INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

December 20, 1985
AEP:NRC:0957

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
NRC Report Nos. 50-315/85026 (DRS) and 50-316/85026 (DRS)

Mr. James G. Keppler, Regional Director
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

This letter is in response to Mr. C. J. Paperiello's letter dated October 16, 1985, which forwarded the subject inspection reports of the routine safety inspection conducted by your staff at the Donald C. Cook Nuclear Plant during the period September 4-20, 1985. This report also refers to the inspection of activities at our Corporate offices in Columbus, Ohio. The Notice of Violation attached to Mr. Paperiello's letter identified three violations. The responses to these violations are addressed in the attachments to this letter.

This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,

M. P. Alexich
Vice President

12/20/85

cm

Attachments

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
G. Bruchmann
NRC Resident Inspector - Bridgman

DEC 23 1985

1/1

IE01

NRC Violation No. 1

"10 CFR 50, Appendix B, Criterion XVII, as implemented by the D. C. Cook Operations Quality Assurance Program, requires that records be maintained to furnish evidence of activities affecting quality.

"Contrary to the above, the licensee failed to provide for appropriate protection of special process records as required by PMI 2040, Revision 5, Paragraph 3.20."

Response

Corrective Action Taken and Results Achieved

All radiograph records were inspected for storage conditions. All radiographs which were stored horizontally in stacks are now stored vertically.

Corrective Action to be Taken to Avoid Further Noncompliance

All information and Record Center personnel have been instructed in proper storage of radiographs.

We previously assessed that we are in compliance with other appropriate manufacturer's storage recommendations. We are presently conducting an evaluation of these storage requirements to revalidate our original findings.

Date When Full Compliance Will Be Achieved

Radiographs stacked horizontally were reoriented vertically by September 20, 1985. In addition, our current revalidation of our compliance relative to the storage of special process records will be completed by March 1, 1986. Upon conclusion of this revalidation, any changes required to our storage practices will be scheduled for implementation.

NRC Violation No. 2

"10 CFR 50, Appendix B, Criterion XVI, as implemented by the D. C. Cook Operations Quality Assurance Program, requires that measures be established to ensure that conditions adverse to quality are promptly identified and corrected.

"Contrary to the above, the initial disposition of Condition Reports No. 12-12-83-1342 and No. 2-04-84-493 and the subsequent action by the Nuclear Safety and Design Review Committee to effect corrective action were incomplete, in that the resolutions did not address interim measures to preclude recurrence of the deficiencies prior to implementation of final corrective action."

Response

Corrective Actions Taken and Results Achieved

Based on discussions with members of your staff on October 21, 1985, the following actions were taken to ensure that the substitution of check valves was not a widespread occurrence, and that when substitutions were made, they had no impact on the seismic qualification of the system:

- The D. C. Cook Nuclear Plant, ASME Section XI (In-Service Testing Program) was reviewed and all check valves within the ASME Class 1, 2 or 3 boundaries were identified. Ninety (90) large-bore (above 2 1/2-inch) and 72 small-bore (under 2 1/2-inch) check valves were identified on Unit No. 1; and 88 large-bore and 61 small-bore on Unit No. 2.

- The D. C. Cook Nuclear Plant computerized maintenance report listing (which includes all job orders from January, 1980 to the present) and the Request for Change (RFC) log were reviewed to determine how many check valves had been replaced during this period. It was determined that no large-bore check valves were replaced. The records did indicate that 18 small-bore check valves were replaced on Unit No. 1 and 14 on Unit No. 2.

- A review of the 32 check valves which had been replaced shows that seismic qualification and operability had been considered on 25 of the 32 replacements. (The valves were covered by RFCs or reviewed as a result of condition reports.) The 7 remaining valves were either "in kind" replacements, reviewed as part of random sampling, or specifically reviewed to assess their impact on the systems. The finding of our review is that the 32 small-bore check valves which were replaced are seismically and functionally acceptable.

- In addition to the above, we selected for review a random sample of 10 valves in each unit from the safety-related check valves previously identified.

The review included:

a. Field walking the selected systems to verify the geometry, support/restraints location, and support/restraints configuration.

b. Analysis to determine what impact the substitution of the heaviest credible replacement valve would have on system seismic capability.

c. A review to determine what impact the changing of check valve type (i.e., piston to swing check) would have on the functionality of the system.

