May 4, 2005

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

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000333/2005003

Dear Mr. Sullivan:

On March 31, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your James A. FitzPatrick Nuclear Power Plant. The enclosed integrated inspection report documents the inspection findings that were discussed with your staff on April 14, 2005.

The inspection examined 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it was entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny the non-cited violation noted in this report, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, 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 FitzPatrick.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the

NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Brian J. McDermott, Chief
Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000333/2005003
w/Attachment: Supplemental Information

cc w/encl:
G. Taylor, CEO, Entergy Operations
M. Kansler, President, Entergy Nuclear Northeast
K. Mulligan, General Manager, Plant Operations
O. Limpias, VP Engineering
B. O'Grady, VP Operations Support
M. Colomb, Director of Oversight
S. Bono, Director, Nuclear Safety Assurance
A. Halliday, Manager, Regulatory Compliance
J. Fulton, Assistant General Counsel
Supervisor, Town of Scriba
S. Lyman, Oswego County Administrator
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
P. Eddy, Electric Division, Department of Public Service, State of New York
P. Smith, President, New York State Energy Research and Development Authority
J. Spath, SLO Designee, New York State Energy Research and Development Authority
S. Lousteau, Treasury Department
T. Judson, Central New York, Citizens Awareness Network
D. Katz, Citizens Awareness Network

Distribution w/encl: **(VIA E-MAIL)**
S. Collins, RA
J. Wiggins, DRA
B. McDermott, DRP
D. Jackson, DRP
S. Lee, RI OEDO
R. Laufer, NRR
P. Milano, NRR
D. Skay, (Backup) PM, NRR
R. Clark, (Backup), PM, NRR
L. Cline, DRP - NRC Senior Resident Inspector
D. Dempsey, DRP, Resident Inspector
K. Kolek, Resident OA
Region I Docket Room (with concurrences)
ROPreports@nrc.gov (All IRs)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-333
License No.:	DPR-59
Report No.:	05000333/2005003
Licensee:	Entergy Nuclear Northeast (Entergy)
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	268 Lake Road Scriba, New York 13093
Dates:	January 1 - March 31, 2005
Inspectors:	L. M. Cline, Senior Resident Inspector D. A. Dempsey, Resident Inspector J. D. Noggle, Senior Health Physicist
Approved by:	Brian J. McDermott, Chief Projects Branch 2 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000333/2005003; 01/01/2005-03/31/2005; James A. FitzPatrick Nuclear Power Plant; Maintenance Implementation.

The report covered a three-month period of inspection by resident inspectors and a senior health physicist. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Barrier Integrity

- Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Entergy's failure to adequately evaluate and correct a condition adverse to quality involving a degrading trend in vibration for the B standby gas treatment (SGT) fan assembly. In March 2005 this resulted in 35 hours of unplanned B SGT unavailability due to emergent corrective maintenance to address increasing vibration levels.

  The issue was more than minor because it was associated with the operational capability and operations/maintenance performance attributes of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance of containment integrity to protect the public from radiological releases. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the Phase 1 screening for the containment barriers cornerstone resulted in a finding of very low risk significance (Green) because the finding only represented a degradation of the radiological barrier function provided by the SGT system. (Section 1R12)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The reactor began the inspection period operating at full power. On January 22 an unplanned power reduction to 38% occurred due to indicated high bearing oil temperature on the A reactor feedwater pump (RFP) and a reactor water recirculation pump runback. The reactor was returned to full power operation on January 23 where it remained for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity [REACTOR-R]

1R01 Adverse Weather Protection (71111.01 - 1 sample)

a. Inspection Scope

The inspectors completed one adverse weather protection sample. On January 29 the inspectors reviewed Entergy's actions regarding the high potential for frazil ice intrusion into the intake structure. The inspectors verified that operators implemented actions and monitoring specified by the circulating water system operating procedures (OPs). The inspectors reviewed the operating requirements for the intake structure bar rack heaters specified in technical specification (TS) 3.7.2, and verified satisfactory completion of all surveillance requirements. The inspectors also verified that appropriate procedures were in place for loss of intake water level. Documents reviewed for this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04 - 4 samples, 71111.04S - 1 sample)

a. Inspection Scope

Partial System Walkdown. (71111.04 - 4 samples)

The inspectors performed four partial system walkdowns to evaluate the operability of one train while the opposite train was inoperable or out of service for maintenance or testing. The inspectors compared system lineups to system OPs, system drawings, and the applicable chapters in the Updated Final Safety Analysis Report (UFSAR). The inspectors also verified the operability of critical system components by observing component material condition during the system walkdown and reviewing the maintenance history for each component. Documents reviewed for this inspection are listed in the attachment.
The inspectors performed partial walkdowns of the following systems:

- Train A residual heat removal (RHR) and residual heat removal service water (RHRSW) was inspected on January 24 while train B RHR was out of service for planned maintenance.

- Train B core spray (CS) was inspected on February 9 while train A CS was out of service for planned maintenance.
- Train B SGT was inspected on February 11 while the A train was out of service for corrective maintenance.
- Reactor core isolation cooling (RCIC) and the automatic depressurization system were inspected on February 22 and 24 while the high pressure coolant injection (HPCI) system was out of service for modifications.

