January 4, 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 50-440/00-17(DRS)

Dear Mr. Wood:

On December 7, 2000, the NRC completed an inspection at your Perry Nuclear Power Plant. The enclosed report documents the inspection findings which were discussed on December 7, 2000, with Mr. Schrauder and other members of your staff.

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 inspector reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on occupational radiation safety.

No findings of significance 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/

Gary L. Shear, Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-440/00-17(DRS)

See Attached Distribution

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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cc w/encl: B. Saunders, President - FENOC
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Maintenance Department
G. Dunn, Manager, Regulatory Affairs
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-440
License No:	NPF-58
Report No:	50-440/00-17(DRS)
Licensee:	FirstEnergy Nuclear Operating Company
Facility:	Perry Nuclear Power Plant
Location:	P. O. Box 97, A200 Perry, OH 44081
Dates:	December 4-7, 2000
Inspector:	John E. House, Senior Radiation Specialist
Approved by:	Gary L. Shear, Chief, Plant Support 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	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 05000440-00-17(DRS), on 12/04-12/07/2000, FirstEnergy Nuclear Operating Company, Perry Nuclear Power Plant, Unit 1. Radiation safety specialist report.

The inspection was conducted by a senior radiation specialist. The significance of most/all findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "no color" or by the severity level of the applicable violation.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Findings

A violation of very low significance (Green) which was identified by the licensee has been reviewed by the inspector. Corrective actions taken or planned by the licensee appeared reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control

.1 Plant Walkdowns and Radiological Boundary Verifications

a. Inspection Scope

The inspector performed walkdowns of the radiologically restricted area to verify the adequacy of radiological boundaries and postings. Specifically, the inspector performed confirmatory radiation measurements in the Containment and Auxiliary Buildings to verify that high radiation areas and radiation areas were properly posted and controlled in accordance with 10 CFR Part 20 and the licensee's procedures.

b. Findings

No findings of significance were identified.

.2 Reviews of Radiation Work Permits

a. Inspection Scope

The inspector reviewed radiation work permit 00-1042, "Obtain Sample of Jet Pump Cleaning Debris," including protective clothing requirements and electronic dosimeter alarm set points for both dose rate and accumulated dose. The inspector attended the pre-job as-low-as-is-reasonably-achievable (ALARA) and work control briefings, and observed portions of the job evolution in order to verify that adequate work controls were in place to maintain worker exposures ALARA.

b. Findings

No findings of significance were identified.

.3 Control of Non-Fuel Materials Stored in the Spent Fuel Pool

a. Inspection Scope

The inspector reviewed the licensee's programmatic controls and current practices for the control of highly activated or contaminated materials (non-fuel) stored within the spent fuel or other storage pools. The following documents were reviewed:

* OM10D: FTI-D02, Revision 2, February 13, 1989: Special Nuclear Material Physical Inventory

* FTI-A0017, Revision 0, February 21, 1995: Non-Special Nuclear Material Pool Inventory Mechanism

* Spent Fuel Pool Inventory Log

* Spent Fuel Pool Inventory Tracking Worksheets

The controlling procedure, Inventory Log and Tracking Worksheets were evaluated. Radiation protection and reactor engineering staff members were interviewed and a walkdown of the spent fuel pool area was conducted in order to verify that controls for underwater storage of non-fuel materials were adequate.

b. Findings

No findings of significance were identified.

