



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

SEP 13 1978

Docket No. 50-440
Docket No. 50-441

The Cleveland Electric
Illuminating Company
ATTN: Mr. R. M. Ginn
President
P. O. Box 5000
Cleveland, OH 44101

Gentlemen:

Thank you for your letter dated August 17, 1978, which informed us of the steps you have taken to correct the noncompliance identified in our letter of July 13, 1978. We will examine your corrective actions during future inspections.

During a telephone conversation, on August 30, 1978, between J. M. Lastovka of CEI and J. E. Konklin of this office, Mr. Lastovka stated that CEI will supplement your response to our letter of July 13, 1978 by providing the following information:

1. Your response to Item 4 of the Appendix A transmitted by our letter will be supplemented by including a discussion of the measures established by CEI to assure that, in the future, purchased services of site contractors conform to the procurement documents, and
2. As requested by our letter, you will describe changes to the management control system which you have implemented or planned.

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SEP 13 1978

The Cleveland Electric
Illuminating Company

- 2 -

Mr. Lastovka stated further that your supplemental response will be transmitted to this office by October 1, 1978.

Your cooperation with us is appreciated.

Sincerely,

James C. Keppler
Director

cc w/ltr dtd 8/17/78:
Mr. D. R. Davidson,
Vice President
Central Files
Reproduction Unit NRC 20b
PDR
Local PDR
NSIC
TIC
U. Young Park, Power
Siting Commission

9-12-78
E. J. Schwabing

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|---------|---------|-------|----------|----------|---------|---------|
| OFFICE | RIII | RIII | RIII | RIII | RIII | RIII |
| SURNAME | Yin/ls | Hayes | Spessard | Heishman | Nordius | Keppler |
| DATE | 9/11/78 | | | 9/12/78 | 9/13/78 | |



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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Dalwyn R. Davidson
VICE PRESIDENT - ENGINEERING

August 17, 1978

Mr. J. G. Keppler
Director
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

This letter is to acknowledge receipt of your inspection report number 50-440/78-02 and 50-441/78-01 attached to your letter of July 13, 1978, which I received on July 17, 1978. This report identifies areas examined during the inspections conducted January 24 - 26, 1978 and February 2 and 3, 1978 by Messrs. I. T. Yin, K. R. Naidu, G. F. Maxwell, and C. C. Williams.

Attached to this letter is our response to the eleven (11) items of noncompliance described in Appendix A, Notice of Violation. This response is in accordance with the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations.

As indicated in the third paragraph of your letter, we have, in several instances, referenced corrective steps which we described to you in previous correspondence and which have been observed through your subsequent inspections at the site. We trust that this approach, as well as our direct responses, will satisfy our obligation to respond to each item identified in the Notice of Violation.

In addition, your letter, in paragraph (5), identified a specific concern regarding the adequacy of embedments placed in safety-related concrete poured prior to the stop work actions associated with the Immediate Action Letter of February 8, 1978. Due to the complexity involved with providing a thorough and comprehensive analysis, we will respond to this concern in a separate report. Analysis of these embedments has been initiated by Gilbert Associates, our architect engineer. At this time we anticipate submitting the results of this analysis for your review by December 1, 1978.

Should there be any questions or concerns, please do not hesitate to call.

Very truly yours,

D. R. Davidson
Vice President - Engineering

DRD:par
Attachment

cc: Quality Assurance
Management Committee

J. W. Fenker
G. W. Groscup
R. H. McNeal

W. R. Ossman
P. B. Perry
J. J. Waldron

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RESPONSE TO ENFORCEMENT ITEMS

Listed below are the responses to the noncompliances identified in Appendix A, Notice of Violation, of the United States Nuclear Regulatory Commission IE Report No. 50-440/78-02; 50-441/78-01.

I. A. Infraction

10CFR50, Appendix B, Criterion III, states, in part, that "Measures shall be established to assure that applicable regulatory requirements and the design basis . . . are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents . . ."

Paragraph 17.1.3 of the Quality Assurance Program documented in the PNFP PSAR states, in part, that "Specifications shall require vendors to submit drawings, design data, fabrication procedures and test results as necessary. Selected vendor documents will be reviewed by GAI. Vendor drawings will be reviewed by GAI engineers for consistency with technical specification requirements and the GAI design intent."

