

September 10, 2004

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 PROBLEM  
IDENTIFICATION & RESOLUTION INSPECTION REPORT 05000333/2004006

Dear Mr. Sullivan:

On August 5, 2004, the NRC completed an inspection at the James A. FitzPatrick Nuclear Power Plant. The enclosed report documents the inspection findings which were discussed on August 5, 2004, with you and members of your staff.

The inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations, and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the samples selected for review, there were no findings of significance identified during this inspection. The team concluded that problems were properly identified, evaluated, and resolved within the problem identification and resolution program. However, during the inspection, some examples of minor problems were identified related to long-standing and recurring equipment deficiencies that were not effectively evaluated and corrected in a timely fashion.

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Sincerely,

**/RA by C.G. Cahill Acting for/**

Raymond K. Lorson, Chief  
Performance Evaluation Branch  
Division of Reactor Safety

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

Mr. Theodore Sullivan

2

Enclosure: Inspection Report No. 05000333/2004006  
w/Attachment: Supplemental Information

cc w/encl:

G. Taylor, CEO, Entergy Operations

M. Kansler, President, Entergy

K. Mulligan, General Manager, Plant Operations

D. Pace, VP Engineering

B. O'Grady, VP Operations Support

M. Colomb, Director of Oversight

W. Maguire, 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

Mr. Theodore Sullivan

3

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OFFICE	RI/DRS		RI/DRP		RI/DRS			
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DATE	09/07/04		09/09/04		09/10/04			

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-333

License No: DPR-59

Report No: 05000333/2004006

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: 268 Lake Road  
Scriba, New York 13093

Dates: July 19, 2004 - August 5, 2004

Inspectors: Stephen M. Pindale, Senior Reactor Inspector (Team Leader)  
Brice A. Bickett, Reactor Inspector  
Douglas A. Dempsey, Resident Inspector (FitzPatrick)  
Brian J. Fuller, Resident Inspector (Nine Mile Point)  
June Cai, Human Performance Analyst (Observer)

Approved by: Raymond K. Lorson, Chief  
Performance Evaluation Branch  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000333/2004006; 7/19/04 - 7/23/04 and 8/2/04 - 8/5/04; James A. FitzPatrick Nuclear Power Plant; biennial baseline inspection of the identification and resolution of problems.

This inspection was conducted by two regional inspectors and two resident inspectors. 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.

### Identification and Resolution of Problems

The NRC team determined that Entergy was effective at identifying discrepant conditions at an appropriate threshold and entering them into the corrective action program. Once entered into the system, issues were typically prioritized appropriately and in a timely fashion; and were properly evaluated commensurate with the safety significance. Overall, the evaluations reasonably identified the causes of the problem, the extent of the condition, and provided for corrective actions to address the causes. However, the team noted some minor instances where long-standing and recurring equipment problems were not effectively evaluated and corrected in a timely fashion. On the basis of interviews conducted, the team determined that plant staff personnel were familiar with and utilized the corrective action program to identify problems.

#### A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

#### B. Licensee-Identified Violations

None.

## Report Details

### **4. OTHER ACTIVITIES (OA)**

#### 4OA2 Problem Identification and Resolution

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The inspection team reviewed the procedures describing the corrective action program (CAP) at the James A. FitzPatrick Nuclear Power Plant. The team reviewed items selected from various Entergy processes and activities to determine whether personnel were properly identifying, characterizing and entering problems in the CAP for evaluation and resolution. Entergy's formal CAP utilizes condition reports (CRs) to identify and document problems at FitzPatrick. The team reviewed a sample of CRs as well as maintenance work orders to cover the seven cornerstones of safety identified in the NRC Reactor Oversight Process (ROP). In addition, the team considered risk insights from the individual plant examination report and the probabilistic risk assessment to focus the sample selection and system walkdowns on risk significant components. The CRs are classified by category level (A, B, C, D) with level A requiring the most rigorous review due to higher safety and/or risk significance.

The team reviewed logs, control room deficiencies, operator work-arounds, system health reports, temporary modifications, operating experience reviews, and procedures. The team selected items from Entergy's maintenance, operations, engineering, emergency planning, security, radiological controls and oversight processes for entry into the CAP. In addition, the team interviewed plant staff and management to determine their understanding of and involvement with the CAP; and to determine whether personnel were familiar with and utilized the CAP to identify problems. The specific documents reviewed and referenced during the inspection are listed in the attachment to this report.

The team reviewed a sample of quality assurance audits and surveillances, and departmental self-assessments. The review was to determine whether the problems identified by these assessments were entered into the CAP, and whether the corrective actions were properly completed to resolve the self-identified deficiencies. The team evaluated the effectiveness of the audits and self-assessments by comparing the associated results against self-revealing and NRC-identified findings.

