



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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October 27, 1982

Dalwyn R. Davidson

VICE PRESIDENT

SYSTEM ENGINEERING AND CONSTRUCTION

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

RE: Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Response to I.E. Report

Dear Mr. Keppler:

This letter is to acknowledge receipt of Inspection Report Number 50-440/81-19; 50-441/81-19 attached to your letter dated September 27, 1982. This report identifies areas examined by Messrs. C. D. Braund, K. R. Naidu, C. H. Weil and C. C. Williams of your staff during their investigation conducted October 27, 1981, through March 19, 1982.

Attachment A to this letter is our response to the six (6) Severity Level IV and three (3) Severity Level V Violations described in the 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. In addition, Attachment B includes information in response to the Unresolved Items that were identified in this report.

If there are additional questions, please do not hesitate to call.

Sincerely,

Dalwyn R. Davidson
Vice President
System Engineering and Construction

DRD:ab

Attachments

cc: Mr. W. L. Glines
NRC Site Office

U.S. Nuclear Regulatory Commission
Attn: Management Branch
Washington, D.C. 20545

ATTACHMENT A

RESPONSE TO ENFORCEMENT ITEM

Below is our response to the Notice of Violation appended to United States Nuclear Regulatory Commission I.E. Report 50-440/81-19; 50-441/81-19.

I. Noncompliance 440/81-19-16; 441/81-19-16

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion III, states in part, "The design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews...performed by individuals or groups other than those who performed the original design..."

CEI Corporate Quality Assurance Program Section 0300 states in part, "CEI performs a design coordination function consisting of selected reviews and design control monitoring program...These procedures shall assure that...Design activities are conducted in a planned and systematic manner...Perry Safety Analysis Report requirements have been appropriately addressed in design documents...Design requirements can be controlled and inspected and/or tested to specified acceptance criteria."

CEI Specification, Electrical Installations, requires compliance with the AWS D1.1 Codes.

Contrary to the above, Gilbert Associates (the Architect Engineer) failed to adequately review Gould Inc. Drawings E-35-51-958 E231 and E233, in that the review failed to determine that the "plug weld" specified to weld 7/16" diameter holes in the switchgear did not meet the AWS D1.1 Code requirements. This resulted in welds being made which did not meet the specified code requirements.

B. Response

Action Request #457 was written to document this concern. This action request has been closed out and verified. Subsequently the equipment was welded down using fillet welds at the frame, and the original "plug" welds were abandoned in place. The design engineer and switchgear vendor have approved the revised design.

A memorandum was issued by Gilbert Associates to all Perry Project electrical and structural departments reiterating the correct procedure for routing and review of vendor drawings.

This item is considered to be resolved.

II. Noncompliance 440/82-19-01; 441/82-19-01

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion V, states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, and drawings of a type appropriate to the circumstances... and shall be accomplished in accordance with these instructions, procedures..."

- a. Gilbert Associates, Incorporated, Drawing D-215-001, Revision J, Criterion 13, states in part, "The total of all bends between pulling points in any run of conduit shall not exceed 270°; sufficient pull boxes are shown on drawings to meet this criteria." Further, CEI letter PY-50/33-5357, to L. K. Comstock, dated January 20, 1981, instructs Comstock to use the pull boxes as pulling points.

Contrary to the above, the instructions were not incorporated into the procedure and on November 16, 1981, the inspectors observed cable being pulled through a conduit with bends totaling more than 270° (by at least 160°) without using the installed pull boxes as pulling points.

- b. Paragraph 3.2.24 of L. K. Comstock Procedure No. 4.3.3 states in part, "Care shall be exercised in supporting coils to prevent kinking or exceeding the minimum bend training radius..."

