

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/84-06(DPRP); 50-316/84-06(DPRP))

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Electric Company  
1 Riverside Plaza  
Columbus, OH 43216

Facility Name: Donald C. Cook Nuclear Power Plant, Units 1 and 2

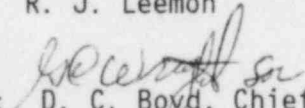
Inspection At: Donald C. Cook Site, Bridgman, MI

Inspection Conducted: March 13, 1984 through April 30, 1984

Inspectors: E. R. Swanson

J. K. Heller

R. J. Leemon

Approved By:   
D. C. Boyd, Chief  
Reactor Projects Section 2A

5/11/84  
Date

Inspection Summary

Inspection on March 13, 1984 through April 30, 1984 (Reports No. 50-315/84-06 (DPRP); 50-316/84-06(DPRP))

Areas Inspected: Routine unannounced inspection by the resident inspector of operational safety; maintenance surveillance; Licensee Event Reports; TMI Task Action Items; Plant Nuclear Review Committee; refueling activities - Unit 2; and management meeting - Regulatory Performance Improvement Program (RPIP). The inspection involved a total of 338 inspector-hours by seven NRC inspectors including 78 inspector-hours during off-shifts.

Results: Of the eight areas inspected no items of noncompliance were identified in six areas; one item of noncompliance was identified in each of the remaining areas (Non-functional fire barrier - Paragraph 2, Improper procedure changes - Paragraph 6).

## DETAILS

### 1. Persons Contacted

- a. Personnel attending March 28, 1984 Regulatory Performance Improvement Meeting.

#### American Electric Power Service Corporation (AEP)

R. F. Hering, Vice President Mechanical Engineering (AEPSC)  
W. G. Smith, Jr., Plant Manager  
B. A. Svensson, Assistant Plant Manager  
E. Townley, Assistant Plant Manager  
R. F. Kroeger, Quality Assurance Manager (AEPSC)  
T. P. Beilman, Quality Assurance Supervisor (AEPSC)  
J. F. Stietzel, Quality Control Supervisor  
B. H. Bennett, Assistant Manager Nuclear Engineering (AEPSC)  
P. A. Barrett, Safety and Licensing (AEPSC)  
E. A. Smarrella, Staff Assistant  
R. S. DiStefano, Nuclear Operation Support (AEPSC)  
F. S. Vanpelt, Nuclear Operation Support (AEPSC)  
C. M. Rice, LRS Consultants

#### NRC Region III Attendees

C. E. Norelius, Director, Division of Project and Resident Programs  
W. D. Shafer, Chief, Projects Branch No. 2  
D. C. Boyd, Chief, Projects Section 2A (Until April 30, 1984)  
G. C. Wright, Chief, Projects Section 2A (Effective April 30, 1984)  
J. F. Suermann, Project Inspector/Manager, Section 2A  
J. K. Heller, Resident Inspector  
R. J. Leemon, Resident Inspector

- b. Personnel contacted during inspection activities.

\*W. G. Smith, Jr., Plant Manager  
\*E. Townley, Assistant Plant Manager  
\*B. Svensson, Assistant Plant Manager  
\*T. Kriesel, Technical Superintendent - Physical Science  
A. Blind, Technical Superintendent - Engineering  
\*K. Baker, Operations Superintendent  
\*D. Dudding, Maintenance Superintendent  
J. Wojcik, Chemical Supervisor  
\*J. Stietzel, Quality Control Supervisor

The inspectors also contacted a number of licensee and contract employees and informally interviewed operations, technical and maintenance personnel during this period.

\*Denotes personnel attending exit interview on May 1, 1984.

## 2. Operational Safety Verification

The inspector observed control room operations including shift turnover, reviewed applicable logs and conducted discussions with control room operators during the period of March 13 through April 30, 1984. The inspector verified the operability of selected emergency systems, reviewed tagout records, verified proper return to service of affected components and verified a portion of the containment isolation lineup. Tours of Unit 1 and 2 auxiliary building, turbine building, and screen-house and Unit 2 upper and lower containment were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance.

The inspector by observation and interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector performed a walkdown/review of the systems listed below to verify that: each accessible flow path valve was in its correct position; power (visual breakers and fuses) was aligned to actuate on automatic signal; essential instrumentation was operable and; no condition existed that degraded the system.