Contrary to the above, measures were not established to assure vendor drawings and procedures were reviewed to ascertain inclusion of applicable regulatory and quality requirements. For example:

- a. Safety Class 1, 2, and 3 piping Specifications SP-44-4549-001 and SP-527-4549-001 did not include the requirement for the piping vendor (Pullman) to submit drawings, design data, and fabrication procedures to GAI, and therefore, these documents were not being reviewed by GAI engineers.
- b. Safety Class 3 piping Specification SP-47-4549-001 contains the requirements for the piping vendor (Pullman) to submit shop and erection drawings, data sheets and fabrication procedures to GAI for review and approval. However, drawings and other instructions being used to install Safety Class 3 piping (vendor "take off" drawings SP-47-001 and PP-304-861) were not reviewed and approved by GAI.

B. Response

Corrective actions relative to these matters which were identified in your Immediate Action Letter of February 8, 1978, were reviewed on February 17 and 18, 1978 and found to be acceptable as detailed in United States Nuclear Regulatory Commission IE Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.

II. A. Infraction

10CFR50, Appendix B, Criterion V states, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Paragraph 17.1.5 of the Quality Assurance Program documented in the FNPP PSAR states, in part, "Each major participant in the project will be required to provide documents which describe the control of their quality-related activities. All participants, including vendors and contractors, shall be required to perform quality-related activities in conformance with approved instructions, procedures, and drawings applicable to their phase of the work. Each instruction and procedure will have a detailed description of the activity including quantitative and qualitative acceptance criteria and provisions for documenting the findings or results . . . CEI shall have the responsibility for overall control of the FNPP quality. Instructions and procedures shall be prepared by CEI or agents to describe the means for achieving the required quality."

Contrary to the above, CEI failed to accomplish activities in accordance with instructions or procedures, failed to require that instructions or procedures include quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished and failed to require that activities affecting quality were prescribed by documented instructions or procedures. For example:

- a. On at least twelve (12) occasions since October 1976, CEI Construction Quality Control (CQC) did not document deficiencies in Nonconformance Reports (NR's) as required by the CQC Manual; interoffice memorandums were used instead.

The CQC Manual, Section 16, Paragraphs 2.1 and 2.2 states, in part, "Items and activities that do not conform to specifications, drawings and other project requirements shall be identified, documented and corrected. Deficiencies which affect the quality status of material and equipment are reported on Nonconformance Reports (NR's) . . ."

- b. On approximately twenty (20) occasions since April 1977, Great Lakes did not document storage deficiencies in Nonconformance Reports as required by procedure AQCP-8 and AQCP-9.

Paragraph 5.1 of AQCP-8 states, in part, "Storage shall be in accordance with ANSI N 45.2.2," and AQCP-9, Paragraph 4.1, states in part, "A nonconformance report shall be initiated when structures, systems, or components do not comply to specifications, drawings, codes, standards and/or any delineated project acceptance criteria."

Great Lakes' failure to follow the requirements of AQCP-8 was cited once previously as an item of noncompliance in IE Inspection Report No. 50-440/77-07; 50-441/77-07.

- c. Eighteen (18) containers of coating materials maintained in a Cannon storage area, were not identified with the appropriate quality tags as required by the Cannon QA Program.

The Cannon QA Program, Section I, Paragraph 7.1.6 states, in part, "Accepted materials are tagged "Accepted" and stored for use."

- d. The audit checklists, which were utilized by CEI during the pre-award surveys of Pullman and Cannon, contained specific instructions requiring that each block/checkpoint be addressed by the audit personnel and the results documented in the applicable block or beside the applicable checkpoint. At least 60% of the audit checkpoints/blocks were not completed/documented in accordance with the specific audit checklist instructions. The Pullman audit was conducted on June 22, 1976, and the Cannon audit was conducted on April 6, 1976. The Pullman contract for Safety Class 3 piping was awarded on September 28, 1977, and the Cannon contract for application of coating materials was awarded on August 11, 1976.
- e. Five (5) DICK Corporation QA inspection personnel, who have been working at PNPP since December 1976, did not receive training and indoctrination as required by procedure FQC-2.1.