Contrary to the above, LKC Cable Pulling Procedure 4.3.3 was not appropriate to the circumstances in that it did not prescribe alternate methods to store partially pulled cables to preclude violating the established minimum bending radii. As a result, the inspectors observed cables identified as 1M32R8B, 1M32R9B, and 1M32R11B coiled, and suspended by a single tie wrap in such a manner that the bend radii of the inner turns of subject cables were less than the minimum bend radii established by the manufacturer.

- c. Paragraph 5.2.6 of the L. K. Comstock Procedure No. 4.11.1, Nonconformance Items and Corrective Action, states in part, "Initiated NRs may be voided by the QA Manager or his designee..."

Contrary to the above, L. K. Comstock Nonconformance Reports No. 331 and No. 454 (dated February 25, 1981, and November 21, 1980, respectively) were voided by QC inspectors who were not authorized to do so.

- d. The L. K. Comstock Company Quality Assurance Manual requires separate positions for a QA Manager and a QC Supervisor.

Contrary to the above, from April 1981 until February 1, 1982, one individual holding the position of QA/QC Supervisor was filling the positions of QA Manager and QC Supervisor. The lack of adequate staffing contributed to L. K. Comstock's poor performance.

- e. The manufacturer of cable tray hardware materials, in their letter dated December 20, 1978, specified a maximum allowable torque of 45 ft. lbs. to tighten 3/8"-16 3/4" rib neck carriage bolts supplied for the cable tray splice joints.

Contrary to the above, L. K. Comstock's applicable cable and conduit installation procedures were not appropriate to the circumstances in that this torque requirement was not incorporated. Additionally, further inspections revealed there were no records to indicate that this requirement was met for any cable tray installed prior to this inspection (examples of improperly torqued bolts are discussed in paragraph 5.C below).

B. Response

- a. L. K. Comstock procedure 4.3.3 has been revised to incorporate the Engineering request for use of pull points. The cable concern was documented on Nonconformance Report LKC 810 and the cable was determined not to be over tensioned.

The 270° conduit criteria is not directly related to cable pulling, but is rather a criteria for conduit installation. To ensure the cable installation is satisfactory, cable pulling tensions are continuously monitored during the cable pull. The criteria (as defined on drawing D215-001, Rev. J) were met for the conduit installation.

Craft and inspector training has been performed to the revised procedure.

This item is considered to be resolved.

- b. L. K. Comstock procedure 4.3.3, paragraph 3.2.25 has been revised to require two points to suspend coiled cables, and on January 5, 1982, to change "training" to "bending". The cables observed and all other Class 1E cables utilize suspension methods in accordance with the revised procedure. The Project Organization has subsequently verified with the manufacturers that the utilization of training radius for coiling cables is acceptable.

Training of Quality Control and craft personnel has been conducted and documented. Additionally, Engineering (NCES) has added personnel to provide emphasis on procedure review.

This item is considered to be resolved.

- c. Action Request #455 was generated by Construction Quality Engineering and has since been verified and closed out. The L. K. Comstock Quality Control Manager has signed, reviewed, and verified the previous improperly voided nonconformance reports. Additionally, L. K. Comstock procedure 4.11.1 has been revised to clarify voiding requirements.

Training to revised procedure has been conducted and documented.

The item is considered to be resolved.

- d. Corrective action for this condition was reviewed by the inspector as discussed on Page 65 of this I.E. Report and no additional response is required.
- e. The lack of torquing requirements was initiated by Nonconformance Report CQC 2344 dated 9-11-81 and on DAR 068 as a potential significant deficiency.

The use of electric impact wrenches was discontinued and calibrated manual torque wrenches substituted. LKC Procedure 4.3.1 has been revised to incorporate torquing criteria of 35 ± 15 ft. lbs. These criteria were developed in conjunction with our corrective action relative to the Final 10CFR50.55(e) Report [RDC 37(81)] dated January 15, 1982.

This item is considered to be resolved.

III. Noncompliance 440/81-19-23; 441/81-19-23

A. Severity Level V Violation

10CFR50, Appendix B, Criterion VI, states in part, "Measures shall be established to control the issuance of documents, such as... drawings, including changes thereto, which prescribe all activities affecting quality..."

