NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

Illinois Power Company
Clinton Nuclear Station

Docket No. 50-461
License No. NPF-62
EA 88-90

During an NRC inspection conducted on February 25 through March 31, 1988, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1988), the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violation and associated civil penalty are set forth below:

10 CFR 50.49(f) requires, in part, that each item of electric equipment important to safety be qualified by testing and/or analysis under postulated environmental conditions.

Contrary to the above, as of August 19, 1987, the following equipment important to safety was not qualified by appropriate testing and/or analysis which reflected the installed configuration:

A. One hundred and ninety-six AMP KYNAR electrical butt splices installed in valve actuators, solenoid valves and electrical junction boxes affecting multiple safety systems,

B. One hundred and fifty-six junction boxes without drainage openings (weep holes) affecting multiple safety systems, and

C. Two hundred and seventy Thomas and Betts nylon wire caps installed in ninety dual voltage Limitorque actuators affecting multiple pieces of equipment important to safety.

This is a Severity Level III violation (Supplement I).

Civil Penalty - $75,000.

Pursuant to the provisions of 10 CFR 2.201, Illinois Power Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission within 30 days of the date of this Notice. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or

denial of the alleged violation; (2) the reasons for the violation if admitted; (3) the corrective steps that have been taken and the results achieved; (4) the corrective steps that will be taken to avoid further violations; and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked or why such other actions as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, or money order payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or may protest imposition of the civil penalty in whole or in part by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice in whole or in part; (2) demonstrate extenuating circumstances; (3) show error in this Notice; or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty, in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the five factors addressed in Section V.B of 10 CFR Part 2, Appendix C (1988), should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The responses to the Director, Office of Enforcement, noted above (Reply to a Notice of Violation, letter with payment of civil penalty, and Answer to a

Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington D. C. 20555, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, 799 Roosevelt Road, Glen Ellyn, IL 60137 and a copy to the NRC Resident Inspector, Clinton.

FOR THE NUCLEAR REGULATORY COMMISSION

A Bert Davis
Regional Administrator

Dated at Glen Ellyn, Illinois
this 1st day of June 1988

461/87-26

NOV 6 1987

Docket No. 50-461

Illinois Power Company
ATTN: Mr. W. C. Gerstner
Executive Vice President
500 South 27th Street
Decatur, IL 62525

Gentlemen:

This refers to the special safety inspection conducted by Mr. A. S. Gautam and other NRC representatives of this office on August 17 through October 13, 1987, of activities at the Clinton Nuclear Station authorized by NRC Operating License No. NPF-62 and to the discussion of our findings with Mr. M. D'Haem at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, one of your activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice. A written response is required.

Although the inspection determined that you have implemented a program to meet the requirements of 10 CFR 50.49, two significant deficiencies in the program implementation were observed. These findings are classified as Potential Enforcement/Unresolved Items and an ongoing NRC review is being performed to evaluate these findings in regard to possible future enforcement action.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC Public Document Room.

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

IE01

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Original Signed by J. J. Harrison

J. J. Harrison, Chief
Engineering Branch

Enclosures:
1. Notice of Violation
2. Inspection Report
No. 50-461/87026(DRS)

cc w/enclosure:
DCD/DCB (RIDS)
Licensing Fee Management Branch
Resident Inspector, RIII
Roy Wight, Manager
Nuclear Facility Safety
Mark Jason, Assistant
Attorney General,
Environmental Control Division
Richard Hubbard
J. W. McCaffrey, Chief, Public
Utilities Division
H. S. Taylor, Quality Assurance
Division
David Rosenblatt, Governor's
Office of Consumer Services
B. Siegel, Licensing
Project Manager
M. Kopp, RIII
U. Potapovs, NRR
M. Jacobus, Sandia

NOTICE OF VIOLATION

Illinois Power Company

Docket No. 50-461

As a result of the inspection conducted on August 17 through October 13, 1987, and in accordance with 10 CFR Part 2, Appendix C - General Statement of Policy and Procedure for NRC Enforcement Actions (1985), the following violation was identified:

10 CFR 50.49, Paragraph (f) requires equipment important to safety to be qualified by testing and analysis.

Contrary to the above, the following equipment was not qualified for their installed configuration.

a. ASCO Solenoid Valve ORA027 was found to be continuously energized in the plant for significantly longer periods than allowed by its qualification documentation. This deficiency reduced the qualified life of the valve.