.4 Problem Identification and Resolution

a. Inspection Scope

The inspector reviewed the licensee's self-assessments, operational surveillance reports, the condition report (CR) database, and selected CRs related to radiation worker performance, work practices and high radiation area access controls covering the previous twelve months. The inspector evaluated the effectiveness of the radiation protection self-assessment process to identify problems and trends, and to implement corrective actions.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation

.1 Calibration of Radiological Instrumentation

a. Inspection Scope

The inspector verified the accuracy and operability of radiation monitoring instruments used for the protection of occupational workers. Instrumentation included area radiation monitors (ARMs), continuous air monitors (CAMs), portable survey meters, and electronic dosimeters. The Updated Final Safety Analysis Report (UFSAR) was reviewed to identify those ARMs that were associated with transient high and very high radiation areas. These monitors included, but were not limited to, the following:

Containment Radiation Monitors
Drywell Radiation Monitors
Radwaste Building Monitors
Transverse Incore Probe (TIP) Area Monitors
Control Rod Drive Hydraulic Control Unit Monitors
Fuel Pool Area Monitors

Continuous air monitors were identified in the following locations:

Containment/Dry-well
Fuel Handling Area
Radwaste Building
Control Room

The inspector verified that ARM locations were as described in the UFSAR and reviewed the most recent calibrations for selected ARMs and CAMs. Current calibration records were reviewed for selected portable radiation survey instruments and electronic dosimeters. The inspector also observed the calibration process for portable survey instruments.

b. Findings

No findings of significance were identified.

2 Problem Identification and Resolution

a. Inspection Scope

The inspector reviewed the licensee's self-assessments, audits, and condition reports for the previous 12 months covering radiological incidents involving personnel contamination events and radiological instrumentation. There were no radiation protection department licensee event reports or internal exposures in excess 100 milli-rem committed effective dose equivalent.

b. Findings

No findings of significance were identified.

.3 Respiratory Protection

a. Inspection Scope

The inspector reviewed the status and surveillance records for self-contained breathing apparatus (SCBA) located in various areas onsite, with particular attention to those SCBA reserved for control room personnel. In addition, the inspector verified that applicable emergency response and control room personnel were properly trained, mask fit, and medically qualified in the use of SCBA.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

.1 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspector verified the licensee's performance indicator (PI) for the occupational radiation safety cornerstone. The data review focused on selected CRs and radiological access control data for the previous 12 months. During plant walkdowns, the inspector also verified that those areas that met the definition of locked high radiation areas were adequately secured. One Technical Specification High Radiation Occurrence is discussed in Section 4OA7.

b. Findings

No findings of significance were identified.

.2 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspector observed a chemistry technician obtain, prepare for analysis, and analyze a reactor coolant sample. Dose equivalent iodine concentrations in reactor coolant for the previous 12 months along with the PI data were compared in order to verify that the reactor coolant system activity PI was reported as required.

b. Findings

No findings of significance were identified.

.3 Radiological Effluents

a. Inspection Scope

The inspector reviewed licensee effluent release data for the previous four quarters. The accuracy and completeness of the data was assessed against the criteria specified in Nuclear Energy Institute 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline." In addition, the inspector interviewed members of the licensee's staff who were responsible for data acquisition, and PI verification and reporting.

b. Findings

No findings of significance were identified.

4OA7 Licensee Identified Violations. The following finding of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the

criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a Non-Cited Violation (NCV).

NCV Tracking Number	Requirement Licensee Failed to Meet
(1) NCV 50-440/00-17-01	Technical Specification 5.7.2, requires, in part, that areas accessible to personnel with radiation levels such that a major portion of the body could receive in one hour a dose $\geq$ 1000 milli-rem shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the shift supervisor on duty or the radiation protection supervisor. On November 29, 1999, two individuals entered the Waste Collector Tank "A" Pump Room. Although the room was posted as a High Radiation Area, a hot spot (95-04) in the room exhibited dose rates of 1000 milli-rem per hour at 30 centimeters. The room was not controlled as a locked high radiation area as required by Technical Specification 5.7.2. Entry into this room by the two individuals also constituted a Technical Specification High Radiation Area Occurrence and was documented in condition reports 99-2957 and 00-0052.

4OA6 Management Meetings

Exit Meeting Summary

The inspector presented the inspection results to Mr. Schrauder and other members of licensee management at the conclusion of the inspection on December 7, 2000. The licensee acknowledged the information and findings presented. No proprietary information was identified by the licensee.