The team also conducted several plant walkdowns of safety-related, risk significant areas to determine if observable system equipment and plant material adverse conditions were identified and entered into the CAP. Team members attended daily review and management meetings where CRs were reviewed for screening and assignment. The team attended these meetings to understand the threshold for identifying problems and to assess management involvement with the CAP. The team also assessed the interface between the CAP and the work control process.

Enclosure

(2) Observations and Findings

No findings of significance were identified.

The team identified only minor deficiencies where CRs had not been previously initiated; and for those identified by the team, Entergy promptly initiated CRs to address the deficiencies. Accordingly, the team concluded that plant staff identified deficiencies and entered them in the CAP, and at an appropriate threshold. The team also found that self-assessments and audits were sufficiently self-critical and provided relevant performance observations and insights.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed the CRs listed in the attachment to this report to assess whether Entergy adequately prioritized and evaluated problems. These reviews evaluated the causal assessment of each issue (i.e., root cause analysis, apparent cause evaluation); and for significant conditions adverse to quality, the extent of condition and determination of corrective actions to preclude recurrence. The team selected the CRs to cover the seven cornerstones of safety identified in the NRC ROP. A portion of the items chosen for review were those that were age dependent (e.g., service water system erosion and/or corrosion, heat exchanger fouling), and accordingly, the scope of review was expanded to five years. The team also considered risk insights from the FitzPatrick probabilistic risk assessment to help focus the inspection sample. Throughout the inspection, the team attended periodic meetings to observe the CR review process and to understand the bases for assigned category and root cause level.

The team selected a sample of CRs associated with previous NRC non-cited violations (NCVs) and findings to determine whether Entergy evaluated and resolved problems associated with compliance with applicable regulatory requirements and standards. The team reviewed Entergy's evaluation of industry operating experience for applicability to FitzPatrick. The team also reviewed Entergy's assessment of equipment operability and reportability requirements associated with CRs.

(2) Observations and Findings

No findings of significance were identified.

Overall, the team found that CRs were appropriately prioritized and evaluated. The quality and completeness of root cause evaluations and apparent cause analyses were generally good. In addition, the team observed that both the CR Screening Committee and the CR Review Group were effective in reviewing and prioritizing CRs. The team identified some minor instances where the bases or justification for specific actions associated with CRs were not well documented or readily apparent. Examples included the following:

- CR 2003-05720 (maintenance preventable functional failure determination associated with the reactor vessel level instrumentation system);
- CR 2003–1333 (emergency service water system weld pinhole leak/extent of condition review);
- DER 2002-4980 (corrective actions did not get into CAP system associated with a RCIC test valve stroke issue); and
- Several CRs (reactor core isolation cooling system/piping inspection not performed/documented).

Station personnel subsequently addressed each of these minor documentation deficiencies.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The team reviewed the corrective actions associated with selected CRs to determine whether the actions had addressed the identified cause(s) of the problems. The team also reviewed Entergy's timeliness for implementing the corrective actions, and their effectiveness in precluding recurrence for significant conditions adverse to quality. Additionally, the team assessed the backlog of outstanding corrective actions to determine if they, individually or collectively, represented an increased risk to the plant. The team also reviewed the NCVs and findings issued since the last inspection of the FitzPatrick CAP to determine if issues placed in their program had been properly evaluated and corrected.

(2) Observations and Findings

No findings of significance were identified.

The team determined that overall, corrective actions associated with CRs were appropriate and effective. However, there were some instances where long-standing and recurring equipment problems were not effectively evaluated and/or corrected. Three specific examples were identified, which were related to 1) excessive seat leakage from the high pressure coolant injection (HPCI) system steam supply admission valve 23MOV-14; 2) degraded performance of a safety-related cooler for electrical switchgear (67UC-16B); and 3) repeated instances of pressurizing the reactor core isolation cooling (RCIC) system discharge piping slightly higher than its design value during quarterly tests. Details for each of these examples are provided below.

- HPCI steam supply admission valve (23MOV-14) has had a long-standing history (about five years) of excessive seat leakage, which has resulted in several adverse effects on the HPCI system (e.g., minor corrosion/pitting of the turbine rotor, water intrusion in the turbine lube oil). Entergy had identified that past maintenance practices were less than adequate, and subsequently overhauled the valve in February 2003 to correct the problem. While the leakage initially abated, the valve subsequently began leaking again, and is currently exceeding



design seat leakage. Entergy's actions in February 2003 were ineffective in achieving lasting success with regard to preventing excessive seat leakage. In response to the continuing leakage, Entergy has implemented a monitoring program with appropriate action if HPCI turbine temperatures indicate a degrading trend (CR-JAF-2000-04897 tracks this issue).