Procedure FQC-2.1, Paragraphs 6.1.1 through 6.1.3 state, in part, "The training program shall include: Indoctrination of personnel with the technical objective of the project and the NRC requirements . . . Instructions on the use of the procedures, codes, and standards that will be used . . . The Quality Assurance elements that are to be employed, with guidance regarding the limitations and capabilities."

- f. U. S. Testing (the test lab contractor) did not have documented instructions or procedures to assure precision weight scales are properly calibrated and adjusted.
- g. National Engineering did not have documented instructions or procedures to prevent the continuous placement of concrete which has excessive slump.
- h. The safety-related piping Manufacturing Surveillance Plan No. 033 being used by the GAI inspector at Pullman's fabrication shop did not define lot size and did not make documented reference to a recognized standard practice; thereby not requiring sufficient quantitative or qualitative criteria for determining that important activities have been satisfactorily accomplished.

B. Response

- a. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978 were reviewed June 6 - 9, 1978 by Mr. J. E. Konklin as detailed in United States Nuclear Regulatory Commission IE Report No. 50-440/78-07; 50-441/78-06, which was attached to your letter dated July 7, 1978. Previously, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.
- b. Corrective actions relative to this matter were detailed in Mr. Davidson's letter to you dated March 7, 1978, which was sent in response to your letter of February 17, 1978. This letter requested more information about our original response to the first violation identified in IE Report No. 50-440/77-07; 50-441/77-07.
- c. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978, were reviewed February 17 and 18, 1978 by Messrs. C. C. Williams and I. T. Yin and found to be acceptable as detailed in United States Nuclear Regulatory Commission IE Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.
- d. The preaward surveys of Pullman and Cannon were reviewed and determined to adequately evaluate the quality programs. These contractors were both required to submit project-unique programs which were subsequently reviewed by CEI/QA or others. This requirement was established during both preaward surveys.

The specific checklists used for the Pullman and Cannon preaward surveys have been reviewed, and all blank areas evaluated. Future uses of this checklist will comply with instructions on the form.

The particular checklist forms used were designed for auditing manufacturers and were not required to be used by CEI/QA Procedure 8.2, Rev. 2, "CEI/QA Audit Procedure for Contractors" (which was applicable at the time). CEI/QA recognized the difference between auditing an existing manufacturing facility and a proposed construction site operation and issued Quality Assurance Instruction 5.3, "Conducting Contractor Preaward Surveys" on December 3, 1976. (The Pullman audit was conducted in June 1976 and the Cannon audit was conducted in April 1976.)

II. B. Response

- e. A review of DICK Corporation's on-Site QC personnel qualifications was performed. The documentation available was in accordance with that required by FQC 2.1, Rev. 0, DICK Corporation has committed to having a more formal indoctrination and training program, including indoctrination to NRC requirements, available on-site by September 10, 1978.
- f. U. S. Testing has submitted Calibration Instruction No. 16 "Laboratory Scales and Balances (Mechanical)" for review and approval by Construction Quality Engineering. Resolution of comments was accomplished during a meeting held on August 1, 1978, between the licensee's representatives and U. S. Testing Management. The letter of acceptance will be issued by August 14, 1978.
- g. National Engineering & Contracting Co. is revising their procedure QP 10.1 "Concrete Inspection". This revised procedure is to include the wet slump requirements and will be submitted to Construction Quality Engineering for review no later than August 15, 1978. Until this procedure is approved by CQE and implemented by National Engineering, CQC will be performing 100% concrete placing inspection for this contractor.
- h. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978 were reviewed February 17 - 18, 1978, by Messrs. C. C. Williams and I.T. Yin and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978 we outlined for your review the actions which had been taken.

III. A. Infraction

10CFR50, Appendix B, Criterion VI states, in part, that "Measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are ... used at the location when the prescribed activity is performed."

Paragraph 17.1.6 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "The Field Construction Management Organization Firm shall provide written procedures for the control of documents such as working drawings, specifications, procedures, and instructions to assure that only the latest revisions will be used for construction and erection. Documents will be distributed in accordance with approved distribution lists."