b. Junction Box 1JB673 was found installed in a HELB/Steam Environment without a weep hole. This deficiency would prevent removal of moisture condensate during an accident and possibly cause shorting of the terminal block contained in the junction box.

c. The Low Pressure Core Spray (LPCS) Motor 1E21-C001 was found to have oil leaking from the upper motor bearing drain plug on to the motor case. This rendered the qualification status of the motor indeterminate.

d. The Fuel Pool Cooling Pump 1FC02PA was found to have oil leaking from the pump inboard bearing, a pool of oil under the outboard bearing, a missing bolt on the motor connection box, rust on the sealing surface of the motor connection box, a missing gasket on the thermocouple connection box and a broken cover on the thermocouple connection box.

This is considered a Severity Level V violation (Supplement IE). (50-461/87026-03a,b,c,d(DRS))

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each violation: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further violations; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

NOV 6 1987
Dated

J. J. Harrison

J. J. Harrison, Chief
Engineering Branch

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/87026(DRS)

Docket No. 50-461 License No. NPF-62

Licensee: Illinois Power Company
500 South 27th Street
Decatur, IL 62525

Facility Name: Clinton Nuclear Station

Inspection At: Clinton Site, Morris, Illinois
Glen Ellyn, Illinois

Inspection Conducted: August 17 through October 13, 1987

Inspector: Anil S. Gautam Anil S. Gautam 11/5/87
Reactor Inspector, Region III Date

Also participating in the inspection and contributing to the report were:

M. Kopp, RIII
J. Jacobson, NRR
H. Stromberg, Idaho National Engineering Labs (INEL)
M. Trojovsky, INEL
K. Iepson, Schneider Associates
M. Jacobus, Sandia National Labs
E. Claiborne, Sandia

Approved By: Ronald N. Gardner, Chief 11/5/87
Plant Systems Section, Region III Date

Inspection Summary

Inspection on August [illegible] through October 13, 1987 (Report No. 50-461/87026(DRS))
Areas Inspected: Special announced safety inspection of the environmental qualification (EQ) of electric equipment within the scope of 10 CFR 50.49. The inspection included licensee action on SER/TER commitments; EQ program compliance to 10 CFR 50.49; adequacy of EQ documentation, and a plant physical inspection of EQ equipment (Modules No. 30703, No. 25576, and No. 25587).
Results: The licensee has implemented a program to meet the requirements of 10 CFR 50.49. Deficiencies in the areas inspected are summarized below:

VIOLATION

Item No.	Description	Report Section
50-461/87026-03 [a,b,c,d](DRS)	10 CFR 50.49 designated ASCO solenoid valve, junction box, LPCS motor, fuel pool cooling pump-installed in an unqualified configuration.	6c(1)(2)(3)(4)

POTENTIALLY ENFORCEABLE/UNRESOLVED ITEMS

Item No.	Description	Report Section
50-461/87026-01(DRS)	Unqualified nylon wire caps on Limitorque 480V power leads.	6a
50-461/87026-02(DRS)	Unqualified KYNAR AMP electrical butt splices in power, control and instrument circuits.	6b

OPEN ITEMS

Item No.	Description	Report Section
50-461/87026-04(DRS)	Failure analysis to justify unqualified T drain location on Limitorque actuator 1SX095A.	6d

DETAILS

1. Persons Contacted

a. Illinois Power Company (IP)

W. C. Gerstner, Executive Vice President
*D. P. Hall, Vice President
*J. G. Cook, Assistant Plant Manager
*J. D. Weaver, Director, Licensing
*E. A. Till, Director, Nuclear Training
*R. T. Kerestes, Director, NSED
A. L. Ruwe, Director, Outage Maintenance Support
G. W. Miller, Director, Fiscal Management
*D. L. Holtzscher, Director, Nuclear Safety
*J. A. Miller, Manager, Scheduling/Outage Maintenance
*R. E. Campbell, Manager, Quality Assurance
*W. Conner, Manager, Nuclear Planning and Support
*R. Freeman, Manager
*J. S. Perri, Manager, Nuclear Program Coordination
*J. Greenwood, Manager, Power Supply
F. A. Spangenburg, Manager, Licensing and Safety
*T. J. Camiller, Assistant Manager, Maintenance
*S. E. Rasor, Project Manager, Maintenance
+*M. E. D'Haem, Supervising Specialist, EQ
*S. Clary, Supervisor, Procurement
*J. R. Dodson, Supervisor, Nuclear Communications
*D. W. Wilson, Supervisor, Licensing Administration

b. Consultants to the Licensee

*D. K. Schopfer, Project Manager, Sargent & Lundy (S&L)

c. U.S. Nuclear Regulatory Commission (USNRC)