- a. Unit 1 Auxiliary Feedwater System using licensee procedure 1 OHP 4021.056.001, data /signoff sheet 5.1 and print 12-5106A-8.
- b. Unit 2 Boron Injection Tank System using print 2-5141-6.
- c. Unit 2 Residual Heat Removal System using print 2-5143-2.
- d. Unit 2 Non-Essential Service Water System using prints 2-5114-8 and 2-5114A-6.
- e. Unit 1 Non-Essential Service Water System using prints 1-5114-19 and 1-5114A-9.

The inspector accompanied a team that was performing a walkdown of the Boron Injection Tank and Residual Heat Removal system to confirm that flow diagrams accurately reflected the "as-built" configuration of the system; that components were uniquely identified; and that the components were labeled appropriately. The team identified some minor drawing deficiencies and missing component identification tags. The drawing deficiencies were corrected within the week and the missing tags were replaced with temporary tags. These tags will be replaced at a later date. The licensee committed to perform system walkdowns as part of the Regulatory Performance Improvement Program. The team consisted of an auxiliary equipment operator who is the team leader for all system walkdowns and two engineers from the corporate office. The number of team members varies from system to system.

While making a tour of the Unit 2 Boron Injection Tank (BIT) room the inspector found fire barrier W-7975, which penetrates the north wall, nonfunctional. At one time the barrier had been packed with fire retardant foam but was currently missing a two inch diameter section through the barrier. The inspector was in the room approximately thirty minutes and did not observe a firewatch or anyone working on the penetration. The inspector contacted the fire protection coordinator who posted a firewatch, initiated action to make the fire barrier functional and initiated a corrective action document (C.R. 2-03-84-317). The investigation, required by the condition report, could not determine when or who made the barrier nonfunctional. Technical Specification 3.7.10 requires all fire barriers protecting safety related area be functional or establish a continuous firewatch on at least one side of the nonfunctional fire barrier. Failure to maintain control of fire barrier W-7975, is a violation of Technical Specification 3.7.10 (Noncompliance 316/84-06-01).

During a tour of the 591 level of the turbine building the inspector found a pallet of aluminum sulfate with one bag ripped open and contents leaking on the floor. The bag was labeled with a warning "Do not take internally, may cause irritation, harmful if ingested and avoid contact with eyes, skin or clothing". A small portion of the bag contents were on the floor adjacent to an established walkway. The inspector identified this poor housekeeping practice to the Technical Superintendent-Physical Science on April 5, 1984.

During surveillance testing of Unit 2 AB diesel generator on April 16, 1984, an an overspeed trip occurred at 0006. Unit 2 CD diesel was out of service for maintenance and the licensee declared an Unusual Event under the Emergency Plan. Two diesels out of service during Mode 5 (cold shutdown) was contrary to the requirements of Technical Specification 3.8.1.2.6. Action requirements were met by not performing core alterations or positive reactivity changes. The licensee determined that the overspeed was caused by a sluggish governor. After adjustments and testing the diesel was declared operable at 0330 hours on April 17, 1984, ending the Unusual Event.

Unit 1 was removed from service at 0728 hours on April 9, 1984 due to an inoperable Turbine Driven Auxiliary Feedwater Pump (TDAFWP). The TDAFWP was declared inoperable at 0311 hours on April 6, 1984 when the operators were unable to manually trip the TDAFWP subsequent to a surveillance test. The Technical Specification allows 72 hours to repair the pump and then requires a shutdown within the next 12 hours. The licensee made repairs to the steam isolation valve and returned the Unit to service at 0443 hours on April 12, 1984.

One item of noncompliance and no deviations were identified.

3. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were and/or reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed and/or reviewed:

Unit 1

QHI 5030, attachment 11, "Weekly Inspection of Exciter Brushes." The inspector noted that the job order to perform QHI 5030, attachment 11 was a blanket job order issued in June of 1982. The inspector discussed the age of the job order with the Maintenance Superintendent and expressed concern that use of blanket job orders, especially this old, may bypass the ALARA review. It was later determined that ALARA reviews are conducted as part of the Radiation Work Permit process, not as part of the job order.

Unit 2

MHP 5021 82-002	Inspection and repair procedure for type K600S, 600V and 480V power circuit breakers
MHP 5021 82-003	Inspection and repair procedure for type K1600, and K1600S, 600V power circuit breakers.
MHP 5021 82-010	Calibration procedure for type SS13, SS14 circuit breakers.
**2 THP 6030 IMP 230	Intermediate Range Nuclear Instrumentation Calibration (N35 and N36).