Complete System Walkdown. (71111.04S - 1 sample)

The inspectors performed one complete walkdown inspection of the systems and components needed to implement Severe Accident Management Technical Support Guideline (TSG)-8, which provides contingencies for providing makeup water to the reactor vessel and/or spent fuel pool from alternate sources. During the walkdown system drawings, design calculations, and training materials were used to verify operational capability and equipment availability. In addition, the inspectors reviewed the condition report (CR) database to verify that equipment problems were being identified and appropriately resolved. Documents reviewed for this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 11 samples)

a. Inspection Scope

The inspectors toured eleven areas important to reactor safety to evaluate conditions related to Entergy's control of transient combustibles and ignition sources; the material condition, operational status, and operational lineup of fire protection systems, equipment and features; and the fire barriers used to prevent fire damage or fire propagation. The inspectors used procedure ENN-DC-161, "Transient Combustible Program," in performing the inspection. Documents reviewed for this inspection are listed in the attachment. The areas inspected included:

- Fire Area 17/Zone RB-1E;
- Fire Area 18/Zone RB-1W;
- Fire Area 04/Zone EG-1;
- Fire Area 04/Zone EG-2;
- Fire Area 04/Zone EG-3;
- Fire Area 05/Zone EG-4;
- Fire Area 05/Zone EG-5;
- Fire Area 05/Zone EG-6;
- Fire Area 07/Zone CR-1;
- Fire Area 07/Zone RR-1; and
- Fire Area YARD/Zone XR-1.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - 1 sample)

a. Inspection Scope

On March 7 the inspectors observed one licensed operator simulator training to assess operator performance during a scenario involving a seismic event that caused a main steam line break in the turbine building. The inspectors evaluated the performance of risk significant operator actions, including the use of emergency operating procedures (EOPs), EOP-2, "Reactor Pressure Vessel Control" and EOP-6, "Radioactivity Release Control." The inspectors assessed the clarity and effectiveness of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operation and manipulation, and the oversight and direction provided by the shift manager. The inspectors also reviewed simulator fidelity to evaluate the degree of similarity to the actual control room. Documents reviewed for this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Implementation (71111.12Q- 2 samples)

a. Inspection Scope

The inspectors completed two Maintenance Rule (MR) inspection samples. The inspectors reviewed performance-based problems involving the SGT and neutron monitoring systems to assess the effectiveness of the maintenance program. Reviews focused on: proper MR scoping in accordance with 10 CFR 50.65; characterization of reliability issues; changing system and component unavailability; 10 CFR 50.65 (a)(1) and (a)(2) classifications; identifying and addressing common cause failures, trending key parameters, and the appropriateness of performance criteria for structures, systems and components (SSCs) classified (a)(2) as well as the adequacy of goals and corrective actions for SSCs classified (a)(1). The inspectors reviewed system health reports, open work requests (WRs), and MR basis documents. Other documents reviewed for this inspection are listed in the attachment.

b. Findings

Introduction. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Entergy's failure to adequately evaluate and correct a condition adverse to quality involving a degrading trend in vibration of the B SGT fan assembly. In March 2005 this resulted in 35 hours of unplanned B SGT

unavailability due to emergent corrective maintenance to address increasing vibration levels.

Description. Between July 2003 and March 2005 vibration of the B SGT fan assembly increased from approximately 0.5 inches per second (ips) to 1.42 ips. Following limited corrective maintenance in September 2004 and more frequent vibration monitoring between October 2004 and March 2005, an increasing trend in B SGT fan assembly vibration was apparent. Entergy's program for vibration monitoring did not provide formal acceptance criteria despite a vendor recommended acceptance criteria of less than 0.7 ips. The inspectors determined that plant engineering failed to adequately evaluate the increasing vibration trend and correct the cause of the condition before it was necessary to perform emergent corrective maintenance that resulted in 35 hours of unplanned unavailability for B SGT. On March 1, 2005, operations ran B SGT to vent the torus air space. During the run, Entergy personnel took vibration readings and noted high vibration at greater than 1.0 ips, extruded and discolored bearing grease, and a high fan stuffing box temperature, and reported this to the control room. Based on these conditions, operations declared B SGT inoperable and performed corrective maintenance. During the maintenance mechanics identified loose fan belts, sheave misalignment, a loose motor mounting bolt, loose sheave bolts, a short fan shaft key, and poor shaft runout. Maintenance repacked the stuffing box, realigned and tightened the sheaves, tightened the motor belts, and replaced the sheave key and rotating assembly. As a result, operations returned B SGT to service on March 3 with vibration levels of less than 0.05 ips.

Analysis. The performance deficiency was the failure to adequately evaluate and correct a long-standing condition adverse to quality involving an increasing trend in B SGT fan assembly vibration. This required Entergy to take B SGT out of service from March 1 to March 3 to perform emergent corrective maintenance before the normally scheduled system maintenance period. This caused 35 hours of unplanned B SGT unavailability. Traditional enforcement does not apply because the issue did not have an actual safety consequence or a potential for impacting the NRC's regulatory function, and it was not the result of any willful violation of NRC requirements. The issue was more than minor because it was associated with the operational capability and operations/maintenance performance attributes of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance of containment integrity to protect the public from radiological releases. This finding is related to the cross-cutting area of problem identification and resolution, specifically Entergy failed to adequately evaluate a condition adverse to quality.