The findings of this review are:

a. Nineteen (19) of 20 random samples reviewed showed that substitution of the heaviest credible weight check valve for the existing valve would not cause the system to become seismically unacceptable.

b. In a single instance, it was determined that the system had been mistakenly modified to use 3/8-inch tubing instead of 3/8-inch schedule 80 piping at the check valve inlet and outlet. A total of approximately 6 inches of 3/8-inch tubing was used. A non-conformance report was generated and the system in its present configuration is being evaluated. For the purposes of our review, the system was analyzed assuming 3/8-inch piping had been used and that the heaviest credible check valve was installed. The results showed that if 3/8-inch piping had been used, the substitution of the check valve would have had no impact on the seismic acceptability of the system.

c. We have reviewed the substitution of swing checks for piston check valves and find that the function of the valve is unchanged and that this substitution has no impact on system operability.

Based on the above, it is our conclusion that the substitution of heavier valves has no impact on the seismic qualification of a system installed per its criterion.

Regarding NSDRC activities to preclude recurrence of deficiencies prior to implementation of final corrective action, the following actions were taken:

1. At the first meeting of the NSDRC Subcommittee on Corporate and Plant Occurrences subsequent to receiving the above Notice of Violation, the subcommittee members were informed of the violation and were instructed to include in their reviews the need for interim action prior to the completion of long-term corrective actions.

2. The Manager of Quality Assurance issued a memorandum on October 30, 1985 addressing the need for interim preventive action whenever long-term corrective actions are involved. The AEPSC QA Department has also been directed to consider the need for interim preventive action when reviewing responses to audit and surveillance findings.

3. This violation was discussed by the full NSDRC at their November 1985 meeting to ensure that the members were aware of the need to consider interim corrective action in all the various activities of the Committee.

Corrective Actions to be Taken to Avoid Further Noncompliances

In the future, the following corrective actions will serve as the means to make the AEP Service Corporation and the Plant Organization aware of the need to give proper consideration to interim corrective actions and to preclude recurrence of deficiencies prior to the implementation of final corrective actions.

1. The "Occurrence Review Checklist" used by the members of the Subcommittee on Corporate and Plant Occurrences is being revised to include a question concerning the adequacy of any required interim corrective action. This revised checklist will be printed and available for use in January, 1986.

2. A revision to General Procedure (G.P.) No. 36, "Review of Plant Condition Reports," is being made to include a statement requiring the engineering review to include consideration of the possible need for interim measures prior to implementation of long-term corrective action. This revision to G.P. 36 will be completed during the first quarter of 1986.

Date When Full Compliance Will Be Achieved

Full compliance was achieved on December 13, 1985, when the check valve program was completed. The "Occurrence Review Checklist" will be available for use in January, 1986, and G.P. 36 will be revised before March 31, 1986.

NRC Violation No. 3

"10 CFR 50, Appendix B, Criterion II, as implemented by the D. C. Cook Operations Quality Assurance Program, requires that control be provided over activities affecting the quality of identified structures, systems and components to an extent consistent with their importance to safety.

"Contrary to the above, numerous inprocess design changes were not properly controlled to ensure timely completion of the required reviews, evaluations and other related activities."

Response

Based on our review, we conclude that the associated engineering reviews and evaluations are given a high priority, although extended time periods have been noted to complete the various close-out activities. The following discussion is provided for the four Observations listed under 3.a.1 of the Details section, the three Observations/Recommendations noted in Details Section 3.a.2, unresolved item 315/85026-04; 316/85026-04, and the Violation as stated above.

In addition, Attachment 2 provides the current status for the specific design change packages reviewed by the NRC inspector and listed in the Details section of the Inspection Report.

Observation 1

"As-built drawings had not been reviewed to verify compatibility with design requirements."

Our design change procedures require the approval of proposed deviations outside established tolerances by the Request for Change (RFC) Lead Engineer prior to installation. The "pre-approval" of the deviations is such that the subsequent review of the as-built drawing submitted upon completion of the installation should rarely be found unacceptable.