L. K. Comstock Procedure No. 4.2.1, Drawing and Specification Document Control, states, in part, in Paragraph 3.5.4, "Returning void drawings, the recipient shall sign the Field Drawing Transmittal (Form 52A - Void Issue Returned Line) and return it with the void drawings to the Document Control Coordinator," and in Paragraph 3.6, "Void drawings will be returned by recipients from the field by the General Foreman within two (2) working days of the issuance date noted on the Field Drawing Transmittal Form."

Contrary to the above, L. K. Comstock Company failed to return the voided copies of six drawings (Gilbert Associates, Inc., Nos. 4549-58-027; 4549-58-028; 4549-58-030; 4549-58-031; 4549-58-032; and 4549-58-033). Revision 1 of each of these drawings was found at an L. K. Comstock foreman's work area on the 620' elevation of the Control Complex instead of the most recent Revision (Revision 4). Revision 1 was issued in 1977 and Revision 4 was issued in 1981.

B. Response

The investigation of this problem revealed that all revisions of the drawings were properly issued to the field by L. K. Comstock Document Control. The drawing status indicates that field personnel were in receipt of the drawings and revisions but also indicates previously issued drawings were subsequently misplaced and therefore not returned.

L. K. Comstock has completed an inventory on all vendor prints and all drawings have been brought up to date. An Engineering review of the drawings indicated that the revisions did not affect the equipment installation.

Construction Quality Engineering performed Audit #635 and additional surveillances and determined that this is not a generic problem.

This item is considered to be resolved.

IV. Noncompliance 440/81-19-19; 441/81-19-19

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion VIII, states in part, "Measures shall be established for the identification and control of materials, parts...assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item."

The CEI Corporate Nuclear Quality Assurance Program Section 0800, in paragraph 1.2, states, in part, "Measures shall be established to implement the following requirements...Identifying and controlling material, parts and components including partially fabricated sub-assemblies or subdivided materials to preclude the use of incorrect or defective items."

Contrary to the above, the electrical contractor, L. K. Comstock Corporation, failed to establish adequate measures to control purchased hardware such as bolts, nuts, and cable mounting bases and store them in the stockroom in such a manner that defective items could not be traced to the appropriate documentation or shipment to preclude the use of incorrect or defective items.

B. Response

The L. K. Comstock Quality Assurance program is written and implemented such that materials are traceable and controlled up to receipt on Site. To obtain clarification of the technical requirements for traceability, CAR 82-09 was written, responded to, and closed. The traceability methodology within the L. K. Comstock QA program was evaluated as acceptable.

L. K. Comstock reorganized and reconfigured their warehouse to clearly segregate and control materials. A Construction Quality Engineering audit was conducted to verify L. K. Comstock's actions and no findings were issued relative to the above concern.

This item is considered to be resolved.

V. Noncompliance 440/81-19-03; 441/81-19-03

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion X, states, in part, "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity."

- a. CEI Corporate Nuclear Quality Assurance Program, Section 1000, Paragraph 1.1 states in part, "A program for inspection shall be established by CEI to ensure that all safety-related components... affecting those items meet the required quality standards."

Contrary to the above:

- 1) The electrical contractor failed to inspect the inside diameter of the containment vessel nozzles and the concrete shield wall penetrations to verify that concentricity and/or dimensional tolerances were within the limits established by the manufacturer.
- 2) An inspection program to verify the adequacy of installation of the 4160 volt/480 volt switchgear and the 480 volt Motor Control Centers (including the sequence of assembly such as, shimming, torquing of bolts, fitup and welding) was not established and therefore not performed.

- b. The electrical contractor's (L. K. Comstock) Cable Pulling Procedure, Section 4.3.3.1.10, requires verification that raceways are clean and free from abrasions and sharp edges which might cause cable damage during cable installation.

