U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/85020(DRP); 50-316/85020(DRP)

Docket Nos. 50-315; 50-316 Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation
Indiana and Michigan Electric Company
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: June 25, 1985 through July 22, 1985

Inspectors: B. L. Jorgensen

J. K. Heller

C. L. Wolfsen

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Approved By: J. F. Suermann, Acting Chief
Reactor Projects Section 2A

August 21, 1985
Date

Inspection Summary

Inspection on June 25, 1985 through July 22, 1985 (Reports No. 50-315/85020(DRP); 50-316/85020(DRP))
Areas Inspected: Routine unannounced inspection by the resident inspectors of licensee actions on previous inspection findings; operational safety; surveillance; maintenance; and licensee event reports. The inspection involved a total of 273 inspector-hours by four NRC inspectors including 33 inspector-hours off-shift.
Results: In the five areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

*W. G. Smith, Jr., Plant Manager
B. Svensson, Assistant Plant Manager
*T. Kriesel, Technical Superintendent-Physical Science
*A. Blind, Assistant Plant Manager
K. Baker, Operations Superintendent
*J. Stietzel, Quality Control Superintendent
*T. Beilman, Design Change Supervisor
*J. Allard, Maintenance Superintendent
A. Guzicki, Shift Supervisor
L. Boone, Shift Supervisor
*L. Gibson, Technical Superintendent-Performance
*C. Murphy, Production Supervisor
G. Caple, Administrative Compliance Coordinator - Quality Control Department
D. Krause, Administrative Compliance Coordinator - Operations Department
*M. Kennedy, Q. A. Auditor
*C. Hankla, Q. A. Auditor

The inspector 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 July 25, 1985.

2. Licensee Actions on Previously Identified Items

a. (Closed) Violation (315/84012-02): While performing a surveillance, both Safety Injection Pumps were made inoperable by the licensee. At the time of this violation a single test procedure was used to test both trains of ECCS pumps. The licensee determined that this methodology contributed to this violation. The licensee has divided the surveillance procedures such that testing of each pump is accomplished using an individual procedure. The inspector verified that the corrective actions identified in the licensee's September 28, 1984 response letter (AEP:NRC:0899) were adequate to resolve this item.

b. (Closed) Violation (315/84012-01): Failure to implement all the actions of an annunciator response procedure. The inspector verified that the corrective actions identified in the licensee's September 28, 1984 response letter (AEP:NRC:0899), dated September 28, 1984, were adequate to resolve this item.

c. (Closed) Violation (316/84014-02): A reactor coolant loop was removed from service without placing the channels associated with that loop in the trip position as required by Technical Specifications. The inspector verified that the corrective actions identified in the licensee's September 28, 1984 response letter (AEP:NRC:0899), were adequate to resolve this item.

No violations or deviations were identified.

3. Operational Safety Verification

a. The inspector observed control room operation including manning, shift turnover, approved procedures and LCO adherence; and reviewed applicable logs and conducted discussions with control room operators during the inspection period of June 25 through July 22, 1985. Observations of the control room monitors, indicators, and recorders were made to verify the operability of emergency systems, radiation monitoring systems, and nuclear and reactor protection systems. Reviews of surveillance, equipment condition, and tagout logs were conducted. Proper return to service of selected components was verified. Tours of the auxiliary building, Unit 1 containment and screenhouse, were made to observe accessible equipment conditions, including fluid leaks, potential fire hazards, and control of activities in progress. The inspector independently surveyed accessible areas of the auxiliary building using a Xetex 305B digital exposure rate meter (Serial number NRC 7852) and verified that the readings were in agreement with the licensee's readings and that areas were posted as required.

b. Through observation and direct interview it was verified that the physical security plan was being implemented in accordance with the Station Security Plan.

c. On July 9, 1985, the licensee notified the NRC headquarters duty officer, via an ENS phone call, about a problem with the Residual Heat Removal (RHR) flow meter indication in Unit 1 and Unit 2 control rooms. While testing a new Leading Edge Flow Meter (LEFM), the licensee discovered that the readings were inconsistent with the RHR flow indications in the control room. The low range scale, which indicates 0-1500 gpm, was correct; however, the high range scale which indicates 1500-5500 gpm, was reading low. The high range meter, being offset from zero and non-linear, was installed with a meter face that had been incorrectly derived to reflect the square root relationship between flow and delta-P in the range of 0-4000 gpm and then adjusted for the 1500-5500 gpm portion of the curve. The high range indicator was reading in the non-conservative direction by a maximum of about 11 percent error. New meter faces have been installed in both control rooms and flows have been verified by the licensee. These actions appear adequate to resolve the immediate concerns. The matter will be reviewed further in evaluation of the LER.