- Safety-related cooler for electrical switchgear 67UC-16B was degraded such that the cooler may not have been capable of removing postulated accident heat loads if the ultimate heat sink temperature was at its maximum assumed value of 85F. This condition has existed for the past four years. Actions taken to date to ensure the cooler can consistently satisfy the thermal performance test have been untimely and ineffective. Further, the degraded condition remained a challenge to the organization because additional testing and analysis are required each time the cooler fails to satisfy the thermal performance test. Based upon existing analysis and actual temperature conditions, the cooler remains operable. Entergy plans to replace this cooler during the next refueling outage (CR-JAF-2004-01519 and CR-JAF-2004-02688).
- RCIC over-pressurization during quarterly surveillance. Four events (in 1997, 1998, 2002, 2003) occurred where discharge piping was pressurized slightly beyond its design pressure of 1320 psig. While the surveillance procedure limit is 1235 psig, it appears the cause is that the test return valve, 13MOV-30, is overly sensitive to adjustments in valve position. Therefore, small adjustments in valve position results in relatively large pressure changes. Previously, plant staff had chosen to live with this issue and rely on engineering analysis to allow over-pressure up to 1400 psig (prior surveillance procedure changes were not designed to correct the adverse condition). Entergy was pursuing possible design and/or procedure changes to prevent further similar challenges (CR-JAF-2003-1182).

The team reviewed the details associated with each of the three items above, and determined that equipment operability has not been adversely impacted; and in each case, Entergy was pursuing an appropriate corrective action plan.

4OA6 Meetings, including Exit

The team presented the inspection results to Mr. Sullivan and other members of Entergy management and staff on August 5, 2004. Entergy acknowledged that no proprietary information was involved.

**ATTACHMENT**

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel

S. Bono, Manager, System Engineering  
J. Boyer, System Engineering Manager  
G. Brownell, Regulatory Compliance  
B. Burnham, System Engineer  
A. Degracia, System Engineer  
D. Denbleyker, Employee Concerns Coordinator  
T. Edwards, System Engineer  
J. Fischer, System Engineer  
A. Halliday, Manager, Regulatory Compliance  
S. Haskell, System Engineer  
D. Huwe, QA Auditor  
D. Johnson, Manager, Operations  
T. Johnson, Maintenance Supervisor  
M. Kayhan, System Engineer  
W. Maguire, Director, Nuclear Safety  
K. Mulligan, General Manager, Plant Operations  
D. Nacamuli, Self-Assessment Coordinator  
J. Pechacek, Manger, Engineering Support  
W. Rheaume, CA&A Manager  
D. Ruddy, Design Engineering Supervisor  
L. Stoner, Auxiliary Operator  
T. Sullivan, Vice President, Operations  
R. Thomas, Control Room Supervisor  
D. Wallace, Quality Assurance Manager  
K. Wells, Senior Nuclear Operator

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

NONE

## LIST OF DOCUMENTS REVIEWED

### Procedures

AP-12.11 Response to Operational Concerns and Notifications, Rev. 2  
 JAF-LI-102 JAF Corrective Action Process, Rev. 1  
 ENN-LI-102 Corrective Action Process, Rev. 4  
 ENN-OP-104 Operability Determinations, Rev. 2  
 ENN-LI-104 Self-Assessment and Benchmark Process, Rev. 4  
 EN-LI-104 Self-Assessment and Benchmark Process, Rev. 0  
 ENN-WM-101 On-Line Work Management Process, Rev. 0  
 ODSO-17 Operator Plant Tour and Operating Logs, Rev. 74  
 OP-22 Diesel Generator Emergency Power, Rev. 49  
 ST-24J RCIC Flow Rate and Inservice Test, Rev. 32

### Condition Reports (all are prefixed with CR-JAF-)

1997-00019	2002-04773	2003-02327	2004-00685
1999-02296	2002-04794	2003-02432	2004-00699
1999-02700	2002-04946	2003-02528	2004-00720
1999-03037	2002-04986	2003-02639	2004-00721
2000-00385	2002-04993	2003-02827	2004-00725
2000-02386	2002-05148	2003-02847	2004-00908
2000-04897	2002-05295	2003-02861	2004-00971
2001-00783	2002-05505	2003-03024	2004-01167
2001-03848	2003-00177	2003-03028	2004-01256
2001-04683	2003-00188	2003-03162	2004-01519
2002-00415	2003-00305	2003-03456	2004-01573
2002-02215	2003-00307	2003-03592	2004-01947
2002-02520	2003-00309	2003-03921	2004-02023 *
2002-02713	2003-00526	2003-04049	2004-02425
2002-02720	2003-00733	2003-04362	2004-02651
2002-02721	2003-00794	2003-04382	2004-02760
2002-03081	2003-00854	2003-04556	2004-02875
2002-03132	2003-00863	2003-04566	2004-02876
2002-03232	2003-00918	2003-04585	2004-02877
2002-03279	2003-00968	2003-04625	2004-02878
2002-03552	2003-01088	2003-04906	2004-02960
2002-03602	2003-01182	2003-05560	2004-02979
2002-03667	2003-01333	2003-05613	2004-03033 *
2002-03716	2003-01418	2003-05720	2004-03034
2002-04006	2003-01581	2003-05899	2004-03151 *
2002-04008	2003-01843	2004-00224	2004-03157 *
2002-04303	2003-01844	2004-00289	2004-03160 *
2002-04351	2003-02172	2004-00411	2004-03172 *
2002-04742	2003-02251	2004-00618	2004-03173 *

