May 15, 2001

Mr. Theodore Sullivan
Vice President - Operations
Entergy Nuclear Northeast
James A. FitzPatrick Nuclear Power Plant
Post Office Box 110
Lycoming, NY 13093

SUBJECT: FITZPATRICK - NRC's INSPECTION REPORT 50-333/01-03

Dear Mr. Sullivan:

On March 31, 2001, the NRC completed an inspection at the James A. FitzPatrick Nuclear Power Plant. The results of this inspection were discussed on May 11, 2001, with Art Zaremba and other members of your staff. The enclosed report presents the results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The NRC identified two findings regarding an ineffective operability determination and an inadvertent inoperable condition of a train of crescent area cooling that were evaluated under the risk significance determination process and were determined to be of very low safety significance (Green). These findings have been entered into your corrective action program and are discussed in the summary of findings and in the body of the attached inspection report. Furthermore, these findings were determined to involve violations of NRC requirements, but because of their very low safety significance, the violations are non-cited.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system

(ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room). Should you have any questions regarding this report, please contact me at 610-337-5211.

Sincerely,

Glenn W. Meyer, Chief
Projects Branch 3
Division of Reactor Projects

Docket No. 50-333
License No.: DPR-59

Enclosure: Inspection Report 50-333/01-03

Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-333
License No.:	DPR-59
Report No.:	50-333/01-03
Licensee:	Entergy Nuclear Northeast Post Office Box 110 Lycoming, NY 13093
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	268 Lake Road Scriba, New York 13093
Dates:	February 18 - March 31, 2001
Inspectors:	R. A. Rasmussen, Senior Resident Inspector R. A. Skokowski, Resident Inspector R. S. Barkley, Senior Project Engineer T. A. Moslak, Health Physicist E. H. Gray, Sr. Reactor Inspector G. C. Smith, Sr. Physical Security Inspector
Approved by:	G. W. Meyer, Chief Projects Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000333/01-03, on 02/18 - 03/31/2001; Entergy Nuclear Northeast, James A. FitzPatrick Nuclear Power Plant; Operability Evaluations, Post Maintenance Testing.

The report covers a six-week inspection by resident inspectors, a baseline occupational radiation exposure inspection, a specialist review of in-process work on the multipurpose storage canisters to be used for dry storage of spent fuel, and an in-office review of changes to the Physical Security Plan by a regional security inspector. These inspections identified two Green issues that were noncited violations (NCVs). The significance of most findings is indicated by their color (green, white, yellow, red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Mitigating Systems

GREEN. The inspectors determined that the operability determination for the HPCI water intrusion event did not provide a sound technical basis for long term operability. A review of corrective action system items related to HPCI operability identified that prior instances of weak corrective actions had represented missed opportunities to address the problem. As such, continued operation with a leaking steam admission valve, combined with a lack of effective system monitoring and compensatory actions, resulted in unnecessary operational challenges to HPCI. These ranged from HPCI unavailability for emergent maintenance to an actual safety system functional failure.

Although events resulting in HPCI being declared inoperable were chronic in nature, the circumstances of the individual events limited the duration of the unavailability such that the overall risk as determined using the SDP was Green (of very low safety significance). This failure to take adequate corrective actions was an NCV of NRC requirements. (Section 1R15)

GREEN. Operators compromised the operability of a train of crescent area cooling by not completing the specified flow balance test following cleaning of one of the coolers. The system lineup resulted in a train of coolers being inoperable instead of only one cooler as thought by operations. This issue was a potential safety concern because inappropriate procedural limitations could result in operators allowing additional items to be made inoperable that could limit the ability of mitigating systems.

Using the SDP this issue was determined to be Green (of low safety significance), because the time the cooler train was in an untested configuration did not exceed the technical specification allowed out of service time and no additional mitigating equipment was taken out of service. This failure to perform an adequate system test was an NCV of NRC requirements. (Section 1R19)

B. Licensee Identified Findings

Two violations of very low significance, which were identified by Entergy, were reviewed by the inspectors. Immediate corrective actions were taken by Entergy and the issues were entered into the corrective action program for resolution. These NCVs are listed in Section 4OA7 of this report.