In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the Phase 1 screening for the containment barriers cornerstone resulted in a finding of very low risk significance (Green) because the finding only represented a degradation of the radiological barrier function provided by the SGT system.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires measures to be established to assure that conditions adverse to quality, such as

malfunctions and deficiencies, are promptly identified and corrected. Contrary to the above, between July 2003 and March 2005, engineering did not adequately evaluate and correct a condition adverse to quality involving a degrading trend in vibration of the B SGT fan assembly. Because the violation is of very low risk significance and Entergy entered the deficiency into its corrective action program (CAP) as CR-2005-00772, this finding is being treated as an NCV consistent with Section VI.A of the Enforcement Policy. **(NCV 05000333/2005003-01, Inadequate corrective action for high SGT fan assembly vibration)**

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13 - 7 samples)

a. Inspection Scope

The inspectors reviewed risk assessments associated with seven work weeks during the inspection period. The inspectors verified that risk assessments were performed in accordance with administrative procedure (AP)-10.10, "On-line Risk Assessment;" that risk of scheduled work was managed through the use of compensatory actions and schedule adherence; and that applicable contingency plans were properly identified in the integrated work schedule. Documents reviewed for this inspection are listed in the attachment.

The following work weeks were reviewed:

- Week of January 24 that included a very high potential for frazil ice intrusion, B RHR maintenance, and B RFP control system troubleshooting;
- Week of February 7 that included A standby liquid control system maintenance, A SGT system maintenance, A CS system maintenance and C emergency diesel generator (EDG) troubleshooting;
- Week of February 14 that included A train 600 Vac safety-related switchgear room unit cooler 67UC-16A maintenance, B reactor building closed loop cooling pump maintenance and instrument air system maintenance;
- Week of March 7 that included A containment air dilution system ambient vaporizer electric heater maintenance, A turbine building closed loop cooling heat exchanger service water flow control valve 46FCV-103A maintenance, diesel fire pump 76P-1 battery maintenance, and primary containment isolation system and reactor protection system testing;
- Week of February 20 that included planned HPCI maintenance including replacement of motor-operated turbine steam supply valve 23MOV-14 and preventive maintenance on safety-related crescent room unit coolers;
- Week of March 20 that included replacement of B SGT fan rotating element; and
- Week of March 27 that included 115 kV Line 4 out of service for disconnect replacement at Nine Mile Point Nuclear Station, 345 kV line 10 repairs, and preventive maintenance on electric fire pump 76P-2.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions (71111.14 - 2 samples)

a. Inspection Scope

For the three non-routine event inspection samples described below, the inspectors reviewed operator logs, plant computer data, and strip charts. The inspectors also interviewed operators and plant management to determine what occurred, how the operators responded, and if the response was in accordance with plant procedures and management expectations. The inspectors also reviewed the adequacy of Entergy's evaluation of the organization's response to these non-routine events and the scope of the corrective actions specified to address any identified weaknesses. Documents reviewed for this inspection are listed in the attachment.

- On January 22 the inspectors observed operator response to control room indications of high bearing/oil temperatures on the A RFP turbine. A power reduction commenced with both RFPs in automatic on the master level controller. During the plant downpower operators noticed that the controller was not maintaining reactor vessel level as expected and placed the individual pump controllers in manual. As power continued to decrease, the B RFP failed to respond on the motor gear unit. Operators then successfully regained control with the motor speed changer. Then reactor vessel level reached 196 inches with the A RFP at minimum speed, an automatic recirculation pump runback occurred as designed. Reactor power ultimately stabilized at 38%. Entergy determined the cause of the high bearing temperatures to be failed thermocouples.
- On February 14 the inspectors observed operator and technician response to an unexpected reactor building ventilation system isolation that occurred during maintenance on one of the intermediate range nuclear instrument drawers. After removing the cover of the affected drawer, the technicians inadvertently secured the high voltage power supply for one of the reactor building ventilation radiation monitors, which caused an unexpected control room annunciator. Realizing that the annunciator was caused by a technician error, the control room operators directed the technicians to restore power to the radiation monitor. The technicians restored power without using the appropriate procedure. This caused a spike in the radiation monitor indication and the reactor building ventilation system isolated on the indicated high radiation level.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 9 samples)

a. Inspection Scope

The inspectors reviewed nine operability determinations to assess the acceptability of the evaluations; when needed, the use and control of compensatory measures; and the

compliance with TS. The inspectors' review included a verification that the operability determinations were made as specified by ENN-OP-104, "Operability Determinations." The technical adequacy of the determinations was reviewed and compared to the TS, UFSAR, and associated design basis documentation (DBD). Documents reviewed for this inspection are listed in the attachment. The following nine evaluations were reviewed:

- CR-2005-00109 concerning low voltage operability limits for 115 kV offsite power line 3;
- CR-2005-00274 concerning B RFP speed controller binding;
- ER-JAF-05-10088 concerning vibration of the RCIC steam supply piping and the air supply tubing for 13AOV-32 the RCIC steam supply steam trap air-operated bypass valve 13AOV-32;
- CR-2005-00256 concerning operability of the A CS loop sparger differential pressure detector;
- CR-2005-01085 concerning a 10 CFR 21 report on the potential to violate the reactor core pressure safety limit during a design basis main steam pressure regulator failure;
- CR-2005-00428 concerning inability to meet a feedwater temperature prerequisite for calculating the monthly leading edge flow meter correction factor;
- CR-2005-00519 concerning an Engine Systems, Inc. service alert regarding storage of fuel injectors for Electro Motive Division diesel engines;
- CR-2005-01079 concerning environmental qualification of low pressure coolant injection (LPCI) inboard injection valve control relays; and
- CR-2005-00313 concerning degraded operation of the ac input breaker for the B LPCI motor-operated valve independent power supply.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16 - 1 sample)

a. Inspection Scope

The inspectors completed one operator workaround inspection sample. The inspectors evaluated the cumulative effects of identified operator workarounds, control room deficiencies, and operator burdens on the functionality of the plants Mitigating Systems. The workarounds were reviewed to determine the effect on the functional capability of the systems, or human reliability in responding to an initiating event; and to assess the potential effects on the operators' ability to implement abnormal or emergency procedures; and if operator workaround problems were captured in Entergy's CAP.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17A - 1 sample)

a. Inspection Scope

The inspectors completed one permanent modification inspection sample. The inspectors reviewed modification and post-installation test documents for modification no. JD-01-020 that installed a new HPCI steam admission valve 23MOV-14. The modification installed a GE Sentinal flexible wedge gate valve in the HPCI turbine steam supply line in place of the original Anchor-Darling double disk gate valve in order to eliminate historical problems associated with seat leakage. The post-installation tests included valve diagnostic tests, valve and pump inservice tests, system leakage tests, and augmented nondestructive examinations. Documents reviewed for this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - 8 samples)

a. Inspection Scope

The inspectors reviewed post maintenance test procedures and associated testing activities for eight post maintenance testing inspection samples to assess whether the effect of maintenance on plant systems was adequately addressed by control room and engineering personnel. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with the DBD; that test instrumentation had current calibrations and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon completion, the inspectors verified that equipment was returned to the proper alignment necessary to perform its safety function. Documents reviewed for this inspection are listed in the attachment. The following eight post maintenance test activities were reviewed:

- WR JAF-04-40909, involving replacement of a leaking seal on RHR Pump A during the week of January 10. Satisfactory retest was accomplished by filling and venting of the system and operation of the pump in accordance with OP-13A, “RHR - Low Pressure Coolant Injection.”
- WR JF-010574700, involving replacement of an environmentally qualified RHR drywell pressure transmitter. The retest consisted of a bench check under the replacement WR and an instrument channel check using surveillance test (ST)-40D, “Daily Surveillance and Channel Check.”
- WR JF-000085300 and JAF-04-41233, involving repair of an oil leak on the A CS pump motor upper guide bearing. The retest consisted of an inservice test per ST-3PA, “CS Loop A Quarterly Operability (IST).”
- WR JAF-04-37534, involving replacement of the C EDG governor actuator. The retest included performance of ST-9BA, “EDG A and C Full Load Test and ESW

Pump Operability Test, " and temporary surveillance test (TST)-128C, "EDG C Governor Control Operability Test."

- WR JAF-05-13314, involving replacement of RHR pressure indicator 10PI-120A and its power supply during the week of February 6. Satisfactory retest was accomplished by an instrument calibration and performance of ST-2AL, "RHR Loop A Quarterly Operability Test (IST)."
- WR JF-990337800, involving replacement of containment analyzer B sample return valve 27SOV-124F2 during the week of March 20. The retests included a valve stroke time verification and performance of ST-39B-X203B, "Type B & C Leak Rate Test of H2-O2 Monitors A & B Return Line Valves (IST)."
- WR JF-030570301, involving replacement of an administration building air handling unit (AHU)-4 fresh air inlet damper. The retests included visual leakage checks of instrument air fittings and performance of ST-18A, "Technical Support Center Ventilation Operability Test."
- WR JAF-05-13963, involving replacement of the door latch for control room door 76FDR-A-300-13. The retest included performance of ST-18A, "Technical Support Center Ventilation Operability Test," and partial performance of ST-76Y, "Fire Door Inspection and Operability Test."

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 6 samples)

a. Inspection Scope

The inspectors witnessed performance of and/or reviewed test data for six risk-significant STs to assess whether the SSCs tested satisfied TS, UFSAR, Technical Requirements Manual, and Entergy procedure requirements. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with the DBD; that test instrumentation had current calibrations and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon ST completion, the inspectors verified that equipment was returned to the status specified to perform its safety function. Documents reviewed for this inspection are listed in the attachment. The following six STs were reviewed:

- Maintenance Surveillance Test (MST)-71.30, "LPCI Charger-Inverter Performance and LPCI Battery Service Surveillance Test;"
- Instrument Surveillance Procedure (ISP)-8, "Above Core Plate to CS Line at RPV Differential Pressure Instrument Functional Test/Calibration;"
- ST-7E, "SGT Fan A and Valve Exercising;"
- TST-129, "Post LOCA/Loss of Line 3/4 Contingency Voltage Verification;"
- ST-2Y, "RHR Heat Exchanger Performance Test;" and
- ST-3PA, "CS Loop A Quarterly Operability (IST)."

