

March 14, 2001

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 50-440/01-005(DRS)

Dear Mr. Wood:

On March 2, 2001, the NRC completed a routine inspection at your Perry Nuclear Power Plant. The results were discussed on March 2, 2001, with you and other members of your staff. The enclosed report presents the results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to the effectiveness of your program for monitoring degradation of vital system boundaries. Specifically, the inspector evaluated the implementation of your inservice inspection program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries. Within these areas, the inspection consisted of selected examination of procedures and representative records, and interviews with personnel.

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

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures 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/**

John M. Jacobson, Chief  
Mechanical Engineering Branch  
Division of Reactor Safety

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

Enclosure: Inspection Report 50-440/01-05(DRS)

See Attached Distribution

J. Wood

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cc w/encl: B. Saunders, President - FENOC  
N. Bonner, Director, Nuclear  
Maintenance Department  
G. Dunn, Manager, Regulatory Affairs  
K. Ostrowski, Director, Nuclear  
Services Department  
T. Rausch, Director, Nuclear  
Engineering Department  
R. Schrauder, General Manager,  
Nuclear Power Plant Department  
A. Schriber, Chairman, Ohio Public  
Utilities Commission  
Ohio State Liaison Officer  
R. Owen, Ohio Department of Health

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R. Schrauder, General Manager,  
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Utilities Commission  
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R. Owen, Ohio Department of Health

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-440/01-05(DRS)

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: P.O. Box 97 A200  
Perry, OH 44081

Dates: February 26-March 2, 2001

Inspector: D. E. Jones, Reactor Inspector

Approved by: John M. Jacobson, Chief  
Mechanical Engineering Branch  
Division of Reactor Safety

# 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

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

## Radiation Safety

- Occupational
- Public

## Safeguards

- Physical Protection

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 05000440-01-05(DRS), on 02/26 - 03/02/2001, First Energy Nuclear Operating Company, Perry Nuclear Power Plant. Inservice Inspection (ISI) report.

This report covers the initial baseline inspection of the effectiveness of the licensee's inservice inspection program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries. This inspection was conducted by a Region III reactor engineer. No findings of significance were identified.

## Report Details

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R08 Inservice Inspection (Inspection Procedure 71111.08)

##### a. Inspection Scope

The inspector reviewed the implementation of the licensee's inservice inspection program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries. Specifically, the inspector observed in-process magnetic particle inspections of the reactor vessel bottom head to skirt weld, and ultrasonic inspections of the reactor vessel bottom head to skirt weld, RHR Loop A Piping Weld 12" pipe to 12' x12" x 12" tee, and RPV Head Spray Nozzle N8 Inner Radius and N8 to Head Weld. The inspector also reviewed one modification package (RHR valve 1E12F0018A and downstream elbow replacement).

##### b. Findings

No findings of significance were identified.

### **4. OTHER ACTIVITIES**

#### 4OA2 Identification and Resolution of Problems

##### a. Inspection Scope

The inspector reviewed seven condition reports related to inservice inspection issues to verify the identification of problems at an appropriate threshold. The inspector also verified that the corrective actions were appropriate.

##### b. Findings

No findings of significance were identified.

#### 4OA6 Management Meetings

##### Exit Meeting Summary

The inspector presented the inspection results to Mr. J. Wood, Vice President-Nuclear, and other members of licensee management at the exit meeting held on March 2, 2001. The licensee acknowledged the results of the inspection. No proprietary information was identified.



## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

J. Wood, Vice President-Nuclear  
R. Schrauder, Plant Manager  
N. Bonner, Director, Nuclear Maintenance Department  
C. Wirtz, ISI Engineer  
T. Lentz, Manager, Design Engineering  
J. Sears, Manager, Radiation Protection  
T. Henderson, Regulatory Affairs  
J. Emley, Engineer  
J. Kloosterman, NQAP Engineer  
B. Babiak, Lead Auditor

### U.S. Nuclear Regulatory Commission (NRC)

C. Lipa, Senior Resident Inspector  
R. Vogt-Lowell, Resident Inspector

## LIST OF NONDESTRUCTIVE EXAMINATION ACTIVITIES OBSERVED

Ultrasonic Examination (Procedure NQI-0944) of Weld 1B13-CG, Reactor Vessel Bottom Head to Skirt Weld

Magnetic Particle Inspection (Procedure NQI-0942) of Weld 1B13-CG, Reactor Vessel Bottom Head to Skirt Weld

Ultrasonic Examination (Procedure NQI-0944) of RHR Loop A Piping Weld 12" Pipe to 12' x12" x 12" Tee

Ultrasonic Examination (Procedure GE-UT-311) of RPV Head Spray Nozzle N8 Inner Radius

Ultrasonic Examination (Procedure UT-PER-300V3) of RPV Head Spray Nozzle N8 to Head Weld

## PARTIAL LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort.

### Reports

Perry Nuclear Power Plant ISI Summary Report No. NP0059-007, Results for Outage 7 (1999), First Period, Second Interval, July 15, 1999

### Procedures

Procedure No. NQI-0944, "Ultrasonic Examination," Revision 5, 10/26/92

Procedure No. NQI-0942, "Magnetic Particle Examination," Revision 5, 1/11/93

Procedure No. NDE-008, "Manual Ultrasonic Examination of Ferritic Piping Welds," Revision 7, 1/26/2001

Procedure No. GE-UT-311, "Procedure for Manual UT Examination of Nozzle Inner Radii & Bore," Revision 5, 10/16/98

Procedure No. UT-PER-300V3, "Procedure for Manual Examination of Reactor Vessel Assembly Welds," Revision 0, 1/25/99

### Modification Package

Work Order No. 98-0949, RHR Valve 1E12F0018A and Downstream Elbow Replacement

### Condition Report Nos.

CR 01-0687, 00-1933, 00-0412, 99-3182, 99-2314, 99-2313, 99-2312

### Condition Report Written as a Result of the Inspection

CR 01-0978