TABLE OF CONTENTS

SUMMARY OF FINDINGS ii

TABLE OF CONTENTS iv

Report Details 1

SUMMARY OF PLANT STATUS 1
- **1. REACTOR SAFETY** 1
  - 1R04 Equipment Alignments 1
  - 1R05 Fire Protection 1
  - 1R11 Licensed Operator Requalification Program 2
  - 1R12 Maintenance Rule Implementation 2
  - 1R13 Maintenance Risk Assessment and Emergent Work 3
  - 1R15 Operability Evaluations 3
  - 1R16 Operator Workarounds 6
  - 1R19 Post Maintenance Testing 7
  - 1R20 Refuel and Outage Activities 8
  - 1R22 Surveillance Testing 9
  - 1R23 Temporary Plant Modifications 9
- E2 Engineering Support of Facilities and Equipment 9
  - E2.1 Independent Spent Fuel Storage Facility (ISFSI) MPC and Overpack Fabrication 9
- **2. RADIATION SAFETY** 10
  - 2OS2 ALARA Planning and Controls 10
- 3. **SAFEGUARDS** 11
  - 3PP4 Security Plan Changes 11
- **4. OTHER ACTIVITIES** 12
  - 4OA1 Performance Indicator (PI) Verification 12
  - 4OA2 Identification and Resolution of Problems 13
  - 4OA5 Other 13
  - 4OA6 Meetings 13
  - 4OA7 Licensee Identified Violations 14

SUPPLEMENTAL INFORMATION 16
- Key Points of Contact 16
- List of Items Opened, Closed and Discussed 16
- List of Acroynms 17

Report Details

SUMMARY OF PLANT STATUS

The reactor operated at full power for the majority of the inspection period. The reactor was shutdown on March 26 for a planned maintenance outage. The reactor restart and return to full power was in progress at the end of the inspection period. An unplanned power reduction occurred on February 22, due to a failed limit switch on a main steam isolation valve. Operators needed to reduce power to perform troubleshooting of the failed limit switch.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignments

a. Inspection Scope

The inspectors performed a full system walkdown of the reactor core isolation cooling (RCIC) system. During this inspection the inspectors compared plant drawings and operating procedures to the actual valve positions and system configuration. The inspectors also reviewed the applicable sections of the Updated Final Safety Analysis Report (UFSAR), technical specifications (TS), and individual plant evaluation (IPE). In addition, the inspectors reviewed the RCIC work history, including the maintenance backlog and corrective action program backlog. Furthermore, the inspectors discussed system performance with the responsible system engineer, the technical services supervisor, and members of the operations department.

The inspectors also performed a partial system walkdown of core spray system (CS) train A during a planned unavailability of CS B.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured several plant areas and observed conditions related to fire protection. Inspectors looked for transient combustible materials, observed the condition of suppression systems, and verified fire doors were functional. These included:

- Emergency diesel generator rooms
- East and west crescent rooms
- Reactor feed pump rooms
- Turbine building areas during shutdown

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors observed licensed operators' performance in the simulator during training scenarios, and observed the Entergy evaluation of performance following the training.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the functional failure determination for the February 23, 2001, failure of the emergency diesel generator (EDG) to fully load as required. The cause of this failure was determined to be missing retaining clips on the speed droop lever pivot pins in a governor hydraulic actuator recently refurbished by a vendor. These missing retaining pins were among the equipment defects noted in a 10 CFR Part 21 report later issued by this vendor. The inspectors also reviewed the failure identified with a nylon pinion gear in the motor operated controller of the B EDG voltage regulator which failed to properly lower voltage on demand during a test on March 19, 2001. Entergy was reviewing the impact of this failure to determine whether it constituted a maintenance rule (MR) functional failure.

The inspectors reviewed past actions related to the functional failures of the flow indicating controller (13 FIC-91) on the RCIC system experienced in March - July 2000. The problems noted with the RCIC system were detailed in Licensee Event Reports (LER) 00-004-00, 00-004-01 & 00-004-02. The problems noted with this controller in March 2000, as well as on two prior occasions in the latter half of 1999, were documented in NRC Supplemental Inspection Report 2000-08. At that time the NRC noted the weak performance in identification of this problem and issued a non-cited violation for the failure to correct this problem in October 1999.

Subsequently, in May 2000 the problem with controlling and maintaining the required RCIC flow during the first 2-3 minutes of RCIC system testing recurred, indicating the corrective action taken in March 2000 was not effective. Since the problem could not be duplicated during multiple subsequent runs of the RCIC system, an operability determination was performed, a detailed action plan was prepared, and the frequency of surveillance testing was significantly increased. In July 2000 the problem recurred and was ultimately traced to the 13 FIC-91 circuit. This component was replaced and the system retested satisfactorily. Testing of the RCIC system and enhanced monitoring of this component since that time have not noted a recurrence of this problem. An

Equipment Failure Evaluation performed in the Fall of 2000 on the component identified degraded contact resistance on the controller local/cascade switch; as a result, Entergy implemented a PM activity to periodically clean these controller contacts as well as a similar controller on the high pressure coolant injection (HPCI) system.