Contrary to the above, the NRC inspectors observed sharp edges and burrs in the following cable trays:

- . Tray B1313, elevation 604'.
- . Tray B1303, elevation 574'.
- . Tray B1324, elevation 620'.
- . Tray A3021, elevation 620'.

Several safety-related cables had been installed in cable trays B1324 and B1303.

- c. L. K. Comstock's Cable Tray Installation Inspection Checklist Form #17, Item 1.6, requires verification that bolts are tight on splice joints.

Contrary to the above, the following cable trays contained improperly seated bolts:

- 1) Cable tray A1699 located at Column Line D-11 at elevation 599' in the Auxiliary Building. Three out of eight splice bolts observed were not properly seated. This cable tray contains cables.
- 2) Cable tray 1E21H1A located at Column Line F-8 at elevation 579' in Room No. 2 of the Auxiliary Building. Two out of eight splice bolts observed were not properly seated.

B. Response

- a. 1) L. K. Comstock Procedure 4.3.10 has been revised to clarify penetration installation inspection criteria. Per revised Westinghouse installation instructions, the installation dimensions and tolerances documented on Field Questions 12159, 12173, 12230, 12249, and 12295 were evaluated and determined to be acceptable by Nuclear Construction Engineering Section (NCES). A plan was developed to address the adequacy of inspection for the Unit 1 penetrations. Training to the revised procedure has been completed and documented.

Penetration inspection records have been reviewed by the Project Organization Engineering Group. The records are incomplete and the contractor is in the process of completing the records. This item will be resolved by December 15, 1982.

Unit 2 penetrations are being installed to revised Procedure 4.3.10

- 2) L. K. Comstock Procedure 4.3.4 has been revised to clarify the equipment installation inspection criteria. Additionally, programs have been established to verify adequate installation inspections of the 4160 volt/480 volt switchgear, the 480 volt motor control centers (MCC) and 480 volt unit substations (including the sequence of assembly such as shimming, torquing of bolts, fitup and welding).

The status of the reverification programs related to in-process inspection are as follows:

Switchgear Installation - All items complete except for switchgear weld rework verification.

Unit Substation Installation - All items complete except for load center weld rework verification.

Motor Control Center Installation - All items complete except evaluation and disposition of slot welds for shims.

Any subsequent equipment installation will be performed in accordance with the revised procedure.

This item will be resolved by January 14, 1983.

- b. L. K. Comstock Nonconformance Report 1070 was generated to document the specific cable trays in question. After reinspection, these trays were evaluated to be acceptable.

L. K. Comstock Procedure 4.3.3 was evaluated in order to determine whether or not procedure revision was necessary. As part of the evaluation, a review of Nonconformance Reports was done to determine if any Class 1E cables had been previously damaged due to sharp edges. Twenty-two (22) L. K. Comstock Nonconformance Reports written in 1981 on cable and wire were reviewed and none were related to sharp edges or burrs on cable tray. Thus, based on the fact that no negative trend could be identified in this area, it was determined that a procedure revision was not required.

This item is considered to be resolved.

- c. An inspection program was developed to reverify on a sample basis the adequacy of installation of the bolts. The reinspection has been completed, and the original NR (CQC 2344) revised. The disposition documents the acceptability of the installation. NR CQC 2344 has been closed.

Inspections are performed in accordance with revised L. K. Comstock Procedure 4.3.1.

This item is considered to be resolved.

VI. Noncompliance 440/81-19-10; 441/81-19-10

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion XIII, states, in part, "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."

- a. CEI Construction Quality Assurance Procedure No. 2-1301 in Paragraph 1.2.3, states in part, "Monitor housekeeping on a continual basis while performing storage and maintenance inspections. Forward any deviation noted on an Action Request, to Project Safety Supervisor."