III. A. Infraction, Cont.

Contrary to the above, CEI failed to ensure that National Mobile used design Specification SP-14-4549-00, Revision VII, for batching safety-related concrete, which was the latest applicable revision. Specification SP-14-4549-00, Revision VII was issued on February 15, 1977, approved on June 28, 1977, and received by National Mobile on August 5, 1977, and since the date of receipt, more than 140,000 cubic yards of concrete (batched to SP-14-4549-00, Revision VI) have been placed.

The use of out-of-date and/or unapproved procedures by site contractor (Great Lakes Construction Co.) was cited once previously as an item of noncompliance in IE Inspection No. 50-440/78-06; 50-441/78-05.

B. Response

Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978 were reviewed June 6 - 9, 1978 by Mr. J. E. Konklin and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-07; 50-441/78-06, which was attached to your letter dated July 7, 1978. Additionally, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.

IV. A. Infraction

10CFR50, Appendix B, Criterion VII states, in part, that "Measures shall be established to assure that purchased . . . services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents".

Paragraph 17.1.7 of the Quality Assurance Program documented in the FNPP PSAR states, in part, "The procurement of safety class . . . services shall be performed in accordance with written policies and procedures. Appropriate measures will be included to evaluate procurement sources, monitor the activities of vendors and contractors, and confirm that purchased material conforms with procurement documents . . . The programs of all participants shall be in accordance with the CEI Quality Program Specifications, the CEI FNPP QA Plan and 10CFR50, Appendix B."

Contrary to the above, measures established by CEI did not assure that the purchased services of several site contractors conformed to procurement documents in that the QA programs for these contractors were not in accordance with 10CFR50, Appendix B. For example:

- a. Great Lakes did not establish an indoctrination and training program as required by contract Specification SP-708-4549-00.
- b. PBI Industries did not establish requirements for follow-up action, including reaudit of deficient conditions, to assure that corrective action has been taken.

IV. A. Infraction, Cont.

- c. Cannon did not establish receipt inspection requirements to assure that manufacturer's test/product results, for coating materials, conform to procurement documents prior to release of these materials for use.
- d. Pullman did not establish measures to control drawings, related design documents and procedures which were being utilized for the installation of safety-related piping. For example:
 - (1) Pullman personnel identified a Safety Class 3 piping installation as being in accordance with Drawings No. SP-47-001 and No. PP-304-861; these drawings were uncontrolled and unapproved. The Architect Engineer (GAI) drawing on which these drawings were based, did not have a drawing number, and therefore evidence of proper approval and document control could not be demonstrated.
 - (2) Pullman personnel were using an unapproved checklist to perform receipt inspections of material in an attempt to comply with procedure No. X-5.
 - (3) Pullman personnel possessed and were using a revision of Specification SP-47-4549-001, dated October 24, 1977. This document was not available in CEI's document control center. Further, this document was incomplete in that drawing control and approval requirements had not been established.
 - (4) Pullman personnel could not determine, from their records and documents, whether or not they possessed the correct revisions to all of the drawings maintained by them.
 - (5) Pullman personnel were installing Safety Class 3 piping without having the applicable drawing(s) available in the area where the work was in progress. Moreover, these personnel were not knowledgeable as to which drawings were applicable.

B. Response

- 4. a. Great Lakes Construction Company has issued AQCP-16, Rev. 1, dated April 10, 1978, entitled "Indoctrination and Training of Personnel". This procedure was accepted by CEI Construction Quality Assurance on April 19, 1978. Great Lakes has begun implementation of their training program as described by this procedure.

Full compliance has been achieved.

B. Response, Cont.

4. b. Corrective Action Request CQA 0434 was issued on February 8, 1978 to PBI to withdraw CEI Quality Assurance approval of PBI's safety-related QC/QA program Field Supplement for Erection of Structural Steel. This CAR accompanied Stop Work No. CQA-78-3.

The revised program document dated May 11, 1978 was subsequently approved by CEI Quality Assurance personnel on May 15, 1978, and a Stop Work Release was issued to PBI (SP-85) Section X, Item B.4., of PBI's revised program states in part, "A reaudit of deficient areas shall be performed within 45 days of the initial audit."

Full compliance has been achieved.