The above noted functional failures of the RCIC system resulted in the system being placed in an (a)(1) status per 10 CFR 50.65. However, while the system was subjected to enhanced monitoring and a detailed action plan prepared in May 2000 to appropriately address the performance anomalies noted during RCIC surveillance testing, the formal MR classification status was not changed from (a)(2) to (a)(1) until February 2001. Deficiency and event report (DER) 01-01028 was written in response to this oversight.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work

a. Inspection Scope

The inspectors reviewed scheduling and maintenance risk associated with emergent work on the A EDG. This included a review of concurrent work to assure the risk assessment assumptions were adequate.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

1. HPCI System Operability

a. Inspection Scope

The inspectors reviewed the operability evaluations prepared following the discovery of water in the HPCI oil sump. The inspectors also reviewed several problem identification and resolution items related to HPCI operability. These included Entergy's actions taken in response to a previous NRC non-cited violation (NVC 50-333/2000-05-01), and the HPCI turbine casing flooding event described in LER 00-16. All of these events involved complications that evolved due to the continued operation with a leaking HPCI steam admission valve.

b. Findings

The inspectors determined that the operability determination for the HPCI water intrusion event did not provide a sound technical basis for long term operability. A review of corrective action system items related to HPCI operability identified that prior instances of weak corrective actions had represented missed opportunities to address

the problem. As such, continued operation with a leaking steam admission valve, combined with a lack of effective system monitoring and compensatory actions, resulted in unnecessary operational challenges to HPCI. These ranged from HPCI unavailability for emergent maintenance to an actual safety system functional failure. This failure to take effective corrective actions was a non-cited violation of NRC requirements.

Background

The HPCI steam admission valve, 23MOV-14, has been a longstanding equipment performance deficiency. This valve has been known to leak during the history of the plant and was again documented as leaking on April 26, 1999. Seat leakage past this valve has had unanticipated consequences and caused HPCI to be declared inoperable on several occasions. Recent problems caused by leakage past this valve included HPCI becoming inoperable due to the turbine casing filling with water and HPCI being declared inoperable due to water in the oil sump. Both of these issues were experienced at this plant back in 1989 due to the same leaking valve.

In NRC inspection report 50-333/2000-05, issued September 12, 2000, the inspectors issued a non-cited violation (NCV) for failing to enter a malfunctioning drain pot limit switch into the corrective action program. The inspectors noted the critical function this limit switch played in compensating for the leaking steam admission valve and the need for an aggregate review of HPCI operability with multiple deficiencies. This DER was closed and no substantive actions were taken to improve the review process.

Turbine Flooding Event

On November 20, 2000, HPCI was declared inoperable due to the turbine casing filling with water. Steam leaking past the degraded steam admission valve collected in the turbine casing and was not drained due to a failed drain pot limit switch. This flooding event occurred following the restart from the refueling outage. During the outage Entergy had replaced the electrical portion of the drain pot level switch due to the previously identified erratic operation. They also made adjustments to the steam admission valve motor operator in an attempt to improve the valve seating. Prior to the refueling outage, repair or replacement of the steam admission valve was deferred to the next refueling outage because the design work and preparations were not completed for the 2000 outage.

Although Entergy expected the outage adjustments to the HPCI steam admission valve to improve performance, they had not anticipated that these adjustments would stop all of the leakage. However, following the refueling outage, when no drain pot level alarms were received, it was assumed that the adjustments corrected all of the leakage. There were no compensatory actions in place to assure that leakage past the steam admission valve did not degrade the system. After four days it was discovered that the level drain pot switch had failed and that the HPCI turbine was filled with water.

Entergy issued LER 00-016, “High Pressure Coolant Injection System Declared Inoperable Due to Water in Turbine Exhaust Piping,” on December 20, 2000. This LER described an ongoing root cause analysis to determine the reasons for HPCI being inoperable. The inspector reviewed the root cause and considered it to be narrowly

focused. The root cause throughly described why the non-safety related drain pot level switch failed, but did not address the human performance issues associated with failing to properly monitor the HPCI system for operability. As a result, adequate compensatory actions for long term operation with a leaking steam admission valve were not implemented.