*P. Hiland, Senior Resident Inspector, RIII
S. Ray, Resident Inspector, RIII
*B. L. Siegel, Project Manager, NRR
*A. Wang, Enforcement Coordinator, NRR

*Denotes those attending the interim site exit meeting on August 21, 1987.
+Denotes those participating in the telephone exit interview on October 13, 1987, at the conclusion of the inspection.

2. Licensee Action on SER/TER Commitments

The NRC inspection team evaluated the implementation of the licensee's EQ corrective action commitments made as a result of EQ deficiencies identified by the NRC during a limited site inspection on March 11-14, 1985 and noted in Section 3.11.4 of SSER 5, (January 1986) to the Clinton FSAR.

The majority of the deficiencies identified in the SER addressed documentation, similarity, aging, qualified life, and replacement schedules. All open items identified in the SER were discussed with the NRC staff, and the licensee's proposed resolutions to these items were found acceptable by the NRC, as stated in Section 3.11 of SSER 6 (March 1987), included in the plant FSAR. The primary objective of the Region III EQ Audit in this area was to verify that appropriate analyses and necessary documentation to support the licensee's proposed and accepted resolutions to NRR issues were contained in the licensee's EQ files, and that appropriate modifications or replacements of equipment had been implemented.

During this review, the NRC inspection team selectively reviewed EQ documentation and examined equipment in the plant relevant to prior discrepancies identified in the SER. The licensee was found to have implemented their SSER commitments. Exceptions in documentation and equipment inspected are noted in appropriate sections of this report.

3. (Closed - TI 2515/87) Review of Licensee Implementation of Regulatory Guide 1.97

The inspectors reviewed the licensee's effort in qualifying Regulatory Guide 1.97 equipment within the scope of 10 CFR 50.59 Paragraph (b)(3). During this review, the inspectors observed that the licensee had submitted their Regulatory Guide 1.97 responses on September 9, 1983 and December 11, 1984 to NRR, and that the NRC addressed the licensee's responses in SSER 5, dated January 1986 and SSER 8, dated March 1987.

The inspectors performed a Regulatory Guide 1.97 review in accordance with the requirements of NRC Temporary Instruction 2515/87. Areas reviewed included verifying the adequacy of the licensee's Regulatory Guide 1.97 lists; inclusion of the Regulatory Guide 1.97 Category I and II items in the licensee's 10 CFR 50.49 list; verification that selected Regulatory Guide 1.97 items had redundancy, physical separation, isolation, and uncompromised independent power supplies; field examination of selected Regulatory Guide 1.97 items; and verification of maintenance and surveillance activities performed on Regulatory Guide 1.97 items installed in the plant.

The following variables were selected for the Regulatory Guide 1.97 audit.

- Reactor Water Level, Category 1, Types A and B
- Reactor Pressure, Category 1, Types A, B, and C
- Status of Standby Power Supplies, Category 2, Type D
- Drywell Pressure, Category 1, Types A, B, C, and D
- SRV Position Indication, Category 2, Type D
- Suppression Pool Water Temperature, Category 1, Types A and D

The power supplies for each of the Category 1 variables selected for the audit were verified to either be powered from their respective divisional Class 1E diesel generator buses or from their respective divisional

Class 1E uninterruptible power supplies (NSPS system). The inspector confirmed that those instrument loops powered from the NSPS system do not lose power on a loss of offsite power where as those powered from their respective divisional diesel generator buses lose power for approximately 12 seconds. The instruments that do suffer a momentary power loss are not shed from their respective power supplies (i.e., they are "0" sequenced).

Table 4.3.7.5-1 of the licensee's Technical Specification which specifies the calibration and channel check frequencies, was reviewed to ensure that a testing program was in place to ensure the proper operation of the RG 1.97 Category 1 instrumentation. The calibration data sheets that resulted from loop calibrations and the results of the loop calibrations performed on Category 1 instruments were reviewed to ensure that the instrumentation was tested to the required ranges.

