August 18, 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 50-440/00-08(DRP)

Dear Mr. Wood:

On August 7, 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 August 7, 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, one issue of very low safety significance (green) was 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 50-440/200008(DRP)

See Attached Distribution

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-440
License No:	NPF-58
Report No:	50-440/200008
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Perry Nuclear Power Plant, Unit 1
Location:	P.O. Box 97 A200 Perry, OH 44081
Dates:	July 1 - August 7, 2000
Inspectors:	C. Lipa, Senior Resident Inspector R. Vogt-Lowell, Resident Inspector
Approved by:	Thomas J. Kozak, Chief Reactor 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. And 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 05000440-00-08; on 07/01-08/07/2000; FirstEnergy Nuclear Operating Company; Perry Nuclear Power Plant; Maintenance Risk Assessments and Emergent Work Evaluation.

The inspection was conducted by resident inspectors. This inspection identified one green issue concerning the failure to properly implement an on-line risk assessment conducted for a Division 1 outage which resulted in the unavailability of the reactor core isolation cooling system if no operator action was taken. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process.

Cornerstone: Mitigating Systems

> Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement its on-line risk assessment for a Division 1 outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action.
>
> The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage (Section 1R13).

Report Details

Summary of Plant Status: The plant began this inspection period with Unit 1 at 98.5 percent power. The licensee had established an administrative limit of 98.5 percent as a result of power uprate testing in June 2000. On July 9, power was temporarily reduced to 94 percent for turbine valve testing. The plant was operated at approximately 98.5 percent for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope (71111.01)

The inspectors reviewed Perry's "Elevated Lake Temperature Action Plan Summer 2000," Revision 2, dated July 2, 2000, which was established as a contingency plan in the event that lake temperatures approached the values used in the plant's calculations. The inspectors verified the licensee's plans to ensure the emergency service water system would remain functional if challenged by adverse weather.

b. Findings

There were no findings identified.

1R04 Equipment Alignment

a. Inspection Scope (71111.04)

The inspectors reviewed equipment alignment on the following systems to ensure actual configuration was consistent with plant procedures:

- On July 10, during planned surveillance testing on the standby liquid control train B, the inspectors verified proper alignment of standby liquid control train A.

- On July 17, during maintenance on the Division I emergency diesel generator (EDG), the inspectors verified proper alignment of the Divisions II and III EDGs.

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 the EDG rooms, auxiliary building, turbine power complex, containment building and refuel floor.

b. Findings

There were no findings identified.

Annual Inspection of Fire Brigade Drill

a. Inspection Scope (71111.05)

On July 11, the inspectors observed a fire brigade drill and subsequent drill critique for a simulated fire in the vicinity of the Unit 2 start-up transformer. The inspectors evaluated the readiness of licensee personnel to fight fires, including the following aspects:

1. Protective clothing/turnout gear was properly donned.
2. Self-contained breather apparatus equipment was properly worn and used.
3. Fire hose lines were capable of reaching all necessary fire hazard locations, the lines were laid out without flow constrictions, and the hose was simulated being charged with water.
4. The fire area of concern was entered in a controlled manner.
5. Sufficient fire fighting equipment was brought to the scene by the fire brigade to properly perform their firefighting duties.
6. The fire brigade leader's fire fighting directions were thorough, clear, and effective.
7. Radio communications with the plant operators and between fire brigade members were effective.
8. The fire fighting pre-plan strategies were utilized.
9. The drill scenario was followed and the drill objectives acceptance criteria were met.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope (71111.12)

The inspectors reviewed the licensee’s maintenance rule evaluation of a failure of annulus exhaust gas treatment system damper actuator, M15F80B, as documented on CR 99-2411. This review included scoping in accordance with 10 CFR 50.65 and the characterization of the failure. The inspectors verified that the licensee’s evaluation properly assessed and documented the basis for why this was not a maintenance rule functional failure.

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 on-line risk assessment which was conducted for the Division I outage week of July 16 - 22, 2000. This review included verification that the on-line safety assessment was completed in accordance with the licensee's administrative procedure and that protected areas of the plant were properly posted. The inspectors also walked down the systems to determine whether the actual plant configuration matched the risk assessment assumptions.

b. Findings

The inspectors identified that one system was not in the line-up specified in the on-line risk assessment for a planned Division I outage. Although it was planned for the reactor core isolation cooling (RCIC) system to be inoperable during the outage, operators were supposed to place it in standby so that it would be available in case a station blackout event occurred. However, the operators misunderstood the plan and instead placed the RCIC system in a secured status such that it was not available without operator action. After the inspectors discussed the discrepancy with operations management, the licensee restored the system to standby readiness. The licensee also initiated Condition Report (CR) 00-2139 to document the issue.

The inspectors evaluated this event using the Significance Determination Process and discussed this issue with a senior reactor analyst. The RCIC system being in a secured status rather than in standby readiness as planned resulted in slightly higher plant risk than originally planned; however, the plant remained in a medium risk category as defined by the licensee's program and other mitigating systems were available during the outage. The licensee calculated that the actual core damage probability was 1.73E-7, compared to the forecast of 1.60E-7. The inspectors concluded that the safety significance of this issue was very low (green).