Water In Oil Event

On March 13, 2001, HPCI was again declared inoperable, this time due to water in the lube oil system. The event review identified that steam leaking by the steam admission valve was passing through the turbine bearing seals and entering the lube oil. This event was again a result of failing to implement adequate corrective actions for the two previous opportunities. Additionally, the turbine casing flooding event and the water in the lube oil event were previous issues experienced at this site in 1989.

In response to the water intrusion event, Entergy revised an operability evaluation for continued operation with the steam admission valve leaking. This evaluation described actions taken to drain the water and sampling to assure continued operability. However, Entergy based their operability evaluation on samples that were drawn using an uncertain process. For example, in one instance a “representative” sample was obtained by sticking a curved section of hose into the tank and extracting a sample. However, it was not known which way the curve went or how far the hose was inserted. Additionally, there were inconsistencies in how the water content was measured and reported. The inspectors challenged these inconsistencies, and Entergy took action to open and inspect the oil sump. In this case, no significant additional water was found.

Following the oil sump investigation Entergy revised the operability evaluation and provided more specific sampling instructions. However the inspectors again challenged the operability evaluation because the sampling methods described did not assure that water in the sump would remain less than the limit. This was because the bottom sample point was 2.5 gallons above the bottom of the sump, and the water limit was 0.8 gallons (0.5% water of oil). (In 1989 oil samples had not determined the 2.5 gallons of water later drained from the sump.) Entergy devised an improved sampling method and again revised the operability evaluation.

Conclusions

The inspectors reviewed these events and concluded that continued operation with degraded equipment, combined with a lack of effective system monitoring and compensatory actions resulted in these operational challenges to HPCI. These ranged from HPCI unavailability due to emergent maintenance to an actual safety system functional failure. The focus on individual equipment issues, such as the drain pot level switch, prevented corrective actions that were broad enough to maintain equipment operability.

This issue was determined to be more than minor because increased unavailability of the HPCI system has a credible impact on plant safety. The inspectors used the significance determination process (SDP) to evaluate the risk of these events. Although the events resulting in HPCI being declared inoperable were chronic in nature, the

circumstances of the individual events limited the duration of the unavailability such that the overall risk was of very low safety significance (Green). However, the failure to implement adequate corrective actions to prevent repetitive challenges to the operability of HPCI is a violation of 10CFR50, Appendix B, Criterion XVI, "Corrective Actions." This violation is being treated as a non-cited violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65FR25368). The issues associated with this violation are in the Entergy corrective action system as DER 01-01484. (NCV 50-333/01-03-001)

2. Other Operability Evaluations

a. Inspection Scope

The inspectors also reviewed the following operability determinations performed to address issues identified with safety significant systems.

- HPCI system flow anomalies identified during surveillance testing
- Simultaneous maintenance activities of low pressure coolant injection (LPCI) B inverter and EDG B
- Failure of a D main steam isolation valve position limit switch

b. Findings

No findings of significance were identified; however, during the maintenance activities on LPCI B inverter and EDG B, Entergy identified a violation of TS. This violation was licensee-identified and is described in Section 4OA7 of this report.

1R16 Operator Workarounds

a. Inspection Scope

The inspector reviewed various maintenance backlog lists, toured plant spaces, and reviewed procedure ST-99H, "Operator Workaround Assessment," to assure Entergy was tracking and evaluating operator workarounds. Maintenance lists included the control room deficiency list, the special concerns work request/plant identified deficiency summary report, the temporary modification index, and the spit-shine list.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors observed and reviewed the post maintenance testing associated with the following:

- Replacement of CS keepfill system check valves. The review included the following work orders (WO) and surveillance test (ST).

WO 01-00712-01	Core Spray Hold Pump B Min Flow Check Valve
WO 01-00725-01	Core Spray Hold Pump B Min Flow Restricting Orifice
WO 01-00713-01	Core Spray Hold Pump B Discharge Check Valve
WO 01-00713-02	Core Spray Hold Pump B Discharge Check Valve
ST-3U	Core Spray Hold Pump Discharge Flow Check Valve Flow Test.

- The inspectors reviewed and observed portions of the post maintenance tests following troubleshooting and repairs to the EDG A governor. The testing was covered under various sub WO's associated with WO 01-03005-00, "Troubleshooting/Repair EDG not Controlling Load."