(Note " \* " = CR was generated as a result of NRC inspection)

Operating Experience CRs

CR-OEN-2002-00080	CR-OEN-2003-00008
CR-OEN-2002-00109	LO-OEN-2002-00034
CR-OEN-2002-00205	LO-OEN-2002-00072
CR-OEN-2002-00220	LO-OEN-2002-00198
LO-OEN-2002-00232	

Audits and Self-Assessments

A03-07J	Technical Specifications
A03-09J	Results of Actions to Correct Deficiencies (2003 Audit)
JAFLO-2003-00007	Condition Reports Closed by Corrective Action Coordinators
JAFLO-2003-00010	Benchmarking Trip to Perry
JAFLO-2003-00013	Work Planning and Preventive Maintenance Feedback
JAFLO-2003-00022	Control room activities
JAFLO-2003-00034	Communications
JAFLO-2003-00051	Operability Determination Process
JAFLO-2003-00062	Snapshot Assessment on System Health Report Process
JAFLO-2003-00076	Surveillance testing
JAFLO-2003-00095	Effectiveness Review of 2001 Audit/Assessment Corrective Actions
JAFLO-2003-00096	Security Post Instructions
JAFLO-2003-00097	ALARA/Radiation Dose Feedback
JAFLO-2003-00129	Operations Training
JAFLO-2003-00148	Snapshot Assessment: Closure of Corrective Actions to Other Processes
JAFLO-2003-00241	Security Firing Range
JAFLO-2003-00256	Conduct of Maintenance
QS-2004-JAF-005	Operations QA Findings
QS-2004-JAF-002	Testing of Hand Geometry System
QA-4-2004-JAF-1	Design Control (LO-JAF-2004-00005)
SR 2303	Surveillance Report - Review of Actions to Correct Deficiencies
SR-2325	Oversight of Engineering and 10CFR50.59 Activities
SR-2330	Abnormal Plant Conditions/Long term Unexplained Indications
SR-2343	ISFSI Corrective Actions
SR 2358	Blackout Post-transient Review and Recovery Plan

Maintenance Rule (a)(1) Action Plans and Basis Documents:

Automatic Depressurization System (safety/relief valve pilot valve leakage)  
RHR check valves  
Decay Heat Removal (flow rate)  
NSW/ESW systems  
Uninterruptible Power Supply motor-generator set

System Health Reports (First Quarter 2004)

DC Electrical Distribution System  
Reactor Water Recirculation  
Nuclear Boiler Instrumentation  
Reactor Protection System  
Residual Heat Removal System (and 4<sup>th</sup> Qtr 2003, 2<sup>nd</sup> Qtr 2004)  
Reactor Core Isolation Cooling System  
High Pressure Coolant Injection System  
Emergency Service Water System (and 4<sup>th</sup> Qtr 2003)  
Normal Service Water System (and 4<sup>th</sup> Qtr 2003)

Work Orders

JAF-03-27088	JAF-04-24392
JAF-03-27088	JAF-04-24436
JAF-03-33777	JF-011411100
JAF-04-10672	JF-020767600
JAF-04-12427	JF-020767600
JAF-04-13633	JF-980142904
JAF-04-18338	

Engineering Requests

JAF-04-13211	JF-03-01056
JAF-04-17580	JF-03-01105
JF-03-00003	JF-03-01305
JF-03-00091	JF-03-01450
JF-03-00589	JF-03-01656
JF-03-00909	JF-03-01858

Other

Performance Engineering Oil Analysis Data - RHRSW 2002-2004  
JENG-APL-01-001, "HPCI Improvement Action Plan," Rev. 2  
Calculation JAF-CALC-HPCI-02133, "Thrust and Torque Limits Calculation for 23MOV-19"  
Root Cause Evaluation Report - "Reactor Pressure Vessel Level Transient Coincident with 'B'  
Station Battery Ground Fault During HPCI Surveillance Test," June 22, 2004

**LIST OF ACRONYMS**

ADAMS	Agencywide Documents Access & Management System
CA&A	Corrective Action and Assessment
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
DC	Direct Current
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
ISFSI	Independent Spent Fuel Storage Installation
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NSW	Normal Service Water
PARS	Publically Available Records
psig	Pounds per Square Inch - Gauge
QA	Quality Assurance
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
ROP	Reactor Oversight Process