In March 1985, the design control procedures were revised to enhance the mechanism for the identification, review, and close-out of as-builts. The backlog of as-built drawings resulting from the past design changes is included in this program. Although these as-builts contained mainly pre-approved deviations, minor dimensional and/or nomenclature changes, the program to identify, review, and incorporate them on our physical drawings was expanded.

We believe that this program to control the as-built drawing process provides the necessary controls to ensure that the required engineering and design reviews are completed. In addition, to improve the timeliness of our activities the following actions have been taken:

a) an as-built tracking mechanism has been established,

b) staffing in both the Engineering and Design Divisions has been increased, and

c) periodic reports are being sent to management concerning the status of as-builts.

Observation 2

"As-built drawings had not been permanently updated."

The update of the design drawings is being performed following the review of the as-builts under the program described above.

Observation 3

"Documentation of verbal emergency design changes was not forwarded to AEPSC from D. C. Cook for extended periods of time."

In early 1984, the Planning Department was given prime site responsibility for new Design Changes, including emergency RFCs. This group will ensure a more timely close-out effort of emergency RFCs. To re-emphasize this requirement, emergency RFCs will be tracked by the Planning Department and the AEPSC Change Control Board (CCB) from inception through close-out to ensure timeliness in our activities.

The plant processing of emergency RFCs requires an installation approval from the AEPSC Vice President, Nuclear Operations. This approval process normally includes a nuclear safety evaluation from the Nuclear Safety and Licensing Section and securing necessary engineering support from AEPSC. This corporate involvement demonstrates the concern for proper and timely reviews of safety-related changes.

In addition, an outside contractor has been employed at the plant to verify, review, and close out each RFC installation documentation package. Their first priority was six early emergency RFC packages. As of November 27, 1985, these packages had been accepted by the plant, reviewed by site QA, and forwarded to AEPSC for processing.

Observation 4

"Final review of the packages to verify their completeness had not been accomplished."

There was a backlog of 235 RFC packages which existed prior to January 1984, when the Design Change Section of the Planning Department was created. The new direction of the Planning Department is to emphasize both the RFC installation and close-out activities. The outside contractor will review these packages and resolve the paperwork by the end of the Unit 1 1987 Refueling Outage. Plant procedures are being revised to strengthen requirements to improve timeliness of close-out activities.

A program has been established at AEPSC to identify RFCs with field installation complete and for which the original package has not been sent to the plant. Periodic reports are being sent to the managers of the various divisions for their attention and action as required.

Observation/Recommendation 3.a.2.a

"...There does not appear to be a systematic follow-up on RFC's to ensure their timely completion. Consideration should be given to establishing a system to status RFCs through all stages of their completion."

The Change Control Board maintains a system that overviews the RFC process from the standpoint of major milestones. This current system contains the necessary attributes to successfully follow the normal process as shown below:

- Origination
- Division/Section Assignment

- o CCB Approval
- o Engineering/Design Completion
- o Installation Completion (by unit)
- o Record Retention

This system will be used to issue periodic reports to the cognizant Change Control Board members and Planning Department Supervisor concerning normal process milestone accomplishments/delinquencies, as well as exception reports on RFCs with emergency approval and those still under expedited approval.

Observation/Recommendation 3.a.2.b

"All the engineering departments do not presently have a method by which they can track RFC packages within their organization. Consideration should be given to establishing such a system to ensure timely completion of their responsibilities."

The Engineering and Design Divisions/Sections that have extensive involvement in the RFC process maintain logs to track key activities. Individual lead engineers track the tasks associated with the completion of the specific design change. Each Engineering and Design Division will provide periodic reports to their management for assessment of the process.

Observation/Recommendation 3.a.2.c

"RFCs, for which work has been accomplished, appear to be generally regarded as low priority work by engineering. As a result, post-installation engineering reviews and any resulting changes are not always accomplished in a timely fashion. The relative importance of the engineering reviews should be recognized and appropriate action taken to ensure their timely completion."

An in-process RFC is a higher priority than one that is already installed; however, the final engineering review and post-engineering review of emergency changes are given a sufficient priority. During the first nine months of 1985, there were 70 original RFCs forwarded to the plant and 5 emergency RFCs forwarded through the procedural review and approval process. As of December 4, 1985, there were only 11 original RFCs with field installation complete remaining with the lead engineer for final engineering review. Therefore, with some exceptions, RFC engineering reviews are given a priority commensurate with their importance.