- The inspectors observed the post maintenance testing of the HPCI system following the cleaning of the lube oil sump. This testing was completed in accordance with ST-4N, " HPCI Quick start, Inservice, and Transient Monitoring Test (IST)."

- The inspector reviewed the retest associated with planned maintenance on a safety related area unit cooler. This included observations of the work activity and review of the associated surveillance test.

b. Findings

The inspectors identified that operators had compromised the operability of a train of crescent area cooling by not performing a flow balance test following cleaning of one of the coolers. The system lineup resulted in a train of coolers being inoperable instead of only one cooler as thought by operations. This failure to perform an adequate system test was a non-cited violation of NRC requirements.

Following cleaning of unit cooler 66UC-22G, on February 23, 2001, the unit cooler was restored to service for an operational pressure test. Additionally, a system flow balance test was also needed to assure system operability. However, Entergy elected to not perform the flow balance on a Friday, and the test was differed until the following week. Operations was maintaining the individual cooler in an inoperable status, but considered the remaining coolers and therefore the train operable. However, the system was left in a normal, but untested lineup.

The inspectors challenged operations on the system configuration and the decision to leave the cooler in service. The inspectors noted that the cleaned cooler would be expected to pass more flow than it was prior to being cleaned, and the increase in flow to this cooler could negatively impact the flow to other coolers. (The cooler had significant fouling prior to the cleaning.) Operations agreed with the inspectors and isolated flow to the cooler over the weekend.

This issue was a potential safety concern because the failure to understand the operability status of the cooler train could have resulted in operators allowing additional

items to be made inoperable that could have limited the ability of mitigating systems. Plant procedure AP-1.04, “Tech Spec Related Requirements, Lists, and Tables,” requires the unit coolers to be operable and capable of supporting the heat loads of plant safety equipment. In this case, one unit cooler can be inoperable indefinitely, or the train can be inoperable for a maximum of seven days. Therefore, the failure to identify that the restoration of the untested unit cooler made the train inoperable, should not have exceeded the allowable LCO time as scheduled. However, because the train was not identified as inoperable, the condition could have been allowed to exist due to emergent plant challenges.

This issue was considered more than minor because the failure to identify inoperable safety related equipment could have a credible impact on plant safety. Using the SDP this issue was determined to be Green (of low safety significance), because the time the cooler train was in an untested configuration did not exceed the TS allowed out of service time and no additional mitigating equipment was taken out of service. However, 10CFR50, Appendix B, Criterion XIV, “Inspection, Test, and Operating Status,” requires measures to be established for indicating the operating status of systems. Therefore, this failure to properly indicate the inoperable status of a train of crescent area cooling is a violation of NRC requirements. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65FR25368). The issues associated with this violation are in the Entergy corrective action system as DER 01-0839. (NCV 50-333/01-03-002)

1R20 Refuel and Outage Activities

a. Inspection Scope

The facility conducted a planned maintenance outage that began on March 26 and ended on March 31, 2001. The primary focus of outage activities was to address tube leaks on the 6B feedwater heater, repair numerous secondary plant deficiencies that were not accessible with the plant in operation, and to perform an interim repair to the HPCI steam admission valve.

The inspectors monitored control of equipment utilized for shutdown cooling, reviewed outage activities, and reviewed the closeout of outage issues prior to restart. The inspectors observed portions of the reactor shutdown and startup.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed procedures and observed portions of testing related to the following surveillance tests:

- ST-2OA, “RHR Loop B Monthly Operability Test”
- ST-4N, “HPCI Quick Start, Inservice, and Transient Monitoring Test (IST)”
- ST-9BB, “EDG B and D Full Load Test and ESW Pump Operability Test”

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the index of temporary modifications and selected the following for review. These modifications were selected based on having some potential risk significance.

- 00-074 Disable low pressure coolant injection panel audible alarm
- 01-001 Install temporary instrument air drier heaters

b. Findings

No findings of significance were identified.

E2 Engineering Support of Facilities and Equipment

E2.1 Independent Spent Fuel Storage Facility (ISFSI) MPC and Overpack Fabrication

a. Inspection Scope (IP60852)

An inspection was conducted at the US Tool and Die Company (UST&D) in Pittsburgh, Pennsylvania. The inspection reviewed fabrication practices and controls for the dry spent fuel multipurpose storage canisters (MPCs) and related components which will be used for storage of spent fuel at the James A. FitzPatrick Nuclear Power Station. The inspector reviewed various work in progress, which included welding and nondestructive testing, manufacturing planning, quality assurance, and documentation for the MPCs.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS2 ALARA Planning and Controls

a. Inspection Scope (71121.02)

During the period March 12-16, 2001, the inspector conducted the following activities to determine the effectiveness of administrative, operational, and engineering controls to minimize personnel exposure for tasks during power operations.