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 3 samples)

a. Inspection Scope

The inspectors reviewed the three temporary modifications (TMs) listed below. The inspectors assessed the adequacy of the 10 CFR 50.59 evaluations; that the installation was consistent with the modification documentation; that the drawings and procedures were updated as applicable; and that the post-installation testing was adequate. The inspectors also reviewed the results of ST-99G, "Temporary Modification Monthly Audit." Documents reviewed for this inspection are listed in the attachment.

- TM 05-006, involving installation of a temporary instrument air purge supply for the offgas recombiner activated charcoal filters;
- TM 05-007, involving installation of a clamp to secure the B RFP seal water line; and
- TM 05-009, involving installation of a temporary strongback on control room door 76FDR-A-300-13.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness [EP]

1EP6 Drill Evaluation (71114.06 - 1 sample)

a. Inspection Scope

The inspectors completed one drill evaluation inspection sample. The inspectors observed simulator, technical support center and emergency operations facility activities associated with FitzPatrick's emergency planning drill on February 16. The inspectors verified that emergency classification declarations and notifications were completed in accordance with 10 CFR 50.72, 10 CFR 50, Appendix E, and Entergy emergency plan implementing procedures.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety [OS]

2OS1 Access Control to Radiologically Significant Areas (71121.01 - 11 samples)

a. Inspection Scope

The inspectors conducted the following activities that were selected based on their exposure significance to verify that Entergy was properly implementing physical, engineering, and administrative controls for access to radiologically controlled areas, and that workers were adhering to these controls when working in these areas. Implementation of the access control program was reviewed against the criteria contained in 10 CFR 20, TS, and Entergy's procedures.

- Two exposure significant work areas associated with hydrolase tap installations into residual heat removal piping and associated with the removal of an underwater filtration unit from the equipment storage pit, were identified and licensee controls and surveys for these areas were reviewed.
- Independent walkdowns and radiation surveys of the above work areas (as well as other accessible plant areas) were conducted to evaluate whether prescribed radiation work permit, procedure, and engineering controls were in place and whether surveys and postings were complete and accurate.
- The radiation work permits associated with the work activities listed above were reviewed with respect to TS high radiation area requirements. This review included an evaluation of the adequacy of electronic dosimetry alarm setpoints based on radiation survey information and plant policy. Pre-job briefings with workers were observed to evaluate the adequacy of communication of radiological conditions, actions to take based on electronic dosimetry alarms and other stop work conditions.
- The controls associated with tied-off highly activated reactor components stored in the spent fuel pool were inspected, verifying the safe (submerged) and locked condition of these potential very high radiation sources.
- The licensee radiation protection self-assessments for the first, second, and third quarters of 2004 were reviewed and the identified deficiencies were pursued to ensure safety significant problems were entered into the corrective action program for resolution.
- The work activities listed above were selected for inspection based on the required high radiation area controls and the potential radiological risks associated with pipe system breach and removal of submerged highly contaminated equipment.
- For the work activities listed above the radiological job requirements specified in the applicable radiation work permits and ALARA reviews were reviewed. Pre-job radiation protection meetings, which provided additional verbal requirements and radiological work conduct expectations, were also attended. Work performance was observed with respect to these radiological work requirements and with respect to work area radiological postings and other radiological access procedural controls.
- During observations of the work activities listed above the adequacy of radiological controls, such as the conduct of radiation, contamination, and airborne surveys and resulting job coverage of workers, were evaluated.

- Plant tours of the reactor and turbine buildings were conducted to verify the adequacy of posting and locking of entrances to locked high radiation areas. In addition, the high radiation area lock key inventory was checked for security and accountability.
- For the work activity observations radiation worker performance was observed with respect to the specified radiological work requirements including knowledge of the radiological conditions present in the work place and work performance relative to the radiological hazards present.
- For the work activity observations radiation protection technician performance was observed with respect to the specified radiological work requirements including knowledge of the radiological conditions present in the work place and work performance relative to the radiological hazards present.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02 - 1 sample)

a. Inspection Scope

Inspectors competed one ALARA planning inspection sample. Implementation of the ALARA program was reviewed against the criteria contained in 10 CFR 20.1101(b) and Entergy's procedures. The inspectors reviewed the assumptions and basis for the 2005 annual plant exposure goal of 45 person-rem. The goal included 10.5 person-rem of planned radiological work and five person-rem of unplanned emergent work.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems (71152 - 1 sample)

1. Annual Sample Review

a. Inspection Scope

The inspectors completed one annual problem identification and resolution inspection sample. The inspectors performed a detailed review of Entergy's root cause evaluation and corrective actions for CR-2004-03158. The CR involved an o-ring failure on the electro-hydraulic control block for turbine control valve 93TCV-3 that resulted in a forced shutdown on August 3, 2004. The CR was reviewed to ensure that the correct level of evaluation was performed and that appropriate corrective actions were specified. Entergy's activities were evaluated against the requirements of procedure ENN-LI-102, "Corrective Action Process," and 10 CFR 50, Appendix B. Entergy determined that the

failed o-ring had been over-sized for the application and was installed due to inadequate installation procedures. Corrective actions included procedure revisions, training, and extent of condition inspections.

b. Findings

No significant findings or observations were identified.