- c. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 3, 1978, were reviewed by Mr. G. F. Maxwell and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.
- d. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978, were reviewed April 13 - 14, 1978 by Mr. J. E. Konklin. Based on his evaluation, CEI issued a Stop Work Release on April 14, 1978 to Pullman Power Products which covered SP-44. With this action, the conditions which necessitated Stop Work Notice CQA-78-01 to be issued to Pullman Power Products on February 8, 1978, were considered to be corrected. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.

V. A. Infraction

10CFR50, Appendix B, Criterion IX states, in part, "Measures shall be established to assure that special processes, including welding . . . and nondestructive testing, are controlled and accomplished by qualified procedures in accordance with applicable codes, standards, specifications, criteria . . ."

Paragraph 17.1.9 of the Quality Assurance Program documented in the FNPP PSAR states, in part, "Special processes to be used during the manufacture and installation of equipment shall be established and controlled in accordance with approved procedures. Welding, . . . nondestructive examinations and other processes which require unusual care or close control shall be performed in accordance with appropriate written procedures. Procedures . . . will be established to meet the requirements of applicable codes and standards . . . or to meet the requirements of special process specifications which will be produced for the Perry Nuclear Power Plant Project."

Specification SP-667-4549-00, titled "Fabrication and Delivery of Safety-Related Embedded Steel" in Paragraphs 2:04.2 and 2:10.2 specified that the welding activities should be performed and inspected respectively to requirements of AWS D1.1-72.

Contrary to the above, on February 3, 1978, fifteen safety-related embedments and structural steel columns were found with weldments which did not meet the requirements of the applicable code (AWS D1.1-72). For example, identification marks were not on parts or joints showing that a welding inspector had inspected and accepted the welds; Nelson Stud Welds, which had been repaired by stick welding, were not tested with a hammer stroke and bent to an angle of 15 degrees for its original axis; welds were of poor quality as exhibited by inadequate size, excessive porosity and excessive gouging as defined by the code.

B. Response

A 10CFR50.55(e) was reported to N.R.C. Region III on February 4, 1978 and corrective actions relative to these matters are identified below:

- (1) As a result of your findings relative to the embedment and structural steel columns, we contacted N.R.C. Region III and reported the situation as a significant deficiency under 10CFR50.55(e) on February 4, 1978. Our March 6, 1978 Interim Report on Nonconforming Safety-Related Embedment and Structural Steel identified corrective actions initiated relative to this matter.
- (2) Additional corrective actions relative to this matter were detailed in Mr. Davidson's letter to you dated May 1, 1978 which was sent in response to your Immediate Action Letter of February 8, 1978.

Since that time 100% inspection of all safety-related embedments in stock has been completed and 100% receiving inspection of all current shipments of imbedments to the job-site is being performed. CQC Detailed Procedure DP 11.1.5, "First Line Inspection of Fabricated Embedments", including the checklists, are being utilized to conduct embedment inspections was reviewed by Messrs. W. Hansen and G. Phillips on June 9, 1978 with no problems noted.

Insofar as the structural steel is concerned, the 17 reactor building columns are being repaired and 100% magnetic particle testing of fillet welds has been initiated. The control complex steel, which has already been erected, has been visually inspected by Quality Inspection. In addition to that, 20% of the steel is being magnetic particle tested by FBI under Quality Inspection supervision and utilizing a Gilbert sampling plan. The annulus platform steel has been visually examined and 20% of it has been selected for 100% magnetic particle testing at Levinson Steel.

VI. A. Infraction

10CFR50, Appendix B, Criterion X states, in part, that "A program for inspection of activities affecting quality shall be established and executed . . . to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity . . . Examinations . . . shall be performed for each work operation where necessary to assure quality."

Paragraph 17.1.10 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "Each organization's inspection program will adhere to the following general requirements: . . . Documented and approved procedures will be used to control methods and describe acceptance standards . . . Quality will be controlled by inspection or process control or a combination of both as necessary."

Paragraph 3.8.1.6.1.5 of the PNPP PSAR states, in part, that "Requirements for placing and consolidating concrete are as detailed in ACT 301."