Contrary to the above, the inspectors observed that the protective covers on the Reactor Core Isolation Cooling and Residual Heat Removal instrument panels had deteriorated and the storage and maintenance inspection had not identified this condition prior to the NRC inspection.

- b. CEI Specification No. SP-33-4549, Procurement Specification for Electrical Installations, paragraph no. 2:16.1, states in part, "The contractor shall keep the premises clean at all times during the progress of the work and shall remove dirt and rubbish as directed by the Site Organization..."

Contrary to the above, on December 4, 1981, the inspectors observed potential fire hazards, consisting of large amounts of paper and other combustible materials, on the scaffolding in the Unit 1 annulus at elevation 649'. CEI was notified of this potential fire hazard on December 4, 1981. Licensee personnel advised Region III the hazard would be removed by December 7, 1981. On December 10, 1981, Region III personnel reinspected this same area and found a fire had occurred. Interviews revealed that the licensee did not know when the fire started or when it was extinguished. There was no damage to safety-related equipment as a result of the fire.

B. Response

- a. Audit 614 was performed by the Licensee and two (2) findings were issued against Johnson Controls, Inc. (JCI). The panel discussed above was addressed in one of the findings. Panels under JCI jurisdiction were inspected and maintenance documentation reviewed. All deficiencies were corrected by January 28, 1982.

Project Administration Procedure PAP 0206 has been re-reviewed and determined to adequately address program requirements for housekeeping. These areas will be continued to be monitored per this procedure.

This item is considered to be resolved.

- b. Action Request 369 was issued against the Nuclear Construction Section (NCS). In response to the AR, the Reactor Building Composite crew was committed to checking and cleaning the area on a daily basis.

Project Administration Procedure PAP 0206 has been re-reviewed and determined to adequately address program requirements for housekeeping. Increased surveillance and an improved checklist have been instituted by the Construction Quality Section.

This item is considered to be resolved.

VII. Noncompliance 440/81-19-11; 441/81-19-11 (Page 79)

A. Severity Level V Violation

10CFR50, Appendix B, Criterion XV, states, in part, "Measures shall be established to control...parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation: These measures shall include, as appropriate, procedures for identification, documentation,...and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected,...in accordance with documented procedures."

CEI Corporate Nuclear Quality Assurance Program, Section 1500, Revision 2, Paragraph 1.1, states in part, "Nonconformance Reports shall be used to identify materials, parts, components, structures or systems which are not in compliance to the requirements of specifications, codes, drawings, and detailed installation or manufacturing program requirements."

L. K. Comstock Procedure No. 4.11.1, Nonconformance Items and Corrective Action, paragraph 5.5.1, states in part, "...Nonconforming Items are either segregated, marked, or identified with a Hold Tag (Attachment No. 7), to indicate their status and prevent inadvertent use or installation."

Contrary to the above, 4.16 KV switchgear with hold down welds known to be nonconforming by the licensee were not identified and controlled with Hold Tags.

B. Response

Tags were subsequently placed by Project Organization (initially responsible for the tag) on switchgear to identify the nonconformance in the field. Also, the utilization of hold tags has been clarified with the development of Quality Tagging Procedure (PAP 1404) which more clearly describes the quality tagging requirements.

Proper tagging per Project Administration Procedure 1404 will ensure that the organization(s) affected are aware of the condition. Training to the new procedure has been completed and documented.

This item is considered to be resolved.

VIII. Noncompliance 440/81-19-11; 441/81-19-11 (Page 70)

A. Severity Level IV Violation

10CFR50, Appendix B, Criterion V, states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, and drawings of a type appropriate to the circumstances... and shall be accomplished in accordance with these instructions, procedures..."

- a. CEI Electrical Installation Specification SP-33-4549-00 requires a one inch minimum separation between conduits containing Class 1E circuits and conduits containing Non-Class 1E circuits.