Physical separation of the sensors in redundant instrument loops was verified during the walkdown along with verifying instrument manufacturer, make and model (were possible). In circumstances where it was not possible to verify pertinent name plate data during the walkdown (such as the Weed RTDs used to monitor the suppression pool water temperature) additional installation documentation was reviewed to verify identification of the installed equipment. A visual inspection of the indicators in the main control room was performed to ensure that the indicators were properly identified as required by RG 1.97. The licensee has incorporated a silver triangle on the meter housings of their RG 1.97 indicators to address this requirement. Each of the Category 1 variables selected for the audit was reviewed to ensure that the licensee had met the minimum recording requirements of RG 1.97.

The Clinton Station Regulatory Guide 1.97 SER was reviewed to identify any outstanding deficiencies and to ensure that licensee commitments were being implemented. As a result of this review, it was found that the licensee deviated from the RG 1.97 requirements in regard to the neutron flux detectors and the Reactor Pressure Vessel (RPV) water level (fuel zone range only) indicators. The inspectors observed that in an Illinois Power Company (IPC) letter dated December 11, 1984, from F. A. Spangenberg to A. Schwencer, the licensee had committed to upgrade their neutron flux detectors when replacements were available to the industry; and to provide Class 1E power to the fuel zone RPV water level indicators before startup after the first refueling outage scheduled for January 1988. The licensee will inform Region III in regard to their Implementation of these commitments and appropriate activities will be reviewed by the NRC during a followup inspection.

No violations of NRC requirements were identified.

4. EQ Program Compliance to 10 CFR 50.49

The inspector reviewed selected areas of the licensee's EQ program to verify compliance to 10 CFR 50.49. The licensee's EQ program was found to identify methods of equipment qualification; provide for evaluation

and maintenance of EQ documentation in an auditable form, including maintenance records; provide for updating of replacement equipment, and control of plant modifications. Based on their review, the inspectors determined that the licensee had established an adequate EQ program in compliance with the requirements of 10 CFR 50.49. The licensee's methods for establishing and maintaining the environmental qualification of electrical equipment were reviewed in the following areas:

a. EQ Program Procedures

The inspectors examined the adequacy of the licensee's policies and procedures for establishing and maintaining the environmental qualification of equipment within the scope of 10 CFR 50.49. The licensee's EQ program was reviewed for procurement of qualified equipment; maintenance of qualified equipment; modification to the plant that could affect qualified equipment; updating of the EQ master list; and review and approval of EQ documentation. Procedures reviewed included the following documents:

- Station Preventative Maintenance, CPS 1034.01, Revision 10, 5/15/87
- Maintenance Procedure, CPS 8801,04, Revision 9, 5/15/87
- Maintenance Procedure, CPS 8801.14, Revision 6, 5/27/87
- Surveillance Procedure, ECCS Rx Vessel Water Level, CPS 9433, Revision 21, 7/11/84
- HPCS Pump Motor Maintenance, CPS 8513, Revision 1, 7/8/86
- LPCS Pump Motor Maintenance, CPS 8515, Revision 1, 7/8/86
- Preparation and Routing MWRs, CPS 1029-01, Revision 17, 4/14/87
- Preparation, Review, Approval, and Issuance of P.O./Contracts, N P&S 5.05, Revision 2, 1/5/87
- RHR Pump Motor Maintenance, CPS 8522-01, Revision 1, 2/8/86
- Initiating and Processing Requisition, Procedure P.O., Revision 7, 7/18/86
- Product Acceptance, QAP 107.01, Revision 8, 1/28/87
- Quality Verification Plan, QAP 110.02, Revision 3
- Development of Performance Based Training, Procedure 5.3, Revision 0

Specific areas reviewed in these procedures included definition of harsh and mild environments, equipment qualified, service conditions, periodic testing, maintenance and surveillance, and upgrading of replacement equipment purchased after February 22, 1983.

No violations of NRC requirements were identified.

b. 10 CFR 50.49 Master Equipment List (MEL) of EQ Equipment

IE Bulletin No. 79-01B required licensees of all power reactor facilities with an operating license to provide a MEL that identified each Class 1E electrical equipment item relied upon to perform a safety function during a design basis event. 10 CFR 50.49, Paragraph (d), requires licensees to prepare a list of electrical equipment important to safety and within the scope of the rule. The NRC inspectors reviewed the licensee's MEL for compliance to 10 CFR 50.49. Areas reviewed included adequacy of the MEL, technical justifications for removal of items from the MEL, and licensee reviews of the MEL for changes due to field modifications.