The inspector reviewed pertinent information regarding cumulative exposure history, current exposure trends, and ongoing activities in order to assess the effectiveness in establishing exposure goals and in keeping actual exposure as low as is reasonably achievable (ALARA).

The inspector reviewed the following post-job ALARA Reviews (AR) associated with activities, whose collective exposure was greater than 5 person-rem, performed during the October 2000 refueling outage for the adequacy of identification of lessons to be learned and applied in future outages:

AR 00-022,	Reactor vessel disassembly/reassembly
AR 00-024,	Spent Fuel Pool Cleanup Activities
AR 00-026,	Local leak rate testing valve repairs
AR 00-030,	Local leak rate testing activities
AR 00-031,	Reactor Defueling/ Refueling, In-vessel visual inspection (IVVI), Local Power Range Monitor (LPRM) removal activities
AR 00-033,	Control Rod Drive Removal & Replacement
AR 00-037,	Motor-operated valve maintenance
AR 00-042,	Snubber removal/replacement
AR 00-043,	Pipe hanger inspections
AR 00-052,	Remove/Replace 12MOV18
AR 00-054,	Upgrading Traversing Incore Probe

The inspector evaluated the exposure controls specified in radiation work permits (RWPs) and associated ARs for selected jobs-in-progress and attended the pre-job RWP briefings. Included in this evaluation were installation of securing wire in fuel handling mast grapple screws (RWP 01-0007, AR 01-007) and aligning the hydrogen re-combiner for warm-up per operating procedure OP-24A (RWP 01-046, AR 01-015).

The inspector reviewed the ARs for activities scheduled to be completed later this year including Dry Cask Mobilization (AR 01-020), Remove/Repair 12 Pump 1A/B Seal (AR 01-018), and Activities to be performed in the Spent Fuel Pool/Equipment Storage Pit (AR 01-014).

Independent surveys were performed in areas of the reactor building, turbine building, and radwaste processing building to confirm posted survey results and assess the adequacy of RWPs and associated controls. The inspector observed the use of signs identifying low dose waiting areas and specifying higher dose areas where occupancy time should be minimized.

The inspector inventoried keys to all locked high radiation areas and verified that these areas were properly secured and posted.

Individual exposure records were reviewed for completed tasks and for those currently in progress. Interviews were conducted with a mechanical maintenance supervisor and radiation protection supervisor to assess departmental efforts to minimize and equalize dose to their respective staffs.

The inspector reviewed relevant DERs to evaluate the threshold for identifying problems regarding implementation of the radiation protection program and the promptness and effectiveness of the resulting corrective actions. During this review the regulatory significance of the identified problems was evaluated against the applicable criteria contained in 10 CFR 20, site Technical Specifications, and site procedures. Included in this review were DERs 00-05599, 00-0582, 00-06114, 00-06326, 01-00209, 01-00302, 01-00583, 01-00782, 01-00847, and 01-01047.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP4 Security Plan Changes

a. Inspection Scope (711130.04)

An in-office review was conducted of changes to the Physical Security Plan, identified as Revision 20, submitted to the NRC on October 31, 2000, in accordance with the provisions of 10 CFR 50.54(p). The review confirmed that the changes were made in accordance with 10 CFR 50.54(p) and did not decrease the effectiveness of the plan.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

1. Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspector selectively examined records to identify occurrences involving locked high radiation areas, very high radiation areas, and unplanned personnel exposures. The information contained in these records was compared against the applicable criteria contained in Nuclear Energy Institute (NEI) 99-02, “Regulatory Assessment Performance Indicator Guideline”, Revision 0, to verify that all conditions that met the NEI criteria were recognized, identified, and reported for the performance indicator. The records reviewed included DERs and ALARA records addressing individual and collective exposures.

b. Findings

No findings of significance were identified.

