

INDIANA & MICHIGAN ELECTRIC COMPANY

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July 15, 1983
AEP:NRC:0625D

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
IE Reports 50-315/83-01 (DPRP); 50-316/83-01 (DPRP)
QUALITY ASSURANCE ACTIVITIES

Mr. J. G. Keppler, Regional Administrator
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

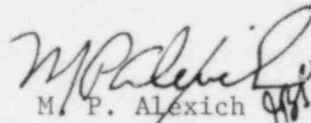
Dear Mr. Keppler:

The attachment to this letter responds to the items identified as quality assurance activity weaknesses in the subject inspection reports transmitted with your letter of April 15, 1983.

We appreciate the helpful comments of your staff as we developed the Cook Plant Quality Assurance Detachment and Quality Control Department to enhance our performance in these important areas.

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

Very truly yours,


M. P. Alexich
Vice President

MPA:clb
Attachment

cc: John E. Dolan
R. S. Hunter
R. W. Jurgensen
W. G. Smith, Jr. - Bridgman
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NRC Resident Inspector at Cook Plant

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IE INSPECTION REPORT 83-01, 83-01
UNRESOLVED ITEMS

1. The QA auditing personnel do not appear, in all cases, to be sufficiently independent from the areas audited. For example, onsite QA auditors were scheduled to audit programs which they helped develop such as the Job Order System. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-01; 316/83-01-01).

Response

Effective July 1, 1983, the plant QA function will come under the sole direction of the AEPSC QA Manager, at this time the only input the QA Department will have in the preparation of procedures would be from a QA review function. It should also be noted that the concern expressed relative to having individuals audit programs they helped develop is somewhat misleading as many times the individual shown as the procedure preparer has only participated in compiling, collating and integrating comments received from many inputs.

2. For most utilities, the corporate QA organization conducts the Technical Specification audits under the cognizance of the offsite review committee. NRC experience indicates that when offsite review committees, such as the licensee's NSDRC, conduct these audits, the program is not as comprehensive and effective as when the audits are conducted by the corporate QA organization.

Similarly, at other nuclear utilities the audits required by ANSI N18.7-1976, Section 4.5, are usually conducted by the corporate QA organization rather than by the QA organization reporting to the Plant Manager as is done at the Cook Plant. Improved effectiveness of audits in this area may be achieved by realignment of audit responsibilities.

The above audit issues are considered to be an Unresolved Item pending further inspection in this area (315/83-01-02; 316/83-01-02).

Response

In our response to the recommendations generated by the Performance Appraisal Sections evaluation we stated the following:

- 1) The NSDRC audit program will be developed and administered by the AEPSC QA Department under the cognizance of the NSDRC and its Subcommittee on Audits. Qualified QA personnel will develop audit checklists, utilizing standard checklists and minimum checklist requirements in addition to items developed for the specific audit.
- 2) Effective July 1, 1983, the plant audits will be performed by AEPSC QA Personnel assigned to the Plant but who report solely to the AEPSC QA Manager.

3. The site QA organization differs from most utilities in that it does not include any QC functions other than NDE. The licensee does not provide QC as an in-line function when reviewing procedures, job orders, and other documentation prior to use which would provide an independent input with a different perspective than that of personnel in the originating department. However, each of the plant departments (Maintenance, Operations, Technical) provides some in-process quality control by peer inspection of hold points.

Prior to December 23, 1982, plant procedures did not preclude inspections being performed by the Maintenance Supervisors (sometimes called Maintenance Foremen in older procedures) who directly supervised the work. However, on December 23, 1982, the Maintenance Superintendent issued a memorandum to require independent verification of these inspections. The Maintenance Superintendent's memorandum specified that the person who independently verifies a hold point inspection should preferably be another Maintenance Supervisor. In the event that another Maintenance Supervisor is not available, other persons permitted to verify a hold point were listed. These persons included a Maintenance Mechanic A and a Quality Control Implementation Coordinator (QCIC).

The information contained in the Maintenance Supervisor's memorandum is the kind of information that should be set forth in a procedure. Improved effectiveness in the site QC area may be achievable by abandoning the peer inspection approach in favor of a well staffed and qualified QC organization to provide in-line review functions and inspections. These issues are considered to be an Unresolved Item pending additional inspection in this area (315/83-01-03; 316/83-01-03).