2. Routine PI&R Program Review

a. Inspection Scope

As specified by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of all items entered into Entergy's corrective action program. The review was accomplished by accessing Entergy's computerized database for CRs and attending CR screening meetings.

In accordance with the baseline inspection modules, the inspectors selected 67 corrective action program items across the Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Planning, and Occupational Radiation Safety cornerstones for additional follow-up and review. The inspectors assessed Entergy's threshold for problem identification, the adequacy of the cause analyses, extent of condition review, and operability determinations, and the timeliness of the specified corrective actions. The CRs reviewed are noted in the attachment.

b. Findings

No findings of significance were identified.

3. Cross-references to PI&R Findings Documented Elsewhere

Section 1R12 describes a finding involving the failure to adequately evaluate the cause of increasing vibration on B SGT due to a lack of formal vibration acceptance criteria for the fan assembly despite vendor recommendations.

4OA3 Event Follow-up (71153 - 2 samples)

1. (Closed) LER 05000333/2004001-00, Inadvertent Actuation of Emergency Core Cooling Systems and Emergency Diesel Generators While in Refueling Mode

This licensee event report (LER) documents an October 7, 2004, invalid reactor vessel water low level signal that resulted in an invalid actuation of the EDGs and low pressure emergency core cooling system while the reactor cavity was flooded for refueling activities during refueling outage 16. The low level signal was caused by a sensing line pressure perturbation that resulted during restoration of a reactor vessel pressure

indication following instrument calibration. Entergy determined that the event was caused by inadequacies in the calibration procedure and the technique used by the technician to open the instrument isolation valve for instrument restoration. This was a violation of TS 5.4.1 that requires procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33. The radiological consequences of the event were documented in section 1R14 of inspection report 05000333/2004005. No new findings were identified during the inspectors review. The TS 5.4.1 violation was of minor significance and was not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. Entergy entered the event into its CAP as CR-2004-04457. This LER is closed.

2. (Closed) LER 05000333/2005001-00, Inoperable Offsite Circuit in Excess of Technical Specifications Allowed Out of Service Time

Between November 13 and November 22, 2003, 115 kV offsite power line 4 was removed from service for 9 days and 8 hours, which exceeded the seven-day allowed outage time specified by TS 3.8.1 for one offsite power source out of service. The violation occurred because Entergy misinterpreted the limiting condition for operation requirements regarding the operability of offsite power circuits. This event and NRC enforcement aspects of this violation are documented in section 4OA2 of inspection report 05000333/2004005. Entergy entered the event into its CAP as CR-2005-00089. This LER is closed.

4OA6 Meetings, Including Exit

The inspectors presented the inspection results to Mr. Kevin Mulligan and other members of Entergy management on April 14, 2005. Entergy acknowledged that no proprietary information was involved.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy Personnel

N. Avrakatos, Emergency Preparedness Coordinator
P. Berry, Director, Nuclear Safety Assurance, Acting
S. Bono, Director, Engineering
M. Durr, Manager, System Engineering
J. Gerety, Manager, Programs and Components Engineering
A. Halliday, Manager, Regulatory Compliance
D. Johnson, Manager, Operations
D. Kieper, Manager, Training, Acting
J. LaPlante, Manager, Security
A. McKeen, Manager, Radiation Protection
K. Mulligan, General Manager, Plant Operations
J. Pechacek, Manager, Design Engineering
W. Rheaume, Manager, CA&A
B. Sholler, Manager, Plant Maintenance
T. Sullivan, Vice President, Operations
D. Wallace, Manager, Quality Assurance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000333/2005003-01	NCV	Inadequate corrective action for SGT fan vibrations (Section 1R12)

Closed

05000333/2004001-00	LER	Inadvertent Actuation of Emergency Core Cooling Systems and Emergency Diesel Generators While in Refueling Mode (Section 4OA3)
05000333/2005001-00	LER	Inoperable Offsite Circuit in Excess of Technical Specifications Allowed Out of Service Time (Section 4OA3)

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Routine Test Procedure (RT) - 04.05, "Ice Potential Determination"
CR-1997-00097, Circulating water traveling screens became fouled requiring a manual scram
WANO SER 2001-3, "Intake Structure Blockage Results in Multi-Unit Transients and Potential Loss of Heat Sink"
NUREG/CR-0548, "Ice Blockage of Water Intakes"
MST-071.17, "Intake Deicing Heaters Rated Power Surveillance Test"
MST-071.06, "Intake Deicing Heaters Insulation Resistance Surveillance Test"
ST-8G, "Intake Deicing Heaters Feeder Ammeters Test"
OP-4, "Circulating Water System"