2. Safety System Unavailability, Emergency Diesel Generators

a. Inspection Scope

The inspectors interviewed the EDG system engineer and reviewed the PI tracking records for the last four quarters. The inspectors also questioned the assignment of unavailability time for work performed on the EDGs that did not render them unavailability, but temporarily removed a redundant component on the system.

b. Findings

No findings of significance were identified. However, the inspectors noted that Entergy does not record unavailability time during surveillance and maintenance intervals when the EDG requires multiple tasks to rapidly return the EDG to service in the event of an accident. While current NEI 99-02 guidance does not discuss this exclusion, the guidance in the pending revision of NEI 99-02 does prohibit this practice. Entergy agreed to review their tracking of such maintenance time upon publication of this revised guidance. The inspectors noted that independent of Entergy’s interpretation of the NEI 99-02 guidance, the maintenance intervals in question were too brief and infrequent to cause the PI to exceed a threshold if they were included in the unavailability hours.

4OA2 Identification and Resolution of Problems

Inspection findings presented in Section 1R15 of this report also had implications regarding Entergy's implementation of the corrective action system. As described above, the inadequate implementation of an effective corrective action program caused HPCI, an important safety system, to be unavailable on several occasions. In this case, a lack of sensitivity to the challenges of long term operation with degraded equipment resulted in the system unavailability. For the purpose of this inspection, this issue was dispositioned as an individual violation of 10 CFR 50, Appendix B, "Corrective Actions". However, the issue exemplifies the continuing concern of performance issues in this area. Performance of the corrective action program will be reviewed as part of the baseline inspection program in an upcoming inspection.

Additional items associated with the corrective action program were reviewed without findings.

4OA5 Other

(Closed) LER 50-333/1999-013-01: Steam Leakage Detection System Outside of Design Basis. This LER revision revised the cause and corrective actions for this event. No new issues were identified and this LER is closed.

(Closed) LER 50-333/2000-008-01: Reactor Water Recirc Speed Control Mechanical Stops Set Higher Than Value Assumed In Core Operating Limits Report. This LER revision revised the cause and corrective actions for this event. No new issues were identified and this LER is closed.

(Closed) LER 50-333/2000-011, and 50-333/2000-011-01: Shutdown Cooling Suction Valve Isolation When Securing Reactor Recirculation Pumps. These LERs pertained to a minor issue and were closed during an onsite review.

(Closed) LER 50-333/2000-012, and 50-333/2000-012-01: Failed Primary Containment Isolation System Resulting in Drywell Sump Isolation Valve Closure. These LERs pertained to a minor issue and were closed during an onsite review.

(Closed) LER 50-333/2000-016: High Pressure Coolant Injection System Declared Inoperable Due to Water in the Turbine Exhaust Piping. This LER was reviewed and issues related to this review are documented in section 1R15 of this report. No further issues were identified and this LER is closed.

4OA6 Meetings

Exit Meeting Summary

On May 11, 2001, the inspectors presented the inspection results to Art Zaremba and other members of the Entergy Staff, who acknowledged the findings presented. Additionally, at the conclusion of the engineering inspection at US Tool and Die Company, on March 1, 2001, the inspector presented the results of the inspection to

Mr. R. Moscardini, President of UST&D and Mr. M. Soler, QA manager for Holtec International and members of the FitzPatrick staff.

The inspectors asked whether any materials examined during the inspection should be considered proprietary. Where proprietary information was identified, it was returned to Entergy after review.

During the exit, two findings of very low safety significance were discussed, which were determined to be non-cited violations (NCVs). Should Entergy elect to contest these NCVs, a written response within 30 days of the date of this Inspection Report, with the basis for the denial, should be sent to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, and the NRC Resident Inspector at the FitzPatrick facility.

4OA7 Licensee Identified Violations

The following finding of very low safety significance was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

1. NCV 05000333/2001-003-003

Technical Specification 3.0 E states “When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train)s), component(s) and device(s) are OPERABLE, or otherwise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in COLD SHUTDOWN within the following 24 hours. The specification is not applicable when in Cold Shutdown or Refuel Mode.” Contrary to this requirement, on March 19, 2001, at 4:00am the LPCI B inverter was declared inoperable and removed from service for planned maintenance; on the same day at 11:00am, EDG B was declared inoperable for planned maintenance and remained inoperable longer than expected due to voltage control problems identified during the post maintenance testing. With LPCI B out-of-service, the injection valve for RHR train B would have remained closed during a LOOP/LOCA. With EDG B inoperable, RHR C (which is part of RHR train A) would not have started during a LOOP/LOCA. Therefore, TS 3.0 E limited plant operations to 24 hours with both LPCI B inverter and EDG B inoperable. However, FitzPatrick operators failed to recognize that they were in the 24-hour shutdown action statement required by TS 3.0 E until March 20, at 2:30pm, at which time they entered the 24-hour shutdown action statement. The maintenance on LPCI inverter B was completed and the system was declared operable on March 21 at 12:54am, and the 24-hour shutdown action statement was exited. The continued plant operations with components in both trains of the RHR system inoperable for greater than the 24 hours

as allowed by TS 3.0 E is being treated as non cited violation. Reference DER 01-01159.