d. The NRC received information alleging that an unqualified C&I technician had worked at D. C. Cook in early 1984 for approximately two months. Followup on the allegation determined that: the individual had worked at the facility; the individual had been employed by a sub-contractor; and the individual only worked on non-safety related instrumentation. Since the work did not require a specially qualified individual, the licensee had no records available pertaining to the individual's qualifications. As no records were available it was not possible to substantiate or refute the allegation; however, the subject is a moot point as the activities the individual was involved with pertained to non-safety related equipment. The allegation is considered closed.

e. While reviewing the licensee's action for Condition Report 2-5-85-1043, the inspector found that the flow meters for verification of the operability of the upper and lower personnel airlocks were past the calibration date. The inspector noted to the Technical Superintendent that the flow meters for Unit 1 were also past due for calibration. Unit 1 was in a refueling outage and did not require use of these flow meters.

f. The licensee declared an Unusual Event on July 17, 1985 when both 250 volt station batteries were determined to be inoperable. This was due to deficiencies in materials and construction, including seismic qualification questions relating to improper spacing between the jars and the ends of the racks. The licensee returned one station battery to service on July 21, 1985. The inspector verified the licensee's initial corrective action. Review of this matter will be completed during closeout of an already existing "Open Item" (315/85016-03) on battery "as-built" acceptability.

g. During tours of the lower containment the inspector noted that passage up and down the stairways was difficult due to the congestion of hoses and vinyl sheeting. This was discussed with the management.

h. In Inspection Report 315/85014 and 316/85014 at paragraph 3.d., the inspector identified that the retracting mechanism or some of the screws securing the retracting mechanisms for fire doors Nos. 226, 227, 228, and 229 were loose. During subsequent inspections the inspector observed that these had not been repaired. This was discussed with the plant manager.

i. During a tour of the Unit 1 lower containment, the inspector found a number of permanently installed fire extinguishers that apparently had not been subject to monthly inspection checks since initial installation. The extinguishers are considered inaccesible during plant operations, but at the time of the observation the Unit had been shut down for approximately 3 months. The inspector discussed this with personnel and was informed that the lack of inspection

had previously been identified and corrective action was being taken. This item was discussed with the licensee during the management interview for Inspection Report 315/85016 and 316/85016.

No violations or deviations were identified.

4. Monthly Surveillance Observation

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

**2 THP 4030 STP.120	Steam Generator No. 3 and 4 Mismatch Protection Channel Set I Surveillance Test (Monthly).
**2 THP 4030 STP.150	Steam Pressure Protection Set III Surveillance (Monthly).
**2 THP 4030 STP.151	Steam Pressure Protection Set IV Surveillance Test (Monthly).

No violations or deviations were identified.

5. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed 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; and activities were accomplished using approved procedures.

The following maintenance activities were observed:

**12 MHP 5021.001.031	Installation, Replacement, and Repair of Silicone Fire Barrier Penetration Seals.
**12 MHP 5021.001.033	Anchor Bolt Installation Procedure.
**12 MHP 5021.082.004	Maintenance Procedure for Cable Replacement.

**12 MHP 5100.001.001	Application of Protective Coating to Steel Surfaces in Areas Classified as Coating Service Level I.
**12 THP 6030 IMP.087 JO 41909	Pressure Indicator Calibration (Change out of RHR flow meter face).

No violations or deviations were identified.

6. Licensee Event Reports

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 in accordance with Technical Specifications. Certain of the events involved violations of NRC requirements. Violations of lesser safety significance which were identified, reported and corrected by the licensee, and which were not repetitive to previous violations, are normally not subject to NRC issuance of a Notice of Violation. This is to encourage licensees to find and rectify problems on their own initiative.

The following LERs are considered closed:

Unit 1

315/83107-03	A fire hose standpipe was isolated to repair a leaking valve. The repair was postponed and the standpipe returned to service when an isolation valve needed to effect the repair was also found leaking. Both leaking valves were subsequently replaced in July 1984 and an updated LER submitted March 22, 1985 describing completed corrective action.
315/84020-00 315/84020-01	Control room cable vault and EDG fuel oil day tank fire dampers were obstructed. A Notice of Violation concerning this problem was issued, and the matter will be tracked and closed via the Violation (RIII Tracking System item 315/84019-06).
315/84035-00 315/84035-01	Due to an apparent procedure typographical error, ice condenser deck doors were tested to a wrong acceptance criteria compared to Technical Specifications. The test was done August 30, 1984 and the problem not identified until December 21, 1984; a time frame far in excess of the Action Statement limits of Technical Specification 3.6.5.3. An immediate retest verified the subject doors were "operable" after lubrication. Revision 1 to this LER provided a safety significance evaluation for

the actual condition of the doors during August - December 1984. This was independently reviewed by NRC in Region III (violation of Technical Specification 3.6.5.3 not cited).