Unresolved Item 315/85026-04; 316/85026-04

"Also during this review, the inspector noted that the plant system associated with RFC 12-2598 was designated ASME Class III on the engineering check sheet. Conversely, the system was designated as ASME Class II on the hydrostatic test data sheets. Further review and discussions with licensee personnel revealed that the system was Class II. The inspector is concerned that this system's misclassification may be indicative of a larger issue relative to the adequacy of similar technical reviews."

With regard to the problem associated with RFC-12-2598, the identification of the incorrect ASME Code Class for this modification was due to an oversight by both the lead engineer and his supervisor. This RFC was issued before the inception of the formal design verification process. We believe that the formal design verification process would have identified this discrepancy. In addition, the drawings which were issued for this change identified the proper ASME Code Class as well as the correct specifications for its implementation, thereby minimizing the potential impact of this discrepancy. Further, the results of an historical review of RFCs performed under the RPIP Program has shown that our engineering activities prior to formal design verification have resulted in technically sound design changes.

Response to NRC Violation

Corrective Actions Taken and Results Achieved

To ensure that design changes are closed out in a timely manner, the following actions have been taken:

1) An outside contractor was hired to perform the close-out review of 235 RFCs in backlog prior to January 1984.

2) Increased emphasis has been placed on the Planning Department for RFC close-out activities on RFCs completed after January 1, 1984.

3) A tracking mechanism has been established for as-built drawings.

4) Staffing has been increased in Engineering and Design Divisions primarily to review and update as-built drawings generated from the RFC backlog.

5) Periodic reports to management were initiated on the status of as-builts and engineering close-out activities.

Corrective Action To Be Taken To Avoid Further Noncompliance

In addition to the above, the CCB Charter has been revised to require the CCB to take a more active role in the overview of the design change process. A tracking mechanism that highlights the major milestones will be utilized to keep Engineering and Design apprised of the status of their Divisions' activities.

Date When Full Compliance Will Be Achieved

The backlog of 235 RFCs to be reviewed by the contractor is scheduled to be completed by the end of the Unit 1 1987 Refueling Outage. The first overview on the status of the design change process will be issued in January 1986 to reflect the 1985 year-end RFC status. We believe the program changes described above will ensure timely close-out of in-process and future RFCs.

RFC No.	STATUS
12-1971	Emergency Processing for Initial Review, Approval, and Installation. The RFC package was undergoing the formalized engineering and design review at AEPSC prior to the subject inspection. The plant's final close-out activity could not be performed until the original RFC package was returned to the plant. The original RFC package was returned to the plant on September 23, 1985, and is currently in the final close-out process.
12-2166	Normal Processing. At the time of the subject inspection, the original RFC package was in the Design Division for incorporation of as-builts. The original package was returned to the plant on October 8, 1985. The as-built completion notice has been forwarded to the plant. The RFC package is currently in the final close-out process.
02-2685	Normal Processing. The original RFC was returned to the plant on November 15, 1985, and is currently in the final close-out process.
01-1982	Emergency Processing for Initial Review, Approval, and Installation. At the time of the subject inspection, this RFC package was undergoing the procedure review and approval process. The Change Control Board approved the RFC on November 6, 1985. The RFC is currently in the Design Division for incorporation of the design change on the drawings.
12-1917	Normal Processing. The original RFC package has been reviewed and was forwarded to the plant on November 21, 1985. The Unit 2 installation package has been reviewed and meets the requirements for close-out; however, the Unit 1 installation is not complete. Final close-out activity cannot be performed until the Unit 1 installation is complete.
02-1918	Normal Processing. Following the inspection, the as-built Completion Notice was received and the final close-out activity completed with the documentation submitted to the Plant Master File.
12-2598	Normal Processing. At the time of the inspection, the as-built Completion Notice had not been received. Currently, the plant has received this notice and the RFC package is in the final close-out process.
12-2128 12-2393 12-2427 12-2462 12-2465	Original packages have all been received by the plant. These installation packages fall into the RFC backlog currently being reviewed by an outside contractor.