Section 1R04: Equipment Alignment

OP-14, "CS System"
OP-13, "Residual Heat Removal System"
OP-20, "SGT System"
OP-19, "Reactor Core Isolation Cooling System"
OP-68, "Automatic Depressurization System"
TSG-8, "Extending Site Blackout Coping Time"
EP-6, "Post Accident Containment Venting and Gas Control"
JAF-CALC-HPCI-01825, "Reduced Voltage Analysis for 23MOV-14"
JAF-CALC-HPCI-01826, "Reduced Voltage Analysis for 23MOV-16"
JAF-CALC-ELEC-01610, "125 V DC Battery 'B' Sizing and Voltage Drop"
Drawing FM-23A, Flow Diagram, CS, System 14
Work Orders
JF-000784601, JF-980419000, JAF-04-31097, JF-010647200, JF-010647201, JAF-04-33767, JF-000666800, JAF-03-27108, JAF-04-24751, JF-990496302

Section 1R05: Fire Protection

JAF-CALC-FPS-02010, NYPA CO_2 protected enclosure integrity testing - North and South EDG switchgear rooms
JAF-RPT-FPS-02708, Fire protection surveillance frequency engineering evaluation
ST-76J19, "Smoke/Heat Detector Functional and CO2 Simulated Automatic/Manual Initiation Tests - South Emergency Switchgear Room," Revision 22
ST-76J20, "Smoke/Heat Detector Functional and CO2 Simulated Automatic/Manual Initiation Tests - North Emergency Switchgear Room"
Drawings
FB-56A, Flow diagram CO_2 and foam fire extinguishing equipment
FPSSK-585, Fire barrier penetration arrangement fire area/zone V/EG-2, El 272-0"

FPSSK-590, Fire barrier penetration arrangement fire area/zone V/EG-2, El 272-0"
FPSSK-285, Fire barrier penetration arrangement fire area/zone V/EG-2, El 272-0"
FB-48A, Flow diagram fire protection water piping, system 76
FB-48B, Site utilities fire protection water supply flow diagram, mechanical
FB-49A, Flow diagram fire protection water piping, system 76
FB-49B, Flow diagram fire protection water piping, system 76
Completed Surveillance Tests
ST-76AD, "High Pressure Water and Cardox Fire Protection System Valve Position Check and Operational Test," completed 2/3/2005
ST-76Z, "Fire Damper Operability Test," completed 6/21/2004
ST-76J19, "Smoke/Heat Detector Functional and CO2 Simulated Automatic/Manual Initiation Tests - South Emergency Switchgear Room," Revision 20, completed 10/1/2003
ST-76J20, "Smoke/Heat Detector Functional and CO2 Simulated Automatic/Manual Initiation Tests - North Emergency Switchgear Room," completed 6/22/2004

Section 1R11: Licensed Operator Requalification

EN-TQ-202, "Simulator Configuration Control"
Simulator training exercise guide 60490-0-LOR, Main Steam Line Break Outside Containment
Simulator training exercise guide 90895-1-LOR, Turbine Trip High Power ATWS with inoperable Bypass valves
ENN-PL-163, Operations Expectations and Standards"
AP-12.03, "Conduct of Operations"
ENN-HU-102, "Human Performance Tools"
AP-12.06, "Procedure Use and Adherence"

Section 1R12: Maintenance Rule Implementation

JAF-RPT-SGT-02495, "Maintenance Rule Basis Document for Systems 001-125 & 24"
JAF-RPT-NMS-02278, "Maintenance Rule Basis Document for System 007 Neutron Monitoring System"
JENG-APL-05-003, "Maintenance Rule Action Plan; LPRM Ion Chamber Power Supplies"
JENG-APL-03-014, "A SGT System Maintenance Rule (a)(1) Action Plan" MP-072.01, "Buffalo Forge Fan Maintenance"

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

JAF-RPT-BYM-04431, Basis for Acceptability of Opening Removable Floor Slab RS-4 With the Plant in Operation
AP-16.14, "Hazard Barrier Controls"
MP-088.01, "Load Handling"

Section 1R14: Personnel Performance During Non-routine Plant Evolutions

ARP 09-3-2-19, Reactor Building Ventilation Radiation Monitor Downscale
ARP 09-3-2-29, Reactor Building Ventilation Radiation Monitor High
ISP-18, "Reactor Building Exhaust Radiation Monitor Functional Test/Calibration"

IMP-17.12, “Ventilation Radiation Monitor Removal/Return to Service for Preventive Maintenance Activities”
AP-19.01, “Surveillance Testing Program”
ENN-PL-163, Operations Expectations and Standards”
AP-12.03, “Conduct of Operations”
ENN-HU-102, “Human Performance Tools”
AP-12.06, “Procedure Use and Adherence”

Section 1R15: Operability Evaluations

Drawing FM-39N, Flow Path Torus, Crescent Areas Instrument Air System

Section 1R17: Permanent Plant Modifications

MP-059.37, “Analysis of MOV Diagnostic Testing Using Liberty Technologies ‘VOTES’ System”
ST-4N, “HPCI Quick-Start, Inservice, And Transient Monitoring Test (IST)”
JAF-CALC-HPCI-02962, “Thrust and Torque Limit Calculation for 23MOV-14”