The inspectors verified the completeness/adequacy of the lists in terms of equipment needed during accident conditions, through review of piping and instrumentation drawings (P&IDs), emergency procedures, technical specifications, and FSARs.

No violations of NRC requirements were identified.

c. EQ Maintenance and Surveillance Program

The inspector reviewed specific maintenance, replacement, surveillance tests, and inspections necessary to preserve the environmental qualification of EQ equipment identified on the MEL. EQ requirements in the licensee's maintenance procedures and EQ binders were reviewed against maintenance records of selected equipment to verify performance of maintenance and surveillance activities at prescribed intervals, including gasket inspection, lubrication, torquing of housing covers and installation of replacement parts. The following exception was identified:

The EQ documentation for PYCO thermocouples requires that the PYCO housing covers be torqued to 50 ft-lbs. This requirement was not found to be implemented. Subsequent to this finding the licensee initiated Maintenance Request C-52705, dated 8/20/87, to ensure that the housing covers were torqued to 50-ft-lbs. The licensee also demonstrated that the PYCO thermocouples in question were being removed from the EQ list with adequate technical justification.

No violations of NRC requirements were identified.

d. Plant Procurement and Upgrading of Replacement Equipment

Procurement procedures and documents were found to adequately address appropriate quality and regulatory requirements regarding the environmental qualification of equipment within the scope of 10 CFR 50.49.

For example, Purchase Order P.O. No. 501219 was reviewed by the inspectors for evidence of inclusion of EQ requirements. This purchase order was for the refurbishment of three Limitorque motors. The procurement document was found to have invoked all appropriate environmental standards.

No violations of NRC requirements were identified.

e. Quality Assurance (QA) and Training Program

During this review, the inspectors determined that the licensee had implemented a program to monitor the quality of EQ activities through surveillance, audits, and reviews of the records and files for plant modifications and equipment procurement. NRC inspectors reviewed the licensee's QA audits including Audit Nos. Q 38-87-22, Q 38-87-09, and Q 38-87-37. The inspectors found the methodology, results, and followup corrective action relative to the audit acceptable. No NRC concerns were identified.

The NRC inspectors also reviewed the licensee's staff training program and associated records relative to the performance of EQ activities. The training records indicated that the licensee had implemented a training program for key personnel, including management, operations and maintenance personnel responsible for EQ activities. The training program was found to adequately address key aspects of 10 CFR 50.49 requirements and the licensee has incorporated EQ training into an ongoing training program for appropriate plant personnel.

No violations of NRC requirements were identified.

5. Detailed Review of Qualification Files

The licensee qualified their 10 CFR 50.49 designated EQ equipment to the requirements of the NUREG-0588 Category 1 (10 CFR 50.49, Paragraph K). The inspectors reviewed over 50 equipment qualification files for evidence of the environmental qualification of equipment within the scope of 10 CFR 50.49 and evidence of equipment qualification to NUREG-0588 Category I. Files were found to include a full description of the equipment; similarity analysis of tested equipment to that installed in the plant; allowed mounting methods and orientation; qualification of interfaces (conduit housings, seal, etc.); evaluation of aging effects on equipment; description of test sequence and methodology; environmental

conditions for the equipment during an accident; qualification for submergence of applicable equipment; resolution of test anomalies; and maintenance/surveillance criteria for the preservation of the qualified status of equipment.

The inspectors selectively reviewed the above areas as applicable, including special reviews for the required duration of operability of equipment; licensee evaluation of tested materials and configurations relative to actual plant installations; adequacy of test conditions; aging calculations for qualified life and replacement intervals; effects of decreases in insulation resistance on equipment performance; adequacy of demonstrated accuracy of equipment and interfaces during an accident; and licensee evaluations of discrepancies identified in IE Notices and Bulletins.

EQ files were reviewed for electrical cables, cable splices, terminations, terminal blocks, electric motors, solenoid valves, electrical penetrations, seals, lubricants, transmitters, temperature elements, radiation monitors, control and position switches, switch gear, control panels, and miscellaneous electrical devices. The inspectors found that in almost all cases the files allowed verification of equipment qualification for accident conditions. In some instances, the inspectors questioned the adequacy of the EQ documentation; however, the licensee provided actual test data and references to mitigate concerns.