No items of noncompliance or deviations were identified in this area.



#### 4. Monthly Surveillance Observation

The inspector reviewed Technical Specifications required surveillance testing on the systems listed below and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

##### Unit 1

**12 THP 4030 STP.211	Ice Basket weighing
** 1 OHP 4030 STP.017	Auxiliary Feedwater System Test
** 1 THP 4030 STP.015	Steam Generator Water Level Protection, Set 1 Surveillance Test

##### Unit 2

2 OHP 4030 STP.014	Containment RMS Setpoint Adjustment
2 OHP 4030 STP.037	Refueling Surveillance
2 THP 4030 STP.100	Reactor Protection and Safeguards System Time Response

On April 17, 1984 the inspector observed two C&I Technicians calibrating the intermediate range instrument (N-35 and N-36) per 2 THP 6030 IMP 230. One of the technicians identified that a couple of steps were missing and that a temporary procedure change would be required prior to continuing. Several days later the inspector reviewed/discussed 2 THP 630 IMP 230 with the Technical Superintendent, Quality Assurance Supervisor, and Assistant Plant Manager. The results of the discussion/review are identified below:

- a. Temporary Change No. 1 was issued to 2 THP 630 IMP 230 and stated that steps 8.2 - 8.2.1 were omitted when transferring the procedure from files to word processing.
- b. 2 THP 630 IMP 230 was entered into word processing and then issued without a new approval letter. This eliminated any technical reviews.
- c. This was the fourth occurrence of this type in the last two weeks.
- d. A corrective action document (Condition Report) has not been written.
- e. QA had identified this as a potential problem and was gathering information for a surveillance report.

The inspector discussed this item at the exit interview and suggested that the licensee perform a 100% review of the C&I procedures that had been issued from word processing without a technical review. This is an unresolved item pending the results of the licensee review (Unresolved Item 315/84-06-01; 316/84-06-02).

No items of noncompliance or deviations were identified in this area.

5. Licensee Event Report Followup

Through direct observation, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished or initiated in accordance with Technical Specifications

Unit 1

RO 82-061-03X-1	Improper alarm trip setpoint on new Radiation Monitoring System
RO 83-037/01T-0	Waste Gas Hydrogen/Oxygen sampling requirements not met
RO 83-071/03L-0	Containment Penetration not included in surveillance

Unit 2

RO 83-050/01T-0	Sampling requirement exceeded for Waste Gas tanks
RO 83-059/03L-0	Ice basket underweight
RO 83-063/03L-0	Steam stop valve drifted close
RO 83-064/03L-0	AFD not logged hourly
RO 83-066/03L-0	Air leak on Diesel Generator rack trip cylinder shuttle valve
RO 83-067/03L-0	Control room fire door inoperable
RO 83-068/03L-0	Fire door inoperable
RO 83-070/03L-0	Containment pressure channel 2 inoperable
RO 83-071/03L-0	Containment penetration not included

(Closed) RO 83-071/03L-0 The licensee found that an extra test pressure connection was added to containment penetration No. 67 for Unit 1 and 2 without being added to 1/2 THP 4030 STP-10 "Containment Integrity Valve

Lineup Check Sheet". To prevent recurrence the design change controls have been modified. The inspector discussed this LER with the author of the LER and Performance Section Supervisor identifying that 1 THP 4030 STP.230 "Unit 1 Type B&C Leak Rate Test" had not been updated to show the new valves. 2 THP 4030 STP.230 "Unit 2 Type B&C Leak Rate Test" had been updated to include the valves. The licensee agreed to change 1 THP 4030 STP.230 prior to its next use.

No items of noncompliance or deviations were identified in this area.

6. TMI Task Action Items

(Open) II.B.1.3 Reactor Coolant System Vents-Procedures:

The Reactor Head and Pressurizer high point vents have been installed as discussed in IE Report 315/82-04; 316/82-04. A revised Technical Specification (TS) submittal was made on March 15, 1984 including a request to allow a 45 day period to implement the TS. During this period, procedures will be written and training conducted. No interim guidance or procedures currently exist for operation of the vents. Although installed, the vent system has not been declared operable as directed by Generic Letter 82-28.