PARTIAL LIST OF PERSONS CONTACTED

H. Bergendahl, Director, Perry Nuclear Services Department
J. Blair, Radiation Protection Supervisor
N. Bonner, Director, Maintenance Department
R. Hayes, Radwaste, Environmental, and Chemistry Manager
H. Hegrat, Quality Assurance Manager
T. Henderson, Regulatory Affairs
S. Lee, Radiation Protection Supervisor
B. Luthanen, Regulatory Assurance
T. Lentz, Manager, Design Engineering
J. Lynch, Radiation Protection Specialist
C. Nash, Chemistry Specialist
T. Rausch, Engineering Director
R. Schrauder, General Manager
J. Sears, Radiation Protection Manager
P. Sholtis, Lead Auditor
E. Thomas, Radiation Protection Supervisor
J. Toward, Lead Auditor
J. Vanderboegh, Dosimetry Supervisor
L. Vanderhorst, Radiation Protection Supervisor

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-440/00-17-01	NCV	Two individuals entered a Technical Specification High Radiation Area that was not locked, in violation of Technical Specification 5.7.2 (Section 4OA7).

Closed

50-440/00-17-01	NCV	Two individuals entered a Technical Specification High Radiation Area that was not locked, in violation of Technical Specification 5.7.2 (Section 4OA7)

Discussed

None

LIST OF ACRONYMS USED
Radiation Protection and Chemistry

ALARA	As-Low-As-Is-Reasonably-Achievable
ARM	Area Radiation Monitor
CAM	Continuous Air Monitor
CFR	Code of Federal Regulations
CR	Condition Report
NRC	Nuclear Regulatory Commission
OA	Other Activities
PI	Performance Indicator
RWP	Radiation Work Permit
UFSAR	Updated Final Safety Analysis Report

PARTIAL LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection. Inclusion on this list does not imply that NRC inspectors 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.

Procedures

OM10D: FTI-D02, Revision 2, February 13, 1989: Special Nuclear Material Physical Inventory
FTI-A0017, Revision 0, February 21, 1995: Non-Special Nuclear Material Pool Inventory Mechanism
Spent Fuel Pool Inventory Log
Spent Fuel Pool Inventory Tracking Worksheets
HPI-A0003, Revision 1, April 21, 1995, Radiation Monitor Alarm Set-point Determination
RPI-0506, Revision 2, August 28, 1997, Response to Area Radiation Monitor Alarms, Airborne Radiation Monitor Alarms, and Radioactive Spills
PAP-0510, Revision 7, August 31, 2000, Respiratory Protection

Radiation Work Permits

00-1042, Obtain Sample of Jet Pump Cleaning Debris
00-0300 High Radiation and/or Contaminated Areas

Assessments and Audits

Radiation Protection Section Self-Assessment Report 251-RPS-2000, Radiation Work Permit and Locked High Radiation Area Controls, August 7, 2000
Radiation Protection Section Self-Assessment Report 252-RPS-2000, Dosimetry Program and Respiratory Protection Program, August 22, 2000
Radiation Protection Section Self-Assessment Report RPS-253, ALARA Planning (RFO8), November 30, 2000
PNSD Operational Surveillance Report 00-016, Refuel Outage 07 Follow-up
PNSD Operational Surveillance Report 00-025, Radiation Protection Monitoring Equipment, June 29, 2000
PNSD Operational Surveillance Report 00-018, Radiation Worker Practices, May 18, 2000
Audit Report: PA 00-07, Special Nuclear Material, April 19, 2000
Radiation Protection Section, First Quarter 2000, Binning and Trend Analysis Report
Radiation Protection Section, Self-Assessment 203RPS2000, Condition Report Binning

Condition Reports

00-3641, 00-2616, 00-1458, 00-1770, 00-1712, 00-1859, 00-1904, 00-2392, 00-3713, 00-0052, 99-2957, 00-1211, 00-1131

Miscellaneous

Calibration records of selected radiation monitors, portable survey instruments, and electronic dosimeters