July 21, 2000

Mr. John K. Wood
Vice President - Nuclear
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT - NRC INSPECTION REPORT 50-440/2000-04

Dear Mr. Wood:

On June 30, 2000, the NRC completed an inspection at your Perry Nuclear Power Plant, Unit 1 reactor facility. The enclosed report presents the results of that inspection which were discussed on June 27, 2000, with you and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to safety and to 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.

Based on the results of this inspection no findings were identified.

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).

Sincerely,

/RA/

Thomas J. Kozak, Chief
Reactor Projects Branch 4

Docket No.: 50-440
License No.: NPF-58

Enclosure: Inspection Report 50-440/2000-04

See Attached Distribution

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-440
License No:	NPF-58
Report No:	50-440/2000-04
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Perry Nuclear Power Plant, Unit 1
Location:	P.O. Box 97 A200 Perry, OH 44081
Dates:	May 21 - June 30, 2000
Inspectors:	C. Lipa, Senior Resident Inspector (SRI) R. Vogt-Lowell, Resident Inspector K. Zellers, SRI, Davis-Besse L. Collins, Project Engineer
Approved by:	Thomas J. Kozak, Chief, Projects Branch 4 Division of Reactor Projects

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner, which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000440-2000-04, on 5/21-6/30/2000; Perry Nuclear Power Plant; Unit 1. Resident Operations Report

This inspection was conducted by resident inspectors. There were no findings identified during this inspection.

Report Details

Summary of Plant Status: The plant began this inspection period with Unit 1 at 100 percent power (3579 MWth). On June 4, the licensee initiated a controlled plant shutdown in order to start a mid-cycle outage, which began on June 5. Fuel sipping activities during the outage identified three fuel assemblies with defects. These were removed from the reactor core and replaced with bundles discharged from the core during the previous refueling outage. Startup activities commenced on June 15 and generator synchronization to the grid occurred on June 16. Full power was reached on June 19. On June 20, the licensee reduced power to approximately 70 percent to change control rod pattern and begin testing to support the power uprate authorized by License Amendment #112. The new licensed power level is 3758 MWth. The licensee increased power level in a series of increments from June 20 to June 22 and reached a final power level of 98.5 percent (3700) MWth on June 22.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather

Preparations for Warm Weather, High Winds, or Tornado

a. Inspection Scope (71111.01)

The inspectors reviewed relevant procedures and performed a walkdown of plant areas and licensee preparations for adverse weather, including conditions that could lead to loss of off site power and conditions that could result from high temperatures or high winds. The inspectors focused on design features that mitigate adverse weather and the licensee's procedures that are used to respond to adverse weather indications. The inspectors verified that the design features and procedures protected mitigating systems from adverse weather effects. Items and procedures reviewed included: ONI-ZZZ-1, "Tornado or High Winds," IOI-15, "Seasonal Variations," and SOI-P45/49, "Emergency Service Water and Screen Wash Systems." An associated plant modification related to the ultimate heat sink was reviewed under Section 1R17.

b. Findings

There were no findings identified.

1R05 Fire Protection

a. Inspection Scope (71111.05)

The inspectors walked down selected risk significant areas looking for any fire protection issues related to: the control of transient combustibles, ignition sources, fire detection equipment manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, and barriers to fire propagation. The areas walked down were

emergency service water pump house, refuel floor, emergency core cooling pump rooms, and fuel handling building.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope (71111.12)

The inspectors reviewed the implementation of the maintenance rule program for equipment problems documented on the following condition reports. The inspectors verified the licensee's classifications of whether the equipment issues constituted a maintenance preventable functional failure were correct. The inspectors also reviewed the associated performance criteria for each failure.

- 99-2923, "Locking clamp for Agastat relay associated with standby liquid control system train "A" found to be disengaged."
- 99-2286/99-2904, "Standby liquid control system relief valves exceeded allowable set-point during testing."
- 99-2914, "Unexpected alarm on main transformer."
- 99-2386, "Failure of drywell CO_2 outboard isolation valve P54-F395 (fire protection system)."

The inspectors also reviewed portions of the following licensee procedures and documents: PAP-1125, "Monitoring the Effectiveness of Maintenance Program Plan," PAP-1125 Reference Guide, and, "Maintenance Rule Functions, Performance Criteria, and Classifications," Revision 3.03, dated March 22, 2000.

b. Findings

There were no findings identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope (71111.13)

The inspectors reviewed the licensee's Probabilistic Safety Assessment for the week of June 25 through July 1, 2000 to verify that the licensee was controlling risk associated with on-line maintenance. The inspectors verified that the assessment included consideration of transmission yard activities in conjunction with other planned maintenance on plant equipment. The inspectors also reviewed the revision to the assessment that was performed to incorporate the impact of emergent work on Agastat relays.

b. Findings

There were no findings identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope (71111.14)

- On June 4-5, the inspectors observed licensed operator performance during the plant down power and manual scram from 25% power, initiated to begin a mid-cycle outage.