Contrary to the above:

- a. On January 24, 1978, the inspectors observed that the QC inspection being performed by CEI and Great Lakes personnel during concrete Pour No. CCO-S1/S6-599 did not verify conformance with documented instructions and procedures (ACT 301-1972, Chapter 8.3.4; Construction Quality Control Inspection Plan No. C-01, Revision 2, SP-20, Checklist Acceptance Criterion II.F; and Construction Quality Control Guideline No. C-4, Section IV, Revision 0) in that improper use of vibrators was not identified and corrected.
- b. On January 25, 1978, the inspectors observed that the QC inspection being performed by National Engineering personnel during concrete Pour No. IBO-S1-599 did not verify conformance with documented instructions and procedures (ACT 301-1972, Chapters 3.5 and 8.3.4; Construction Quality Control Inspection Plan No. C-01, Revision 2, SP-20, Checklist Acceptance Criteria II.D and II.F; and Construction Quality Control Guideline No. C-4, Section IV, Revision 0) in that improper use of vibrators and the use of concrete with excessive slump were not identified and corrected.

B. Response

Corrective actions relative to these matters which were identified in your Immediate Action Letter of February 8, 1978, were reviewed by Messrs. E. J. Gallagher and K. R. Naidu and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated May 1, 1978, we outlined for your review the actions which had been taken.

VII. A. Infraction

10CFR50, Appendix B, Criterion XIII, states, in part, that "Measures shall be established to control the handling, storage, shipping, cleaning, and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration."

Paragraph 17.1.13 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "A program of procedures shall be implemented to prevent damage or deterioration of material or equipment during shipping, storage, and handling. Measures established will provide assurance of quality preservation, from fabrication through installation, to preclude deterioration or damage which could adversely affect quality."

Paragraph 4.4.2 and 5.1 of Great Lakes procedure AQCP-8 states, in part, "Material identification tags shall be affixed to bundles, packs, boxes, cans, or individual parts or pieces in such a manner as to assure positive identification of the material . . . Storage shall be in accordance with ANSI N 45.2.2."

Contrary to the above:

- a. On January 24, 1978, approximately 20(safety-related) nut and bolt assemblies (concrete embedments) and 1/2 pound of weld wire were examined. Both were found to be inadequately stored. For example, the weld wire was laying on a wet floor and the nut and bolt assemblies were submerged in water and were in a rusty condition, contrary to Paragraph 2.7.4 of ANSI N 45.2.2-1972. Additionally, the nut and bolt assemblies were not identified with a material identification tag as required by Great Lakes Procedure AQCP-8.

The improper storage of materials by site contractors (National Engineering, Pullman and Kaiser) was cited once previously as an item of noncompliance in I.E. Inspection Report No. 50-440/77-07; 50-441/77-07 .

- b. Great Lakes has not established instructions for inspecting safety related components in storage as required by Paragraph 6.4.2 of ANSI N 45.2.2.

CEI's failure to establish an instruction for inspecting materials (reinforcing steel) in storage was cited once previously as an item of noncompliance in I.E. Inspection Report No. 50-440/76-01; 50-441/76-01.

- c. Pullman has not established pipe and component lifting and handling procedures for site construction activities in progress.

VII. B. Response

- a. Great Lakes Construction Co. has revised their Procedure AQCP-16 "Indoctrination and Training of Personnel". This procedure now addresses more fully the necessity of recognizing improper storage of safety-related materials and the necessity of maintaining the material identification tagging system on all items other than reinforcing steel and embedded items, which are controlled as described in VII.B.b below.

In addition, the Construction Quality Section will initiate an evaluation of Nonconformance and Action Requests to determine any trends associated with storage problems. Based on the results obtained, the need for additional audit and/or surveillance of this area will be determined and implemented as necessary to assure that storage problems do not persist.

- b. Great Lakes Construction Company AQCP-16, Rev. 1, now specifically addresses storage. Page 4 of Attachment 3 dated February 15, 1978 comprises a Reinforcing Steel Placement Checklist. Page 5 of Attachment 3 comprises an embedded Metal Placement Checklist.

Additionally, GLC hired a full-time QC inspector to handle rebar, instituted a minimum sample plan of 30% on all bars to be increased as conditions warrant. It was determined that although these provisions constituted full address of the described problems, these measures were still not adequate to provide full control. Therefore, on July 1, 1978, a subcontract was let to Wahib Steel which included receipt inspection of rebar for GLC. Since Wahib Steel has approved procedures and has performed effectively for other site contractors and has sufficient manpower to effectively control rebar receipt, full compliance has now been achieved.