Response

Effective July 1, 1983, a new Department will be chartered at the D.C. Cook Plant. This Department will be called the Quality Control Department and will be responsible for implementing the QC function. Inspections by this department will entail the following:

- 1) Will perform surveillances to ensure that hold-point inspections are being performed by qualified individuals, that procedures are current and are being followed, that equipment/tools are calibrated, and that anomalies are resolved in an expeditious manner. These surveillances will be applied to all maintenance activities and, on a random basis, to Plant operations, evolutions and testing in progress.
- 2) Will monitor design changes in progress. This will entail performing random inspections during the fabrication, installation and testing phase of selected design changes for the attributes noted above.

4. The licensee allows QC inspections to be performed by non-craft, non-inspector personnel who may not be or may never have been current in inspection techniques or requirements. For example, in his memorandum of December 23, 1982, the Maintenance Superintendent allowed QCICs to perform in-process inspections. A record review revealed that one QCIC who was not craft qualified in the plant did not have any inspection training. At the exit interview, the licensee stated that they would examine the matter and ensure that either qualifications would be documented for persons in the Maintenance Superintendent's memorandum who were authorized to inspect hold points, or those persons would not be permitted to inspect. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-04; 316/83-01-04).

Response

With the inception of the QC Department the requirement will be modified to ensure that all inspections are conducted by personnel deemed qualified by the QC Department.

5. Section 1.7 of the FSAR states that department QCICs provide monitoring of work in progress. Interviews with QCICs indicated that they seldom monitor work in progress. Although the QCICs provide many valuable administrative services to the plant management other than monitoring work in progress, these administrative duties would not normally be considered QC functions. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-04; 316/83-01-04).

Response

The monitoring of selected work activities will be performed by the QC Department.

6. PMI-2290 provides weak control of work which is performed within the skill of the craft with respect to inspection and testing. For example, the Job Order Preparation and Planning Sections of PMI-2290 makes no reference to the establishment of hold point inspections for quality control purposes. (For work of an "undetermined scope" hold points were recommended for periodic reassessment of job scope, including such factors as "material availability, Technical Specification constraints, test requirements, etc." but this type of hold point did not serve a quality control function.)

In addition, while the Job Order Planning Section of PMI-2290 required that test requirements "must be specified to assure that the affected equipment/systems are adequately tested upon completion of the job," the procedure and the Job Order form did not indicate who should establish these test requirements or what criteria to use to assure that testing is adequate. In the case of maintenance performed within the skill of the craft where no written, reviewed, and approved maintenance procedure established post-job test requirements, there was no assurance that appropriate tests would be properly performed.

The above issues regarding inspection and testing are considered to be an Unresolved Item pending further inspection in this area (315/83-01-06; 316/83-01-06).

RESPONSE

A special Plant Manager Instruction Review Committee has been formed to review the Donald C. Cook Nuclear Plant, "Plant Manager Instructions (PMI's)". This Committee has started a systematic review of all PMI's with the ultimate goal of revising these procedures to reflect:

- a) The latest requirements of applicable NRC Regulatory Guides, industry standards, and company policy.
- b) Incorporating state of the art technology when applicable.
- c) Integrating and streamlining work control programs.

During this Committee's review, the concerns identified relative to the weaknesses in work control will be reviewed, and where deemed applicable PMI-2290 will be revised to address these concerns.

7. The licensee's Job Order System, in some cases, provided weak guidance for use of written procedures. PMI-2290, Revision 5, states, "Based upon the nature of the work to be performed, consider if a procedure may be used or modified to perform the work or the development of a new procedure may be required. This area of the Job Order Form must be completed (checked yes or no) prior to the start of the work." PMI-2290 provides no additional guidance or criteria in determining when a written procedure should be used.

A recent problem which illustrated this weakness in the Job Order System occurred during the last refueling outage when the miniflow recirculation line for the Unit 2 Coolant Charging Pumps (CCPs) was modified.² In this case, job planning including sequencing of work was performed, but was not written and communicated to the craftsman. As a result, the CCP recirculation line was cut in the wrong location causing reactor coolant to be sprayed inside the CCP room and resulted in the inoperability of both CCP's for a short time (the LCO was not exceeded).

The licensee does not utilize a work traveler along with Job Order to provide precautions, job sequencing instructions, insertion of QC hold points, system restoration requirements, etc. A work plan or traveler could improve the licensee's performance in this area.