(Open) II.F.2.3.B Reactor Vessel Level Instrument System (RVLIS):

The RVLIS has been installed on both Donald C. Cook Units as discussed in IE Report 315/82-04; 316/82-04. Certain minor technical issues remain to be resolved concerning final design and calibration, but the major holdup has been the prohibition on use of the system in accordance with Generic Letter 82-28. Control Room Design review task analysis and preparation of operating procedures are not yet completed as required by the Generic Letter.

(Closed) II.E.4.2.7 Radiation Signal on Purge Valves: The inspector reviewed portions of design changes RFC-2448 and RFC-2578 to determine whether during the upgrade of containment radiation monitors the system was installed as designed, calibrated and tested, operating procedures and drawings were revised, and appropriate training conducted prior to being declared operable. It was found that during the initial testing of monitors ERS-1400 and 2400 (Lower Containment Airborne Monitors) that the Instrument Room purge valve and fan tripping functions were omitted from the testing (1 THP 4030 STP.093 and 2 THP 4030 STP.193, respectively), and that these functions were not tested prior to the system being declared operable (July 24, 1982 for Unit 1, December 10, 1982 for Unit 2). These incomplete tests were reviewed and approved by the appropriate supervisors. The procedure steps were deleted in one case by temporary change and in the other by indicating that the feature was not testable due to ongoing work. Both of the methods utilized to make changes were in violation of Technical Specification 6.8.3; the first was a change in scope of the original procedure, the second was an unauthorized change to the procedure. This violation is set forth in the Appendix (315/83-06-02; 316/83-06-03).



(Closed) II.K.3.1 Automatic Isolation of Power Operated Relief Valves: A NRR Safety Evaluation forwarded by letter of September 12, 1983 (ORB No. 1 Varga to Dolan) concluded that the requirements of this item are met with the existing PORV, safety valves and reactor high-pressure trip setpoints. This item is closed.

(Open) II.K.3.5 Automatic Trip of Reactor Coolant Pumps: The current plans and schedule for resolution of the RCP trip criteria issue is outlined in licensee's response to Generic Letter 83-10d dated June 2, 1983 (AEP:NRC:0785). Operators currently have written procedures instructing them to trip RCP's during a loss of coolant accident when pressure drops below 1450 pounds. Revision 1 of the Emergency Response Guidelines provides more refined criteria allowing no RCP trip for a Steam Generator Tube Rupture on one tube or less. These guidelines are scheduled for implementation under Task Item I.C.1 procedures upgrade for September 1984. Westinghouse has been contracted for this work. The Westinghouse Owners' Group (WOG) provided an evaluation of alternate RCP trip criteria by letter OG-110, dated December 1, 1983. Justification for manual RCP trip has also been provided to NRR by WOG letter OG-117, dated March 12, 1984.

One noncompliance and no deviations were found in this area.

7. Plant Nuclear Safety Review Committee

The inspector attended two meetings and examined the Plant Nuclear Safety Review Committee minutes conducted during April to verify conformance with Technical Specifications and other regulatory requirements. The review included: committee membership and qualification; committee meeting frequency and quorum; and committee review of proposed procedure changes and corrective actions.

No items of noncompliance or deviation were identified.

8. Refueling - Unit 2

The inspector verified that technically adequate procedure for Unit 2 cycle IV - V were approved for fuel handling, transfers, core verification and movement of other core internals. These procedures were incorporated in the contractors Refueling Procedure FP-AMP-R4 which was reviewed and approved by the licensee in accordance with the Technical Specifications. The inspector verified that the licensee has submitted a proposed core reload Technical Specification change to NRR.

The inspector verified that prior to and during fuel handling that surveillances required by Technical Specifications and the licensee's procedures were complete. The inspector verified that staffing was in accordance with Technical Specification. The inspector observed portions of four shifts of core unloading.

9. Management Meeting - Regulatory Performance Improvement Program (RPIP)

A management meeting was held on March 28, 1984 at the Donald C. Cook plant site to update the status of the Regulatory Performance Improvement Program (RPIP) dated February 23, 1984 (AEP:NRC:0625F). The licensee stated that the eleven items contained in Appendix C to the RPIP are on schedule as of March 15, 1984, but that the March 31, 1984 commitment dates for Item C-6 "Action Item Commitment List" and C-10 "QA/QC Organization and Functions" may slip by two weeks.

10. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 4.

11. Exit Meeting

The inspector met with the licensee representatives (denoted in Paragraph 1) throughout the inspection and on May 1, 1984, and summarized the scope and findings of the inspection. The licensee acknowledged the findings in Paragraphs 2 and 6.