- c. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978, were reviewed on February 17 - 18, 1978 and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.

VIII. A. Infraction

10CFR50, Appendix B, Criterion XV, states, in part, that "Measures shall be established to control materials, parts or components which do not conform to requirements . . . These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations."

Paragraph 17.1.15 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "Measures shall be included in the CEI PNPP QA Program to control nonconforming materials, parts or components. . . QA Programs shall be required of vendors and contractors of safety class equipment and will include measures for identification, documentation, segregation, disposition and notification to affected organizations of nonconforming materials, parts or components."

Paragraph 6.1.4 of National Engineering procedure QP 15.1 states, in part, "Nonconforming items shall be tagged and segregated where ever possible per Section 6.6."

Contrary to the above:

National Engineering failed to document voids on concrete placement IBO-W-43-597 (intermediate building) on a Nonconformance Report (NR) and identify the specific area with a nonconformance tag or other means. Furthermore, the following areas where voids existed and which were documented on NRs had not been identified with nonconformance tags or other means: Section 26-26, at approximate elevation 580 feet; Section 22-22, at approximate elevation 581 feet - 6 inches; and Pour No. IBO-W-15-597.

B. Response

Nonconformance Reports NECC 92, dated January 25, 1978, and NECC 98, dated February 11, 1978, were issued to document the conditions described above. Additionally, on major wall surface defects, hold tags are being attached to the exposed rebar and the nonconforming portions are being painted.

NECC Procedure QP 15.1, "Nonconformance Report Control", has been revised, approved by Construction Quality Engineering, and implemented by the contractor. In part, this revision provides greater emphasis on the necessity of tagging for the purpose of establishing status of nonconforming items.

Full compliance has been achieved.

IX. A. Infraction

10CFR50, Appendix B, Criterion XVI, states in part, that "Measures shall be established to assure that conditions adverse to quality, such as . . . deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

Paragraph 17.1.16 of the Quality Assurance Program documented in the FNPP PSAR states, in part, "A plan for corrective action has been established for the FNPP to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Participant's programs shall be in accordance with the CEI FNPP QA Plan and 10CFR50, Appendix B. In the case of significant conditions adverse to quality, measures shall assure that the cause of the condition is determined and that corrective action will be taken to preclude repetition".

Contrary to the above, Great Lakes weekly storage inspection records reveal continuing storage problems since April, 1977, (a period of 10 months) and measures were not taken to assure the cause of this problem was determined and corrective action taken to preclude repetition. For example, storage problems were found relating to embeds on 15 weekly reports, to reinforcing steel on 11 weekly reports, and to anchor bolts on 2 weekly reports.

B. Response

Corrective action relative to this matter were detailed in Mr. Davidson's letter to you dated March 7, 1978 in item 1, which was sent in response to your letter of February 17, 1978.

The March 7, 1978 response was in answer to a similar problem which you had identified in your December 19, 1977 report. The current problem identified in this report was observed during your January 24 - 27, 1978 and February 2 - 3, 1978 inspections. We trust that our response of March 7, 1978 will be satisfactory for both cases.

X. A. Infraction

10CFR50, Appendix B, Criterion XVIII, states, in part, that "The audits shall be performed in accordance with the written procedures or check-lists by appropriately trained personnel not having direct responsibilities in the areas being audited . . . Follow-up action including re-audit of deficient areas, shall be taken where indicated".

Paragraph 17.1.18 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "Audit procedures will include: responsibilities assigned, audit frequencies, reporting criteria and levels of management to receive and assess audit findings . . . Findings will be noted and response checked to ensure resolution of the findings . . . CEI procurement documents shall require that contractors and vendors provide for audit of safety class items within the scope of the activities. These will be internal audits intended to provide evaluation of their functions."

Contrary to the above:

- a. Cannon did not conduct an internal project audit within the first three months of operation at PNPP, as required by the Cannon QA Program.

The Cannon QA Program, Section IV, Paragraph 4.1.1.1 states, in part, "The first internal project audit is scheduled within the first three months of operation of the project in order to assure the Project Quality Control Program is being effectively administered to assure quality."