This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-07; 316/83-01-07).

RESPONSE

The special PMI Review Committee (Ref. to response to Item 6) will review the concerns identified relative to the "Job Order System," and when it is deemed an enhancement to the existing Job Order System, make the necessary revisions to PMI-2290 to alleviate these concerns.

²Inspection Report 50-315/82-22; 50-316/82-22

8. PMI-2010 includes no provision for performing tests when significant procedure changes are made. For example, Procedure **1-OHP 4023.001.001, "Alternate Emergency Shutdown and Cooldown Procedure Due to Loss of Normal and Preferred Alternate Methods," was significantly revised in June 1979 in accordance with PMI-2010 and no test of the procedure changes was performed. When a walk-through of this procedure was performed during an NRC inspection, errors in the procedure were identified which "could preclude the operators from satisfactorily performing the emergency procedure."³ Since many of the procedural deficiencies involved misidentified or unlabeled components, a test or walk-through would have been useful in correcting these deficiencies before the procedure change was issued for use.

PMI-5040, Revision 5, "Design Changes", which establishes requirements for processing Requests for Change (RFCs), requires in Section 4 (RFC Testing) that "All RFC installations shall be tested to verify operability or shall have a documented review . . . which justifies why testing is not required." No testing guidance was provided other than "verifying operability" which was not defined. Testing to produce expected results, verify design criteria, verify no reductions in safety of operations, or to determine if adverse systems interactions occur was not discussed. (See Paragraph 5 for other findings on design changes.)

The above issues regarding tests following major procedure changes and modifications to systems are considered to be an Unresolved Item pending further inspection in this area (315/83-01-08; 316/83-01-08).

RESPONSE

During it's review of PMI-2010 and 5040, the special PMI Review Committee will take cognizance of the identified concerns relative to the lack of specific guidance for "testing" significant procedure changes, and the post installation testing of Design Changes, and where deemed necessary, revise the applicable PMI to address these concerns.

³Finding 315/82-08-06(A); 316/82-08-06(A)

9. PMIs and their revisions require AEPSC QA Manager approval. DHIs and their revisions require site QA supervisor approval. However, Temporary Procedure Changes (TPs) issued to change PMIs and DHIs do not require the approval of either of these individuals. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-09; 316/83-01-09).

RESPONSE

In the next revision to PMI-2010 entitled Plant Manager and Department Head Instructions, Procedures and Associated Indexes, this finding will be evaluated and appropriate action taken.

10. The licensee initiated a matrix to identify the procedure(s) which implement each of the requirements of ANSI N18.7-1976 and other QA source documents but this matrix was incomplete. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-10; 316/33-01-10).

Response

The ANSI Standard Requirement/Implementation Matrix was initiated as an aide in determining compliance with the requirements of the various ANSI Standards to which the plant is committed. This matrix is not, in our opinion specifically required by any ANSI Standard. The requirements of ANSI N.18.7-1976, Section 5.1 are met in AEPSC General Procedure No. 2.1.

The completion of the matrix will require a significant effort. The AEPSC Plant Detachment QA Audit Section will undertake the effort to complete the matrix as time permits.

11. Several licensee identified problems during the past year were examined to determine if they involved common design change control problems. Examples of design changes for which the work intended to be accomplished was not adequately specified are as follows:
 - i) Installation of change RFC-12-2448, "Radiation Monitoring," exceeded the scope of a temporary waiver letter before the safety review and approval by AEPSC Nuclear Safety and Licensing (QA Surveillance 12-82-405).
 - ii) For RFC-12-2444, "Reactor Vessel Level Indication System" only partial installation had been authorized but the work performed exceeded that which was authorized (Unit 1 LER 82-02/99-1).
 - iii) Modification to the ESF Ventilation Systems was completed for design change RFC-12-2528, "Control Room Ventilation," when only partial installation was intended. This resulted in violation of Unit 1 operability requirements due to failure to perform appropriate testing following the modification (LER 82-024/03L-0).
 - iv) Work on modifying the coolant charging pump recirculation path was not done as planned resulting in both pumps being inoperable at the same time (Unit 2 LER 82-96/03L-0 and Paragraph 3.b.(1)(ii) of this report).

A problem common to the above matters was that design change packages sent to the site from the corporate engineering offices are generally not controlled by a "master installation procedure." Rather, installation is controlled by statements of design change goals and drawings of the as-modified system.

