs. Additionally, the inspector reviewed the three remaining open DDOIs and discussed with the licensee the bases for why these issues remained open and their plans to close these issues.

The inspector found the completed DDOIs to be technically sound. Discussions with the licensee indicated that those completed DDOIs not reviewed by the inspector were generally documentation issues, some requiring updates to the FSAR that were subsequently addressed. The three DDOIs that remain open were discussed with the licensee and were considered to be receiving appropriate attention, with the following exception.

DDOI 076-045 was initiated on May 21, 1993, to address the unavailability of design basis documentation for portable fire suppression equipment. The licensee completed a design basis review for the portable equipment, approved October 14, 1994, and determined that the field conditions did not meet the

determined design basis. However, a formal operability review was not completed until March 15, 1995. Subsequently, the licensee initiated a DER to address both the original DDOI classification as a documentation issue, and the lack of a timely formal operability review after the identification that the plant conditions failure to meet the newly established basis.

The inspector discussed this issue with the licensee and ascertained that at the time the discrepancies were identified, the licensee's fire protection staff discussed the failure of the plant conditions to meet the reconstituted design basis and determined that no operability concerns existed. The inspector evaluated the March 14, 1995, formal operability review and found it to be appropriate. Also, the inspector confirmed that the licensee was taking steps to upgrade the portable fire protection equipment to meet the design basis, and that adequate compensatory measures were in place. The inspector discussed the timeliness of the formal operability review with the FitzPatrick plant management and was informed that it did not meet their expectations.

The inspector reviewed the controls in place to ensure that the FPDBD is updated following modifications to the existing systems or changes to the existing fire protection or Appendix R programs and found them to be acceptable. Revisions to the FPDBD were controlled by Procedure CMM 2.1, "Preparing and Revising Design basis Documents and the Fire Protection Reference Manual," which requires a pending change notice (PCN) Part I to be completed for each DDOI summarizing the changes to be completed. The PCN Part I is to be inserted into the front of each controlled copy of the FPDBD, and exchange the affected page indicating the PCN. Part II of the PCN is to be completed after the DDOI is resolved, and is to include the changes to the FPDBD text. Procedure CMM 2.1 describes that the PCN Part II is available from the Nuclear Document Control - White Plains Office for use during formal revision of the FPDBD and review by user groups. The inspector determined these controls to be adequate, yet cumbersome to the FPDBD user.

Based on the above review LT-11 is closed.

(Closed) LT-12 & Inspector Followup Item (IFI) 50-333/92-14-08 - Fire Protection Training of Engineers.

LT-12 pertained to the Appendix R/Fire protection training of technical services and site engineering. This long term issue is also tracked by IFI 50-333/92-14-08, and was previously updated in NRC Inspection Report 50-333/93-26. After the review in Inspection Report 50-333/93-26, the only issues associated with this action that remain unresolved were fire protection training for new hires and periodic refresher training.

The inspector reviewed the qualification cards, information handouts, and procedures related to the Appendix R and fire protection training of engineers. Procedures were found to ensure new hires were included in the qualification program. The inspector also found the qualification process to contain sufficient requirements to ensure an appropriate awareness of the Appendix R/Fire protection programs, and to ensure engineers were qualified to perform fire protection/Appendix R-related duties before being allowed to performed these duties independently.

The licensee evaluated the need for performing periodic refresher fire protection/Appendix R training for the engineers, and documented their position in internal memorandum WPF-94-100, dated December 22, 1994. Their position was that incumbent engineers maintain their skill by routine involvement in fire protection assignments and issues as part of their normal duties. Additionally, their continuous training program provides the engineers with any changes to the fire protection-related requirements. The inspector considered this to be consistent with industry practices.

Based on the above review, LT-12 and IFI 50-333/92-14-08 are closed.

5.3.8 Conclusion

The inspector concluded that several efforts had been completed and were planned for improving and maintaining a good fire protection program. Controls over fire risk activities demonstrated continuous improvement and training provided to fire brigade members effectively prepared the fire brigade for fighting fires. Discrepancies identified among assignment responsibilities within procedures and training information were appropriately identified by the licensee and scheduled for resolution in an acceptable manner. NYPA's approach for replacing inoperable emergency lights was excellent and housekeeping was found to be very good. The inspector found that effective oversight had been established for monitoring the fire protection program.

Three previously unresolved items pertaining to program weaknesses were reviewed and closed. The inspector concluded that proper controls had been established and implemented to ensure an appropriate level of fire protection.

6.0 MANAGEMENT MEETINGS (71707)

6.1 Exit Meetings

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. In addition, at the end of the period, the inspectors met with licensee representatives and summarized the scope and findings of the inspection as they are described in this report. The licensee did not take issue with any of the findings reviewed at this meeting.

ATTACHMENT 1

Documents Reviewed for Fire Protection Inspection

Procedures/Surveillances (No./Rev/Title)

AP-1.6	10	Fire Protection Program
FPP-1.1	4	Fire Brigade Duties
ST-76D	16	High Pressure Water And Cardox Fire Protection System Valve Position Check
ST-76A	10	Fire Protection System Weekly Checks
ST-76H	10	Valve Operational Test
ST-76Z	10	Fire Barrier Penetration Inspection
ST-76J18	16	Smoke And Heat Detector Functional Tests
ST-76-J56	2	North Emergency Switchgear Room Cardox Test
ST-76J24	11	Electric Fire Pump Performance Test
AP-14.02	3	Combustibles and Flammable Material Control
WACP-10.1.33	4	Hot Work Permits
AP-01.04	8	Tech Spec Related Requirements, Lists, and Tables
AP-17.02	4	Housekeeping and Cleanliness Control
FPP-1.8	5	Compensatory Fire Watch
ST-16JS	3	Reactor Building Emergency Lighting Test
FPP-3.3	4	Monthly Hose House Checks
MST-076.05	11	Exide F-100 Emergency Light Surveillance Test

Lesson Plans

LP-13.9.2	9	Compensatory Firewatch
SP-13.9.4	3	Fire Inspector Training
SDSP-76	7	Fire Protection System
LP-13-9-1	15	Firewatch and Worker Training

Training Procedures

ITP-13	19	Fire and Rescue Training
ITP-20	1	Safety Training Enhancement Program

QA Reports

SR 1761	Fire Protection Impairments (dated 4/4/95)
SR 1764	Fire Inspection/Non-Power Block (dated 4/11/95)
SR 1751	Combustibles and Flammable Material Control (dated 2/95)

Triennial Fire Protection Audit 94-15J
Biennial Fire Protection Audit No. 812
Annual Fire Protection Audit No. 822