Contrary to the above:

- 1) Installed Class 1E conduit 1R331024A and Non-Class 1E conduit 1021R36X, did not meet the one inch separation requirement.
- 2) Class 1E conduit 1R33R516A was separated by 1/2 of an inch from Non-Class 1E conduit 1R52W91X located at elevation 568' in the Auxiliary Building above the RCIC instrument panel 1H20-P017.

- b. CEI Electrical Installation Specification SP-33-4549-00 requires a minimum horizontal and vertical separation of six inches between conduits of different divisions in cable spreading rooms.

Contrary to the above:

- 1) Division 3 conduit 1R33A129C was installed separated by 2-1/2 inches from Division 2 conduits 2R33R919B and 1C11B3B at elevation 639' in the cable spreading room.
- 2) Division 2 conduits 1R33R786B, 1R33R786B and 1R33R926B were installed separated by 1-1/2 to 3-1/2 inches from Division 3 conduits 1R33C2809C and 1R33C2071C at elevation 638' in the cable spreading room.
- 3) Division 2 conduits 1R33R920B and 1R33C3033B were separated by 3-1/2 inches from Division 3 conduits 1R33R2071C, 1R33C2809C, 1R33C2914C, and 1R33A129C located at elevation 638' in the cable spreading room.
- 4) Division 2 conduit 1R33T329B was separated by 1-1/2 inches from Division 3 conduit 1R33T330C located at elevation 638' in the cable spreading room.
- 5) Division 2 conduit 1R33T329B was separated by 2-1/4 inches from Division 3 conduit 1R33C291C located at elevation 638' in the cable spreading room.

- c. CEI Electrical Installation Specification SP-33-4549-00 requires that the minimum separation may be reduced to one inch for conduits of redundant divisions when routed through wall and floor penetrations.

Contrary to the above, Division 1 conduit 1R33C1098A was separated by 3/4 of an inch from Division 3 conduit 1R33R334C through a floor penetration at elevation 606' in Room 1 of the Auxiliary Building.

B. Response

- a. Separation criteria violations where Class 1E and Non-Class 1E conduit did not meet the one (1) inch separation requirement, were documented on L. K. Comstock Nonconformance Reports 1193 and 1323.

Inspectors will continue to use the electrical installation specification SP-33-4549-00 for separation criteria along with required D-215 drawings and to document nonconforming conditions as required.

Construction Quality Engineering Audit 717 was performed to evaluate LKC compliance with separation criteria. As a result, retraining was conducted for LKC QA Inspectors and craft to assure understanding of separation requirements including the identification of violations.

This item is considered to be resolved.

- b. These items were evaluated by the Project Organization and determined to be in accordance with the Specification.

Section 5:08.10.1 of SP33 requires 6" minimum separation between divisions, but is prefaced by "unless otherwise indicated on engineer-approved drawings..." The installation observed is in accordance with the applicable conduit layout drawings.

For general plant areas, SP33 includes a paragraph allowing for a reduction to 1" separation if shown on the layout drawing. To clarify this requirement, ECN 8426-33-1899 was issued. In addition, L. K. Comstock Procedure 4.3.1 was revised to reflect this specific criteria.

These items are considered to be resolved.

- c. NR LKC 1329 was written to document this violation. This NR has been closed out and verified.

Construction Quality Engineering Audit 717 was performed to evaluate LKC compliance with separation criteria. As a result, retraining was conducted for LKC QA Inspectors and craft to assure understanding of separation requirements including the identification of violations.

This item is considered to be resolved.

IX. Noncompliance 4-3/81-19-08; 441/81-19-08

A. Severity Level 7 Violation

10CFR50, Appendix B, Criterion XVI, states in part, "Measures shall be established to assure that conditions adverse to quality, such as...nonconformances are promptly identified and corrected."

CEI Corporate Nuclear Quality Assurance Program, Section 1600, Paragraph 1.2.b states in part, "Requests for corrective action shall include address of the action required to correct the adverse condition and to preclude continuation or recurrence...The NQAD shall verify compliance to corrective action measures through audit, surveillance and inspection of project organizations and other QA evaluation and control techniques such as nonconformance trend analyses."