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. Inspection Scope (71111.14)

The inspectors observed operator performance during a nonroutine event (tornado warning for the county) in which operators entered their off-normal instruction. This inspection included direct observation during the event and a review of operator logs to assess how the operators responded. The inspectors verified actions were properly taken per ONI-ZZZ-1, "Tornado or High Winds," and that there was appropriate communication between Operations and Security personnel.

b. Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope (71111.15)

The inspectors selected an operability evaluation involving the emergency service water (ESW) system for review. The inspectors reviewed CR 00-2070, which was initiated to address a low flow condition to the residual heat removal (RHR) system B heat exchangers. The engineering review of this condition utilized an existing operability evaluation per CR 00-532, dated February 22, 2000, Calculation P45-66, "Justification for ESW System Operability," dated April 28, 1999, and Calculation P45-62, Revision 1, "ESW flow to Division 1 and 2 Components (PIF 96-3390)." The inspectors verified that the operability evaluation was technically justified and that associated compensatory measures were in place.

b. Findings

There were no findings identified.

IR19 Post-Maintenance Testing

a. Inspection Scope (71111.19)

The inspectors observed post-maintenance testing and reviewed test data associated with the following work activities. The inspectors verified that the testing was adequate, considering the scope of work involved, and demonstrated that the components were capable of performing their intended safety functions.

- The inspectors observed the post maintenance testing for RHR Valve, E12F006A. This included a post modification test for SMRF 97-5032 under Work Order (WO) 97-1177 to address changes made to the valve's control circuitry.

- The inspectors observed post maintenance testing following work on the Division I EDG jacket water system according to WO 99-16722. The inspectors verified that the testing demonstrated that mechanical joints disturbed during various maintenance activities were restored and that there were no system leaks.

- The inspectors observed and evaluated post maintenance test data for the "A" and "E" Average Power Range Monitoring (APRM) channels to ensure that the testing demonstrated that the APRM channels were capable of performing their design function. The testing was performed following replacement of optical isolator cards and a multiplex control card which control the APRM "A" and "E" Local Power Range Monitor (LPRM) data link to the Rod Control and Information System and to the plant computer. The inspectors verified that the work was

performed in accordance with WO 00-7417, “LPRM Data to RC&IS and Plant Computer.” By ascertaining that a sampling of live LPRM data being read by the plant computer and the rod control and information system corresponded to the actual LPRM readings obtained from a local reading of the LPRM card in their corresponding APRM cabinets, the inspectors were able to determine that the post-maintenance test was adequate.

- The inspectors observed post-maintenance testing and evaluated test data for the Division 1 standby diesel generator fuel oil transfer pump 1A to ensure that the testing demonstrated that the fuel oil transfer pump was capable of performing its design function. The inspectors verified that the testing was performed following replacement of the pump’s motor bearings in accordance with WO 00-4531, “Division 1 Fuel Oil Transfer Pumps.”

- The inspectors observed post maintenance testing for Emergency Closed Cooling system valves 0P42F0260A, 0P42F0265A, 0P42F0380A and 0P42F0390A and evaluated the test data to ensure that valve motion and stroke times were demonstrated to be within their required values. The inspectors verified that the testing was performed following preventive maintenance on each valve’s motor control center disconnect switch in accordance with the following work orders: WO 00-2229, “Motor control center (MCC) EF1A09 Feed to 0P42F0260A,” WO 00-2230, “MCC EF1A09 Feed to 0P42F0265A,” WO 98-10441, “MCC EF1C09 Feed to 0P42F0380A” and WO 98-10442, “MCC EF1C09 Feed to 0P42F0390A.”

b. Findings

There were no findings identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22)

The inspectors reviewed the following surveillance test activities to verify that requirements were met and were consistent with applicable sections of TS and USAR.

- SVI-C41-T2001B, “Standby Liquid Control “B” Pump and Valve Operability Test.”

- Periodic Test/Calibration Check of Division 1 Emergency Diesel Generator Day Tank Level Switches, WO 00-2558.

- SVI-R43-T1317, “Diesel Generator Start and Load, Division 1".

b. Findings

There were no findings identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Data Collecting and Reporting Process Review, TI 2515/144

a. Inspection Scope

The inspectors reviewed licensee documents and conducted interviews with licensee personnel to review the Performance Indicator data collecting and reporting methods at the Perry site. Specific documents reviewed were, "Desktop Guideline, NRC Performance Indicators," Revision O, dated March 10, 2000, and "PI Definitions, PNPP D3.2," dated February 17, 2000. The inspectors performed a partial review for the Mitigating System (Safety System Unavailability) Indicators.

b. Findings

There were no findings identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Wood, Vice President-Nuclear and other members of licensee management on August 7, 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.

KEY POINTS OF CONTACT

Licensee

J. Wood, Vice President-Nuclear
B. Boles, Manager, Plant Operations
N. Bonner, Director, Nuclear Maintenance Department
S. Davis, Superintendent, Plant Operations
G. Dunn, Manager, Regulatory Affairs
D. Gudger, Supervisor, Compliance
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T. Rausch, Director, Nuclear Engineering Department
S. Sanford, Senior Compliance Engineer
R. Schrauder, General Manager, Nuclear Power Plant Department

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Closed

None.

Discussed

None.