2. NCV 05000333/2001-003-004

Technical Specification 6.11 requires that procedures shall be prepared consistent with 10 CFR 20 and shall be adhered to for all operations involving personnel exposure. Contrary to this requirement, on December 12, 2000, three workers entered a posted high radiation area without adhering to the requirements contained in procedures AP-07.06, High Radiation Area, and RP-OPS-02.02, Radiation Work Permit. Contrary to the procedural requirements, the workers entered into a high radiation area without first contacting the radiation protection department (per AP-07.06) or subsequently contacting the radiation protection department upon receiving electronic dosimeter dose rate alarms while in the area (per RP-OPS-02.02). No actual or potential safety consequences resulted since the actual dose rate in the work area did not exceed 70 mr/hr and the individuals were in the area for less than 15 minutes. Accordingly, no significant unplanned exposure occurred. Reference DER 00-06114.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

T. Bergene	Supervisor, ALARA Planning and Scheduling
G. Brownell	Licensing Engineer
L. Burrows	Radiation Protection, Technician
A. Carlswell	Radiation Protection, Technician
M. Colomb	General Manager
B. Devendorf	Dosimetry Clerk
R. Lamb	Radiation Protection, Technician
R. Murray	Radiation Protection, Technician
P. Policastro	Supervisor, Radiation Protection Operations
K. Pushee	Radiation Protection Manager
W. Rohr	ALARA Engineer
T. Sullivan	VP Operations
G. Tasick	Licensing Manager
G. Thomas	Director Design Engineering
R. Tomkin	Supervisor, Mechanical Maintenance
A. Zaremba	Director of Safety Assurance

b. List of Items Opened, Closed and Discussed

Opened and Closed

NCV 50-333/01-03-001:	The failure to implement adequate corrective actions resulted in repetitive challenges to the operability of HPCI.
NCV 50-333/01-03-002:	Operators restored a safety related unit cooler to service without an adequate system retest.
NCV 50-333/01-03-003:	Operators failed to comply with technical specification requirements by exceeding the amount of low pressure emergency core cooling systems removed from service at one time. This violation was licensee identified.
NCV 50-333/01-03-004:	Workers violated procedures by entering a high radiation area without first contacting the Radiation Protection Department or subsequently contacting the Radiation Protection Department upon receiving electronic dosimeter dose rate alarms while in the area. This violation was licensee identified.

Closed

LER 50-333/1999-013-01:	Steam Leakage Detection System Outside of Design Basis.

LER 50-333/2000-008-01:	Reactor Water Recirc Speed Control Mechanical Stops Set Higher Than Value Assumed In Core Operating Limits Report.
LER 50-333/2000-011:	Shutdown Cooling Suction Valve Isolation When Securing Reactor Recirculation Pumps.
LER 50-333/2000-011-01:	Shutdown Cooling Suction Valve Isolation When Securing Reactor Recirculation Pumps.
LER 50-333/2000-012:	Failed Primary Containment Isolation System Resulting in Drywell Sump Isolation Valve Closure.
LER 50-333/2000-012-01:	Failed Primary Containment Isolation System Resulting in Drywell Sump Isolation Valve Closure.
LER 50-333/2000-016:	High Pressure Coolant Injection System Declared Inoperable Due to Water in the Turbine Exhaust Piping.

c. List of Acroynms

ALARA	As Low As Reasonably Achievable
AP	Administrative Procedure
AR	ALARA Review
CFR	Code of Federal Regulations
CS	Core Spray
DER	Deficiency and Event Report
EDG	Emergency Diesel Generator
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
IPE	Individual Plant Evaluation
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IVVI	In-Vessel Visual Inspection
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LPCI	Low Pressure Coolant Injection
LPRM	Local Power Range Monitor
MPC	Multipurpose Storage Canister
MR	Maintenance Rule
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RWP	Radiation Work Permit
SDP	Significance Determination Process
ST	Surveillance Test
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
UST&D	US Tool & Die Company
WO	Work Order