Contrary to the above, eight L. K. Comstock Nonconformance Reports written during the period August 14 - November 20, 1981, indicated the reason for the nonconformances was inadequate attention to installation details by L. K. Comstock personnel. These Nonconformance Reports were not reviewed to trend the reason(s) for the inattention to installation details. Prompt corrective action was not taken.

B. Response

As described in Construction Quality Section Procedure 2-1602, the need for a formal trend analysis is determined during the course of nonconformance reviews and the Quality Engineer had determined that on the basis of the magnitude and scope of the electrical installation (overall), there was not significant repetition to warrant performance of a trend analysis.

Subsequent to the concern expressed by the Nuclear Regulatory Commission, the contractor generated an internal CAR regarding workmanship problems. Extensive training programs were developed and implemented to address these problems. The effectiveness of this has been confirmed by Construction Quality Engineering Audit 723 on raceway installation.

The continued implementation of the L. K. Comstock inspection program, with an overview by Construction Quality Engineering including daily surveillances and in-process audits, will maintain our philosophy of resolving concerns as the work is being performed.

This item is considered to be resolved.

ATTACHMENT B

RESPONSE TO UNRESOLVED ITEMS

The following information is provided to assist with resolution of the conditions set forth for future review:

Unresolved Item 440/81-19-02; 441/81-19-02

The requirement for end caps on conduits was re-evaluated by Engineering. To resolve the identified inconsistency, ECN 9075-33-2006 has been issued to clarify the requirement for the need to install end caps for above ground conduit runs.

Unresolved Item 440/81-19-04; 441/81-19-04

L. K. Comstock Procedure No. 4.3.10, Installation of Electrical Penetrations, has been revised to provide specific accept/reject criteria for containment vessel electrical penetration assemblies, including a detailed checklist where each item has a separate Contractor QC signoff line. Revision 6 of the Westinghouse instruction manual contains specific criteria for acceptance, which will be used for the Unit 2 installation.

A plan was developed to confirm the adequacy of the Unit 1 installation. As indicated in the response to Noncompliance 440/81-19-03; 441/81-19-03, the penetration documentation review will be completed by December 15, 1982.

Unresolved Item 440/81-19-05; 441/81-19-05

A reinspection for hole verification on electrical penetration numbers 1R72-S011, 1R72-S017, 1R72-S027, and 1R72-S028 was performed and the alignment of the bolt holes was verified to be correct.

Unresolved Item 440/81-19-06; 441/81-19-06

Field Questions 12159, 12173, 12230, 12249 and 12295 concerning installation of Unit 1 Westinghouse penetrations have been revised to include an Engineering evaluation of the acceptance of the Unit 1 penetrations. As indicated in the response to Noncompliance 440/81-19-03; 441/81-19-03, the penetration documentation review will be completed by December 15, 1982.

Unresolved Item 440/81-19-07; 441/81-19-07

NR QCC-2290 has been dispositioned by the Engineer and reviewed by the Quality Engineer. In part, the Engineer's disposition stated that the 80° to 140°F temperature limit applies to all ambient temperatures inside the MCCs except on the surface of the heater strips. In addition, the Engineer performed a physical inspection of the MCCs at that time and determined that no damage was done to the MCCs by the past overheating.

In addition, in March of 1982, the FSMR was revised to disconnect the heaters and use light bulbs for heat. No additional temperature problems have been experienced.

Unresolved Item 440/81-19-09; 441/81-19-09

To strengthen their Audit Program, L. K. Comstock has extensively revised their Procedure 4.14.1, "Internal Audit Procedure," and initiated a new LkC Procedure 4.14.2, "The Qualification, Certification, and Training of Auditors." Implementation of these procedures was the subject, in part, of Construction Quality Audit 722 and good progress has been made in resolution of this concern. A Quality Engineer has been added to the corporate staff and is currently assigned to the Perry site on a full-time basis.

