

January 18, 2001

Mr. R. P. Powers  
Senior Vice President  
Nuclear Generation Group  
American Electric Power Company  
500 Circle Drive  
Buchanan, MI 49107-1395

SUBJECT: D. C. COOK - NRC INSPECTION REPORT 50-315/00-27(DRS);  
50-316/00-27(DRS)

Dear Mr. Powers:

On January 10, 2001, the NRC completed a routine inspection at your D. C. Cook, Units 1 and 2 reactor facilities. The preliminary results were discussed onsite with Mr. Pollock and other members of your staff during a debrief on December 21, 2000. The onsite inspection was completed on December 22, 2000, and your staff provided additional information and documentation subsequent to the site inspection, which was reviewed in the Region III Office. On January 10, 2001, a telephone conversation was conducted with the General Supervisor of Radiation Protection Production to discuss the results of our review completed after the inspection debrief. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your licenses as they relate to radiation safety and to compliance with the Commission's rules and regulations and with the conditions of your licenses. Within these areas, the inspection consisted of a selective examination of procedures and representative records, facility walkdowns, and interviews with personnel. Specifically, the inspection reviewed aspects of your occupational radiation safety program and focused on radiation monitoring instrumentation. Additionally, your performance indicator data collection and reporting process was reviewed for the occupational radiation safety cornerstone, and performance indicator data reported for both the public and occupational radiation safety areas was verified for accuracy.

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).

R. Powers

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We will gladly discuss any questions you have concerning this inspection.

Sincerely,

***/RA/***

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

Docket Nos. 50-315; 50-316  
License Nos. DPR-58; DPR-74

Enclosure: Inspection Report 50-315/00-27(DRS);  
50-316/00-27(DRS)

cc w/encl: A. C. Bakken III, Site Vice President  
J. Pollock, Plant Manager  
M. Rencheck, Vice President, Nuclear Engineering  
R. Whale, Michigan Public Service Commission  
Michigan Department of Environmental Quality  
Emergency Management Division  
MI Department of State Police  
D. Lochbaum, Union of Concerned Scientists

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-315; 50-316  
License Nos: DPR-58; DPR-74

Report No: 50-315/00-27(DRS); 50-316/00-27(DRS)

Licensee: American Electric Power Company

Facility: Donald C. Cook Nuclear Generating Plant

Location: 1 Cook Place  
Bridgman, MI 49106

Dates: December 18-22, 2000, with continued in-office review  
through January 10, 2001

Inspector: W. Slawinski, Senior Radiation Specialist

Observer: R. Alexander, 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:

<b>Reactor Safety</b>	<b>Radiation Safety</b>	<b>Safeguards</b>
<ul style="list-style-type: none"><li>● Initiating Events</li><li>● Mitigating Systems</li><li>● Barrier Integrity</li><li>● Emergency Preparedness</li></ul>	<ul style="list-style-type: none"><li>● Occupational</li><li>● Public</li></ul>	<ul style="list-style-type: none"><li>● Physical Protection</li></ul>

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 05000315-00-27(DRS), 05000316-00-27(DRS), on 12/18/00-01/10/01, American Electric Power Company, D. C. Cook Nuclear Generating Plant, Units 1 and 2. Radiation Safety Specialist Report.

The inspection was conducted by a regional senior radiation specialist.

Cornerstone: Occupational Radiation Safety

No findings of significance were identified.

## Report Details

Summary of Plant Status: During this inspection, Unit 2 operated at full power and Unit 1 progressed from mode 3 (hot standby) to mode 1 (power operation).

### **2. RADIATION SAFETY**

Cornerstone: Occupational Radiation Safety

#### 2OS3 Radiation Monitoring Instrumentation

##### .1 Tests and Calibrations of Radiation Monitoring Instrumentation

###### a. Inspection Scope

The inspector verified that radiological instrumentation associated with monitoring transient high and/or very high radiation areas, and instruments used for remote emergency assessment had been calibrated consistent with industry standards and in accordance with station procedures. The inspector confirmed that selected area radiation monitors (ARMs) were located as described in the Updated Final Safety Analysis Report (UFSAR). Also, the inspector verified that discrepancies with some ARM diagrams and inconsistencies between the UFSAR and Technical Specifications related to response ranges for certain instruments did not impact instrument design basis, and were attributed to documentation problems which the licensee recognized and was resolving. The inspector reviewed the licensee's alarm setpoints for selected ARMs and verified that the setpoints were established consistent with the UFSAR and Technical Specifications. Specifically, the inspector selectively reviewed performance history data, calibration procedures, and calendar year 1999-2000 calibration records for the following radiation monitoring instrumentation:

- Unit 1 & Unit 2 Containment High Range Area Radiation Monitors
- Spent Fuel Pool ARM
- Unit 1 & Unit 2 Incore Instrument Room ARMs
- Auxiliary Building Passageway (587' elevation) ARM
- Unit 2 "West" Residual Heat Removal Pump Room ARM

Additionally, the inspector discussed surveillance practices and reviewed performance data and calendar year 1999-2000 calibration records and procedures for selected radiation monitors used for assessment of internal exposure, and those instruments utilized for surveys of personnel prior to egress from the radiologically protected area (RPA). The inspector verified that these instruments were source tested and calibrated adequately, consistent with station procedures and the industry. These instruments included:

- Canberra Fastscan Whole Body Counter System (two units)
- NMC Gamma-40 Portal Monitor (# POR-1400)
- Aptec Personnel Contamination Monitor (# PMW-6)

The inspector observed portable survey instruments maintained in the licensee's instrument calibration facility and at the instrument RPA access issue area, and verified that those instruments designated "ready for use" had current calibrations, were operable, and in good physical condition. The inspector discussed the source check procedure and observed radiation protection staff source check portable radiation survey instruments, and verified that those tests were completed adequately using appropriate radiation sources.

b. Findings

No findings of significance were identified.

.2 Respiratory Protection Program

a. Inspection Scope

The inspector reviewed aspects of the licensee's respiratory protection program for compliance with the requirements of Subpart H of 10 CFR Part 20, and to ensure that self-contained breathing apparatus (SCBA) were properly maintained and stored. The inspector also verified that selected emergency response personnel required to use SCBAs were trained and qualified. Specifically, the inspector reviewed SCBA inspection records for calendar year 2000, for those units maintained for emergency use in various areas of the plant, and reviewed respiratory protection equipment use and maintenance procedures to verify consistency with industry standards. The inspector walked-down the SCBA air bottle filling station in the auxiliary building and SCBA storage locations in the control room, the operations support center and in various turbine building areas, and inspected numerous SCBA units to assess material condition and to verify that air bottle hydrostatic tests were current. The inspector also verified the licensee's capability for refilling and transporting SCBA bottles to the control room and support locations in the plant. Additionally, the inspector reviewed respiratory protection training lesson plans and worker qualification records, and confirmed that control room operators and other selected emergency response personnel were trained and qualified for SCBA use.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed: (1) the results of a focus area self-assessment of radiation protection instrumentation completed by the radiation protection (RP) staff in November 2000; (2) performance assurance field observation reports completed in 2000 related to the radiation monitoring system and a surveillance that assessed the development of the performance indicator program; and (3) the licensee's condition report (CR) database and numerous individual CRs related to radiation monitoring instrumentation and the respiratory protection program generated in 2000. The



inspector evaluated the effectiveness of these processes to identify, characterize and prioritize problems, and to develop corrective actions.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspector verified that the licensee had accurately assessed and reported the PIs for the public and occupational radiation safety cornerstones, consistent with the criteria specified in Nuclear Energy Institute (NEI) 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline." Specifically, the inspector selectively reviewed gaseous effluent release data and associated offsite dose information for 1999 through September 2000, and discussed gaseous effluent release calculation methods with a member of the environmental support staff. Also, the inspector reviewed the CR database and evaluated individual incidents documented in CRs related to occupational radiation safety PIs, to determine if unrecognized or unreported occurrences existed. The inspector reviewed a licensee self-assessment of the PI program that was conducted to determine if problems with the collection, assessments or reporting of radiation safety cornerstone PI data occurred. Additionally, the inspector interviewed members of the licensee's staff responsible for PI data acquisition, analysis and reporting, to verify their knowledge of the program and the methods employed to gather and assess relevant data.

b. Findings

No findings of significance were identified.

4OA5 Temporary Instruction 2515/144 - PI Data Collecting and Reporting Process Review

a. Inspection Scope

The inspector reviewed the licensee's performance indicator data collecting, data analysis and reporting process for the occupational radiation safety cornerstone, to determine whether the licensee was appropriately implementing NRC and the NEI guidance specified in section 4OA1. The inspector verified that a station procedure governing the licensee's performance indicator program was adequately developed and implemented for the radiation safety cornerstones, and that indicator definitions and reporting elements were consistent with industry guidance.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspector presented the preliminary inspection results to Mr. Pollack and other members of licensee management and staff during a debrief on December 21, 2000. On January 10, 2001, a telephone conversation was conducted with Mr. Watkins of the radiation protection organization, to discuss the results of continued inspection activities on December 22, 2000, and the results of NRC's review of additional information provided by the licensee subsequent to the site inspection. The licensee acknowledged the information presented. No proprietary information was identified by the licensee.