Lack of such a controlling procedure also makes it difficult to insert independent QC hold points.

This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-11; 316/83-01-11).

RESPONSE

AEPSC and the Donald C. Cook Nuclear Plant are performing a comprehensive review of the entire Design Change Program. This review is identified in Section 2.2.4 of our Regulatory Performance Improvement Program and Sections 4.a.2 and 4.a.8 of the Performance Appraisal Section (PAS). During the conduct of these reviews, the findings identified above will be evaluated.

12. Design Change RFC-12-2528, "Control Room Ventilation," did not receive complete input design considerations. This was indicated by the necessity for an addendum to the RFC at the site to add test ports to verify completion of the change. This is considered to be Unresolved Item pending further inspection in this area (315/83-01-12; 316/83-01-12).

RESPONSE

AEPSA is conducting a comprehensive review of all criteria required to institute, install and implement a Design Change. As part of this review, the findings identified above will be evaluated.

13. RFC-12-2448, "Radiation Monitoring," was partially installed and tested for Unit 1. After declaring the monitor operable to satisfy Technical Specification (TS) requirements, operators obtained negative radiation values when checking the alarm setpoints as required by a TS Surveillance (LER 82-61/03L-0). Testing (i.e., operating procedure checkout) was not performed to demonstrate the suitability of operating procedures. Testing of this nature is only recommended by PMI-8010, "Preoperational and Startup Test Program for Unit 2." Furthermore, the provisions of PMI-8010 are not considered by the licensee to be applicable to facility changes. During the exit meeting on February 17, 1983, the licensee committed to evaluate and revise PMI-8010 to clarify its applicability to design changes which fall under the requirements of ANSI 18.7-1976 Section 5.2.19(4). This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-13; 316/83-01-13).

RESPONSE

As defined in Item No. 6, a review group has been formulated to conduct reviews of the Donald C. Cook Nuclear Plant, Plant Manager Instructions. This group has been instructed to review all criteria; i.e., NRC, Industry, Company; when performing these reviews and to integrate, streamline and, where necessary, establish new controls that will enhance our work control program.

14. AEPSC General Procedure 3.0 implements the requirements of ANSI N45.2.11 with respect to design verification, but these requirements are not reflected in the program controls of General Procedure 25 or PMI-5040 which control design changes. The licensee has committed to complete this implementation by August 31, 1983. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-14; 316/83-01-14).

Response

General Procedure 25 is undergoing review to ensure that it is responsive to the criteria established by ANSI N.45.2.11. Upon completion of this review the Plant Manager Instruction (PMI-5040) will be revised to incorporate all requirements delineated in General Procedure 25.

15. Recent reorganizations of the I&M Construction Department have resulted in numerous management and supervisory reassignments. Interviews with I&M Construction, contractor, and AEPSC representatives indicated that in some cases these administrative and functional changes had not been fully communicated to personnel. It was not clear to some of the individuals interviewed how the construction organization interfaced with the plant organization for technical and administrative direction. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-15; 316/83-01-15).

Response

A temporary change to PMI-1010 entitled Organization and Responsibilities of AEPSC and I&M Electric was initiated which delineates the reporting relationship between I&M Construction and the plant and corporate office.

16. Quality Assurance aspects of work performed by contractor vendors were coordinated by the I&M Construction Department under PMI-9010, "I&M Construction Quality Control (QC) Manual," until PMI-9010 was cancelled on January 4, 1983. Up to that time, contractors were required to either use this document to govern their QC practices or use their own QC manuals. PMI-9010 was prepared in 1974 to serve as transitional guidance to integrate construction activities with the plant QA programs, and contractors used PMI-9010 instead of their own QC manuals.

Following the cancellation of PMI-9010, the QC manuals of three major contractors became the governing documents for their QC practices. Since QC requirements had previously been implemented by PMI-9010 and the manuals were not kept current, these manuals were out of date and required a number of changes. The inspector found efforts were underway to revise the manuals except for N.E.R.V.E. (Nuclear, Electrical, and Relay Verification Engineers) whose QC manual was up to date. This is considered to be an Unresolved Item pending further inspection in this area (315/83-01-16; 316/83-01-16).

Response

The QC manuals for these contractors are undergoing revision and when complete will reflect the current mode of operations relative to QC requirements.