Unresolved Item 440/81-19-12; 441/81-19-12

- 1) The use of a common support for Class 1E and Non-Class 1E conduits has been evaluated by the Design Engineer and determined to be acceptable.
- 2) The acceptability of the RPS circuit in the Turbine Building is addressed in the USAR, Section 7.2.1.2(g). Clarification of this requirement was transmitted to L. K. Comstock by ECN 8928-33-1986.

Unresolved Item 440/81-19-13; 441/81-19-13

SP33, Section 5:08.9.2, states, "...minimum separation of 14 inches, except as otherwise indicated on cable tray layout drawings..."

Drawings applicable to the identified concerns were reviewed to assure that the installation is in accordance with the drawings and that barriers, to be installed later, are shown on the drawings as required by IEEE Std. 384.

Unresolved Item 440/81-19-14; 441/81-19-14

ECN 3701-33-1932 was issued to clarify Paragraph 5:08.13.6, and L. K. Comstock Procedure 4.3.3 was revised to address the criteria for inspection and subsequent notification to Engineering of cable fill in safety-related installations.

Unresolved Item 440/81-19-15; 441/81-19-15

Revisions to Site and Contractor turnover procedures have been issued to address this concern.

Unresolved Item 440/81-19-17; 441/81-19-17

The contractors inspection report dated 12-30-81 was incorrectly written in that it not only addressed the wrong section of SP33, but also failed to consider that SP33 does not apply to owner furnished equipment. A second inspection report was issued which reflected the actual acceptable condition.

Unresolved Item 440/81-19-18; 441/81-19-18

A plan developed to address this concern is now closed out. An evaluation was performed by the Architect-Engineer and the limited usage of such materials was analyzed to be acceptable.

The installation is in accordance with industry standards as referenced in the Final Safety Analysis Report.

Unresolved Item 440/81-19-20; 441/81-19-20

This concern was analyzed by the Architect-Engineer. After an evaluation of fault currents and relay settings, the AE determined that a 5 kV breaker mislabeled was not a credible event for Perry and that the commitments in Section's 3.5.3 and 8.3.1.4.1.1 of the FSAR have been met.

Unresolved Item 440/81-19-21; 441/81-19-21

Corrective Action Request 82-09 was written to document this concern. In response, the Architect-Engineer re-evaluated traceability of materials for Perry construction contracts. The re-evaluation concludes that the current programs, subject to satisfactory implementation, are acceptable.

Unresolved Item 440/81-19-22; 441/81-19-22

The hanger was cut out and scrapped per the NRC Inspectors recommended corrective action. Training sessions have been performed for the applicable Johnson Controls, Inc., personnel, and the drawing has been revised.

Unresolved Item 440/81-19-24; 441/81-19-24

The overall assessment of the contractors' Quality Assurance Programs has been completed as described in the May 6, 1982, letter from D. R. Davidson to Mr. Kappier. That assessment resulted in the determination that the concerns identified by the NRC and analyzed by the licensee do not represent a significant QA program breakdown for either L. K. Comstock (LKC) or the Project Organization.

Corrective Action steps were being implemented on a priority basis. Some delays in implementation had occurred attributable to the Owners philosophy of surveillance which affords the contractor the opportunity to correct his problems.

To date, L. K. Comstock, in conjunction with the Project Organization, has taken the following actions:

- Key personnel changes were made in LKC corporate and LKC site staffs.
- Additional manpower was hired for LKC Corporate and LKC site staffs and for Construction Quality Engineering.
- The backlog of LKC Audit Finding Reports and Construction Quality Action Request and Nonconformance Reports has been reduced substantially.
- Re-evaluation and update of LKC procedures is approximately 90% complete. Scrubbing of the program and hardware remains at a very high level.