## PARTIAL LIST OF PERSONS CONTACTED

R. Gaston, Regulatory Affairs Manager  
J. Grimm, System Engineer  
N. Jackiw, Principle Nuclear Specialist, Regulatory Affairs  
R. LaBurn, Radiation Protection Superintendent/Radiation Protection Manager  
T. Lechenet, Radiation Protection Supervisor  
D. Mihalik, Acting Radiation Protection Supervisor, Instrumentation  
T. Noonan, Performance Assurance Director  
J. Pollack, Plant Manager  
A. Rivers, Plant Support Oversight Supervisor, Performance Assurance  
J. Sankey, Engineering Supervisor  
R. Simonsen, Health Physicist  
S. Watkins, General Supervisor, Radiation Protection Production  
D. Wood, RadChem-Environmental Manager  
T. Wood, Principle Nuclear Specialist, Regulatory Affairs

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

None

### Closed

None

### Discussed

None

## LIST OF ACRONYMS USED

ARM	Area Radiation Monitor
CFR	Code of Federal Regulations
CR	Condition Report
NEI	Nuclear Energy Institute
PI	Performance Indicator
RP	Radiation Protection
RPA	Radiologically Protected Area
SCBA	Self-Contained Breathing Apparatus
UFSAR	Updated Final Safety Analysis Report

## PARTIAL LIST OF DOCUMENTS REVIEWED

The following is a partial 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 portions of the documents were evaluated as part of the overall inspection effort.

### Station Procedures

PMP 7110.PIP.001, (Rev 0), "Regulatory Oversight Program Performance Indicators"  
12-THP-6010.RPI.805, (Rev 8a), "Radiation Monitoring System Setpoints"  
12-THP-6010.RPC.534, (Rev 1a), "Calibration of Canberra Whole Body Counting System"  
12-THP-6010.RPC.801, (Rev 5), "Westinghouse Radiation Monitoring System Area Monitor Calibration"  
1-IHP-6030.IMP.312, (Rev 3), "Calibration of High Range Containment Radiation Monitor"  
12-THP-6010.RPC.590, (Rev 1), "Calibration of the Aptec PMW-3 Personnel Monitor"  
12-THP-6010.RPC.572, (Rev 2), "Calibration of the Gamma-40 Portal Monitor"  
12-THP-6010.RPC.818, (Rev 0), "Eberline Radiation Monitoring System DA 1-8 Area Monitor Calibration"  
12-THP-6010.RPC.810, (Rev 1c), "Eberline Radiation Monitoring System Channel Restoration"

### Radiation Protection Self-Assessments

RP Instrumentation Self-Assessment SA-2000-RPS-004

### Performance Assurance Surveillance and Field Observation Reports

Surveillance-00-011, New Reactor Oversight Process, September 28, 2000  
Field Observation Reports No. 00-B-131, 00-B-138, 00-B-142, 00-B-158, 00-B-159, 00-B-161, 00-B-171, 00-B-206, 00-B-225, 00-B-235, 00-B-266, 00-D-087, 00-F-046, 00-J-079, 00-K-092, and 00-K-121

### Calibration Records

RP-534-1, Fastscan Whole Body Counting System (Unit # 1 on January 28, 2000, and November 21, 2000) and (Unit #2 on November 20, 2000)  
RP-801-a, Spent Fuel Pool Monitor, September 19, 1999  
IMP-312, High Range Containment Radiation Monitor (Monitor VRA-1410 on November 14, 2000, and December 8, 2000, Monitor VRA 1310 on November 14, 2000, Monitor VRA-2310 on October 26, 2000, and Monitor VRA-2410 on May 16, 2000)  
RP-590-a, Aptec PMW-3 (Unit # 6 on April 19, 2000, and July 4, 2000)  
RP-572-a, Portal Monitor (Monitor # POR-1400 on May 25, 1999 and May 15, 2000)  
RP-810-and 818-b, Incore Instrument Room Monitor (Unit-2 in May 1999 and Unit-1 in November 1999) and (Unit-2 West RHR Pump Room Area Monitor (ERA-8300 in August 1999)

### Condition Reports and Related

CR database for calendar year 2000 related to high radiation areas, PIs, radiation exposure and instrumentation

Individual CRs Reviewed Included No. 00-06146, 00325007, 00-11523, 00-06302, 99-25781, and No. 99-29165

Other Documents

Updated Final Safety Analysis Report, Revision 16.5, Chapter 11.3

Qualification Verification Review for Radiation Protection Manager, December 27, 2000