- The inspectors reviewed the investigation of condition report 00-1836 which documented the existence of a positive moderator temperature coefficient of reactivity as disclosed by the licensee's review of the "Startup Package for the Mid Cycle 8 Outage Cold Startup." This was the first time Perry would conduct a cold startup with a positive moderator temperature coefficient of reactivity. The inspectors reviewed the "just in time" operator training, observed crew performance during simulator training, and observed the actual approach to criticality in the main control room.

- The inspectors reviewed licensed operator performance during portions of special test TXI-0317, "3579 MWth to 3758 MWth Power Up Rate Implementation."

b. Findings

There were no findings identified.

1R17 Permanent Plant Modifications

a. Inspection Scope (71111.17)

The inspectors reviewed Simple Modification Request Form #00-5013 and Work Order 00-2369, "Install Seals on ESW Sluice Gates," which modified the emergency service water sluice gates to provide seals to prevent leakage. The inspectors reviewed the associated license amendment request, dated June 1, 2000, that was submitted to the Office of Nuclear Reactor Regulation to allow inflating the seals. The inspectors verified that the licensee has administrative controls in place to prevent inflating the seals until the approval is received.

b. Findings

There were no findings identified.

IR19 Post-Maintenance Testing

a. Inspection Scope (71111.19)

The inspectors reviewed the following post-maintenance test activities to verify that the testing was sufficient to ensure operability of systems and components:

- PTI-M43-P0006, "Diesel Generator Building Ventilation System Damper Stroking," post-maintenance testing for Work Orders 99-019983 and 00-010424 on diesel ventilation louver actuators.

- Bench testing and post-installation testing for Agastat relay 1E12A-K111A, (residual heat removal shutdown cooling isolation valve circuitry). The inspectors reviewed test activities performed in accordance with Work Order 00-002489 and IMI-E3-20, "Control Relay Testing."

b. Findings

There were no findings identified.

1R20 Refueling and Outage Activities

Mid-Cycle Outage Scheduled to Remove Fuel Defects

a. Inspection Scope (71111.20)

The inspectors observed activities associated with the mid-cycle fuel defect outage that began on June 4, 2000 to identify and replace defective fuel assemblies. The inspectors reviewed the reactor cooldown rate, configuration management, clearance activities, fuel sipping activities, and reactor core reconfiguration for management of risk, conformance to the applicable procedures, and compliance with technical specifications. The following major activities were observed:

- Outage planning meetings;

- Manual scram insertion from 25% power;

- Fuel handling activities;

- Fuel sipping;

- Restart Readiness Management Review Meeting conducted June 12, 2000;

- Plant Oversight Review Committee Meeting #00-022 conducted June 13, 2000 to review the Core Operating Limits Report (COLR) for Cycle 8 (reload 7) Power Uprate;

- Main turbine roll to 1800 rpm and main generator synchronization to the grid on June 16, 2000 at 1:18 pm.

In addition to attending several outage planning meeting and pre-evolution briefings, the inspectors also reviewed the following documents: IOI-1, "Cold Shutdown," IOI-4, "Shutdown," IOI-3, "Power Changes," IOI-8, "Shutdown by Manual Reactor Scram," and SVI-B21-T1176, "Reactor Coolant System Heatup and Cooldown Surveillance."

b. Findings

There were no findings identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22)

The inspectors reviewed the quarterly surveillance of the Reactor Core Isolation Cooling (RClC) System, SVI-E51-T2001, "RCIC Pump and Valve Operability Test," to verify requirements were met and were consistent with applicable sections of Technical Specifications and the USAR.

b. Findings

There were no findings identified.

4. OTHER ACTIVITIES

4OA6 Management Meetings

The inspectors presented the inspection results to Mr. J. Wood, Vice President-Nuclear, and other members of licensee management at the exit meeting held on June 27, 2000. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Wood, Vice President-Nuclear
H. Bergendahl, Director, Nuclear Services Department
B. Boles, Manager, Plant Engineering
N. Bonner, Director, Nuclear Maintenance Department
S. Davis, Superintendent, Plant Operations
G. Dunn, Manager, Regulatory Affairs
D. Gudger, Supervisor, Compliance
H. Hegrat, Manager, Quality Assurance
W. Kanda, General Manager, Nuclear Power Plant Department
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B. Luthanen, Compliance Engineer
T. Rausch, Operations Manager
S. Sanford, Senior Compliance Engineer
R. Schrauder, Director, Nuclear Engineering Department
J. Sipp, Manager, Radwaste, Environmental, and Chemistry

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Closed

None.

Discussed

None.

LIST OF ACRONYMS USED

COLR	Core Operating Limits Report
CR	Condition Report
DRP	Division of Reactor Projects
ESW	Emergency Service Water
FENOC	FirstEnergy Nuclear Operating Company
IMI	Instrument Maintenance Instruction
IR	Inspection Report
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PSA	Probabilistic Safety Assessment
PTI	Periodic Test Instruction
RCIC	Reactor Core Isolation Cooling
SRI	Senior Resident Inspector
TS	Technical Specification
WO	Work Order