Section 1R19: Post Maintenance Testing

AP-05.07, “Maintenance Testing and Post-Work Testing”
MP-093.06, “EDG Woodward Governor Actuator Maintenance”
TOP-352, “EDG Operation During Mechanical Governor Setpoint Adjustment”
ST-9BA, “EDG A and C Full Load Test and ESW Operability Test”
TST-128C, “EDG C Governor Control Operability Test”
Woodward Governor Company Manual 37708J, “EG-B10C Governor/Actuator”
MP-200.11, “Maintenance of RHR and CS Pump Motors”
ST-3PA, “CS Loop A Quarterly Operability (IST)”
ST-18A, Technical Support Center Ventilation Operability Test, Revision 7,completed 3/17/2005

Work Orders
JAF-05-13963, JAF-05-13967
ST-76Y, “Fire Door Inspection and Operability Test,” Revision 16
ST-18, “Main Control Room Emergency Fan and Damper Operability Test,” Revision 28
MP-076.16, “Fire Door Maintenance,” Revision 12

Section 1R22: Surveillance Testing

JAF-SE-00-054, Revised trip level setting for 14DPIS-43A and 14DPIS-43B, above core plate to CS line at RPV dP
JAF-CALC-CSP-00271, Design calculation for 14DPIS-43A and B CS differential pressure indication switches
JAF-CALC-CSP-04231, Equivalent analytical limit for 14DPIS-43A and 14DPIS-43B
JIC-93-072, Round-off differential pressure switch 14DPIS-43A&B setpoint to the nearest 1/10th of an inch of water
NRC IE Circular No. 79-24, Proper Installation and Calibration of CS Pipe Break Detection Equipment on BWRs

GE SIL No. 300, Instrumentation for CS sparger line break detection
GE SIL No. 300, Supplement 1, Instrumentation for CS sparger line break detection
Pre-Operational Test Procedure No. GE-12, "CS System"
DBD-014, DBD for the CS system
NGES-95-148, Memorandum, Engineering impact of TS interpretations
JAF-86-009, HPCI and CS pump calculation - IST program implementation
JAF-DC-RWCU-03469, Tabulation of restriction orifice plates and flow switch orifice plates for fabrication
LER-97-008, "Both Trains of the SGT System were Declared Inoperable Due to Flow Restriction in the Discharge Line"
OP-20, "SGT System"
Drawing FM-48A, Flow diagram SGT, system 01-125
Work Orders
JAF-04-21180, JAF-04-35445, JF-03073280, JAF-05-11950, JAF-04-33001, JAF-04-11742, JF-020923400, JF-030880900, JAF-05-10640, JAF-04-41776, JAF-05-10640, JAF-04-41776, JAF-05-10957, JAF-05-10957

Section 1R23: Temporary Modifications

ENN-LI-100, "Process Applicability Determination"
ENN-DC-136, "Temporary Alterations"

Section 2OS1: Access Control to Radiologically Significant Areas

JAF-04-39077, "Remove Tri-nuc Vacuums from Equipment Storage Pit"

Section 4OA2: Identification and Resolution of Problems

Condition Reports

2004-00542	2004-04635	2004-00238	2005-00347	2004-03068
2005-00476	2005-00487	2005-00652	2005-00631	2004-05621
2005-00589	2005-00132	2005-00262	2005-01250	2004-05652
2005-00693	2005-00361	2005-00416	2005-00036	2005-00109
2005-00969	2005-00503	2005-00312	2005-00093	2005-00132
2004-05530	2004-05558	2005-00157	2005-00660	2004-01494
2004-00168	2005-00183	2005-00231	2005-00261	2005-00272
2005-00274	2005-00284	2005-00304	2005-00416	2005-00422

2004-00428	2005-05462	2005-00442	2005-00474	2005-00476
2005-00499	2005-00568	2005-00574	2005-00573	2005-00584
2005-00589	2005-00602	2005-00633	2005-00660	2005-00705
2005-00761	2005-00772	2005-00904	2005-00905	2005-00969
2005-01004	2005-01108	2005-01110	2005-01178	2005-01207
2005-01257	2005-01159			

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management Systems
AHU	air handling unit
ALARA	as low as reasonably achievable
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
CS	core spray
DBD	design basis document
EDG	emergency diesel generator
EOP	emergency operating procedure
FCV	flow control valve
HPCI	high pressure coolant injection
IMC	inspection manual chapter
IPS	inches per second
ISP	instrument surveillance procedure
IST	in-service testing
LER	licensee event report
LPCI	low pressure coolant injection
MOV	motor-operated valve
MR	Maintenance Rule
MST	maintenance surveillance test
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
OP	operating procedure
PARS	publicly available records
RCIC	reactor core isolation cooling
RFP	reactor feedwater pump
RHR	residual heat removal
RHRSW	residual heat removal service water
RWP	radiation work permit
SDP	significance determination process
SGT	standby gas treatment
SSC	structures, systems and components

ST	surveillance test
TCV	turbine control valve
TM	temporary modification
TS	technical specifications
TSG	technical support guideline
TST	temporary surveillance test
UC	unit cooler
UFSAR	updated final safety evaluation report
WR	work request