- b. Three Audit Action Requests pertaining to U.S. Testing which were written by CEI, did not have sufficient follow-up action to assure that prompt corrective action was taken. For example, follow-up action by CEI was not taken until 10 months after the date of the audit (October 7, 1976) and as of the date of this inspection (16 months after the audit), follow-up action by CEI was still incomplete. CEI had specified an action due date of October 21, 1976, for these items.
- c. CEI failed to conduct an audit to verify that the recommended corrective action has been taken relative to National Engineering NR's No. 67 and No. 76. In both cases, the cause of the nonconformances was identified to be inadequate vibration and recommended action to prevent recurrence was to instruct the foreman and inspection personnel how to properly use vibrators. This same condition was observed by the RIII inspectors during concrete pours CCC-S1/S6-599 and IBO-S1-599.

CEI's failure to verify that the recommended corrective action had been taken by a site contractor (Pullman) was cited (against Criterion XVI) once previously as an item of noncompliance in I.E. Inspection Report No. 50-440/77-07; 50-441/77-07.

X. B. Response

- a. Corrective actions relative to this matter which was identified in your Immediate Action Letter of February 8, 1978, were reviewed by Messrs. C. C. Williams and I. T. Yin and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.
- b. All Audit Action Requests open since 1976 are now closed out. On March 31, 1978, a policy statement was issued by the Senior Engineer in charge of Construction Quality Assurance. This statement described the follow-up actions which would be necessary to close overdue Audit Action Requests. On June 20, 1978, all Quality Engineers were issued a memo describing a method of closer tracking which would necessitate a bi-monthly review of open Audit Action Requests.

CQSP 1603, dated May 1, 1978, requires a monthly review of the applicable Action Request Status logs by the Quality Control Supervisor and the Quality Engineering Supervisor to insure follow-up activities are being performed in a timely manner.

Full compliance has been achieved.

- c. As a result of this infraction, vibrator indoctrination and training has been performed for each safety-related concrete placement at Perry Nuclear Power Plant by the Site Organization Construction Quality Control element since February 28, 1978. This activity will be continued until the applicable contractors adequately address this subject in their QA programs.

Additionally, in accordance with the CEI commitment in their response to your Immediate Action Letter of February 8, 1978, Construction Quality Engineering has audited this area in their audits of concrete placements.

XI. A. Infraction

10CFR50, Appendix B, Criterion XVII, states, in part, that "Sufficient records shall be maintained to furnish evidence of activities affecting quality. The records shall include . . . the results of reviews, inspections, tests, audits . . . The records shall also include closely related data such as qualifications of personnel".

Paragraph 17.1.17 of the Quality Assurance Program documented in the PNPP PSAR states, in part, "Approved procedures shall establish and control the QA records program of each participant responsible for quality. The QA records relating to qualification of procedures, equipment and personnel will be retained in addition to the results of inspection, tests, reviews, audits and material certifications".

Contrary to the above:

- a. QA records relating to qualification of one of Cannon's personnel, who had been applying coating materials to safety-related structures, were incomplete in that they were not signed off by designated company individuals.
- b. The physical examination records for the Cannon site quality control manager, who has been performing inspection functions at Perry Units 1 and 2, were not on file in the site quality assurance office as required by the Cannon QA Program.

The Cannon QA Program, Section V, Paragraphs 17.1.1, 17.1.1.14, and 17.1.3 state, in part, "Quality Assurance Records Generated on the Perry Nuclear Power Plant site are . . . OBC-N-25 . . . Physical Examination Records . . . The original of all records are stored in a locked fire-proof cabinet in the site Quality Assurance office."

The failure to maintain onsite the qualification records of a site contractor's (National Mobile) QA/QC manager was cited once previously as an item of noncompliance in I.E. Inspection Report 50-440/76-01; 50-441/76-01.

B. Response

Corrective actions relative to these matters which were identified in your Immediate Action Letter of February 8, 1978, were reviewed on February 17 - 18, 1978 and found to be acceptable as detailed in United States Nuclear Regulatory Commission I.E. Report No. 50-440/78-03; 50-441/78-02, which was attached to your letter dated March 31, 1978. Subsequently, in our letter dated May 1, 1978, we outlined for your review the actions which had been taken.