315/85002-00 Special auxiliary building vent sampling for a significant change in RCS radioiodine, was not performed as required (daily) because the Technical Specification monitoring requirements were not reflected in Chemical Section procedures after the Technical Specifications were amended. The procedures were revised. Concurrent weekly samples showed no unusual stack iodine levels (violation of Technical Specification Table 4.11.2 notation C not cited).

315/85007-00 The control room emergency ventilation system was declared inoperable, placing the plant in an LCO Action Statement, when testing showed the system was not providing adequate positive pressure in the recirculation mode. A shutdown was initiated, then stopped when suction damper adjustments brought pressure within specification. This adjustment affected airflows and flow balances which, though not addressed in Technical Specifications, had the potential to fall outside analyzed conditions. About two weeks later, further testing and adjustments (covering both control rooms) to predetermined dose acceptance criteria, resulted in "as left" conditions for the systems in compliance with Technical Specifications, accident analyses and habitability considerations. Further efforts to decrease air leakage losses are being pursued.

315/85011-00 More than one containment ventilation purge path was established as permitted by an approved procedure which failed to reflect a restriction to a single path provided in Technical Specifications. The deficient procedures (both units) were changed. A review process is underway to identify any further discrepancies (RO 315/85002-00 above had a similar cause). The purge paths involved in this event were capable of automatic or manual isolation throughout the 1 hour and 20 minutes of the event. (Violation of Technical Specification 3.6.1.7 not cited).

315/85012-00 Compliance with Technical Specification requirements for containment cleanliness and airlock seal inspection for each entry at Mode 3 or above was not documented for about eight hours. Containment control was prematurely turned over from Operations to security personnel, who were unfamiliar with Mode 3 requirements. Operations resumed control until entry to

Mode 4, where the requirements are not applicable. Training requirements for entry cover the required checks, and they may have been done, but they were not documented. (Probable violations of Technical Specification 4.5.2.b.2 and Technical Specification 4.6.1.3 not cited).

315/85021-00 — Requirements of Technical Specification 3.1.1.3 to verify RCS flow above 3000 gpm throughout any reduction in boron concentration were not met. A Notice of Violation has been issued (NRC Item 315/85014-02) and will be tracked to verify appropriate corrective and preventive action.

Unit 2

316/82057-03 — The turbine driven auxiliary feedwater pump control bus failed due to a blown fuse, caused in turn by a failed coil on the trip device latching solenoid. Repairs were effected and the system returned to service within the time limits of the applicable LCO. A design change under RFC 12-1798 was initiated to change the trip mode, which is expected to increase solenoid coil life. NRC no longer requires reporting simple entry into an Action Statement as occurred in this event.

316/83009-03 — The licensee intentionally entered an LCO Action Statement when steamline safety valves were gagged during a startup in an attempt to stop minor valve "weeping". The attempt was not successful but the licensee decided the weepage was not severe enough to justify a shutdown for repairs, so the gags were removed and the valves returned to an operable status, all within the time limits of the LCO.

316/84023-00
316/84023-01 — Unit 2 auxiliary cable vault fire damper 2-HV-ACED-2 failed a functional test when the pop-off cable caught on the protective screen, preventing full closure. Furthermore, a 1/2 inch nut was found lying in the damper track which would also have affected full closure, though probably not beyond design rating of the damper. Licensee evaluation indicated that in a real fire the quartzite bulb on the cable would have broken as designed and prevented the interference, allowing the damper to close. The screen interference was adjusted for and the nut removed.

316/84026-00 — Unit 2 control room cable vault supply fan damper 2-HV-ACES-2 failed a functional test when, after closing as required, it failed to latch. The clearance between latch bolt and housing was adjusted and the damper successfully retested.

316/85007-00 Several RTD manifold isolation valves (seven in U-2, eleven in U-1) were found to have broken or damaged stems, as seen during ultrasonic exams being performed pursuant to NRC I.E. Information Notice 84-48. Similarity to the I.E. Notice precipitated this voluntary report. The broken and suspect valves were replaced. The licensee plans to replace all Rockwell-Edwards RTD manifold valves.

316/85008-00 The "loose parts" monitoring system identified indications in steam generators 22 and 23 during a startup which appeared representative of broken "split pin" parts noted at other plants and described in I.E. Information Notice 82-29. The plant was shutdown and inspection verified the expected. The loose parts were removed (no damaged had occurred), the plant started up, and this voluntary report was made.

316/85009-00 A sample required by Technical Specification Table 4.11.2 was lost when the beaker containing it broke. Alternate evaluation suggested no unusual results should have been derived from the lost sample.

No additional violations or deviations were identified by NRC in review of this area.

7. Management Meeting

The inspector met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on July 25, 1985 and summarized the scope and finding of the inspection.

The inspector asked those in attendance whether they considered any of the items discussed to contain information exempt from disclosure. No items were identified.