Details are noted below:

a. Instrument Accuracy and Setpoint Calculations

During review of qualification documentation for various instruments, the inspectors observed that in many cases the accuracy stated on the SCEW sheets was not adequately supported by the test documentation on which they were based. Adequate discussions had not been provided in the files to address such discrepancies. Subsequent to this NRC concern the licensee provided additional calculations and references to mitigate the concerns. The licensee agreed to enhance their files to make them auditable in regard to the adequacy of the demonstrated accuracy of the EQ instruments. The following examples were noted:

(1) WEED Resistance Temperature Detectors (RTDs)

The licensee did not monitor the accuracy of the RTDs during the LOCA test exposure. The licensee enhanced their file to include information regarding the accuracy of the RTDS during the LOCA exposure. No further concerns were identified.

(2) Rosemount Model 1153 and 1154 Transmitters

During the review of the EQ files, the inspectors noted that the specified accuracy of the transmitters was 0.25% of calibrated span, however, the demonstrated accident accuracy was within ±8% of the U.R.L. This discrepancy was not addressed in the EQ Binder.

The licensee stated that the specified accuracy of 0.25% of span was a nominal accuracy only and that actual accuracies from the report were used in the setpoint calculations done per Regulatory Guide 1.105. The licensee was informed that the specified accuracy shown on the SCEW sheet should reflect the device specific requirements and demonstrated values. The licensee revised their files to provide these clarifications. No further concerns were identified.

(3) MCC Powers Temperature Detector

(MINCo RTD No. S55-722/Kulka Terminal Block No. 600)
File: EQ-CL033

During review of the EQ files, the inspectors noted that no functional data from the RTD during the radiation and LOCA test phases was presented despite statements made in the report that the devices were "monitored." The licensee stated that although the performance of the RTDs was monitored during irradiation and DBA testing, the readings were not recorded. The licensee stated that since the accident duration for these RTDs lasted only 12 hours and the steady state temperature during the accident was only 150°F their functional adequacy was demonstrated during the LOCA.

To mitigate NRC concerns the licensee obtained additional relevant data to document the functional capability of the equipment and enhance their EQ files. No further concerns were identified.

b. PYCO Temperature Elements

During review of the EQ files, the inspectors noted that the test specimens had covers retorqued after thermal aging and prior to the LOCA aging. The inspectors considered this action a repair made during the test and were concerned that this may have invalidated test results.

The licensee reviewed their files and stated the the PYCO temperature elements were not within the scope of 10 CFR 50.49 and would be removed from their EQ program. These instruments are also discussed in Section 4c of this report. No further concerns were identified.

6. Plant Physical Inspection

The NRC inspectors selected over 40 items on the MEL for examination in the plant. The EQ file of each item had been reviewed, and information regarding the location, manufacturer, model/serial number, mounting, orientation, environment, and interfaces had been noted. The inspectors examined the selected items in the field, as accessible, and verified that the method of installation of each item was not in conflict with its environmental qualification. Specific areas reviewed included

traceability of installed items of EQ equipment, ambient environmental conditions, qualification of interfaces (connectors, wires, seals, insulation, lubricants, etc.), evidence of significant temperature rise due to process, drainage, mounting methods, physical conditions and housekeeping. In almost all cases, items examined in the field during this walkdown were found to meet their appropriate EQ requirements with the following exception:

a. Nylon Wire Caps in Limitorque Actuators

Limitorque Actuator 1CC072 was examined by the inspectors in the auxiliary building. The inspectors noted the use of three nylon wire caps to terminate six of the nine 480V motor leads. The licensee confirmed that nylon wire caps had been installed in approximately ninety dual voltage 10 CFR 50.49 designated Limitorque actuators in the auxiliary and fuel buildings. These actuators see the following profiles:

	Normal	Accident
Temperature	150°F	285°F
Pressure	-1 to 0.1"	9 psig
Relative Humidity	90%	100%/Steam
Radiation	1×10^4 Rads	1.1×10^7 Rads
Spray	N/A	None

The licensee stated that Limitorque Test Reports No. 600376A and No. B003 demonstrated equipment qualification, and that a Limitorque letter dated August 20, 1987, confirmed that these wire caps were used during these tests. The inspectors, however, found no evidence in the reports that the wire caps were tested and required the licensee to demonstrate through additional test data records, the type/size, configuration and application in which the nylon wire caps were tested. The licensee could not provide additional information. The inspectors informed the licensee that Limitorque actuators containing these wire caps were unqualified based on inadequate qualification documentation. The inspectors also informed the licensee that they were required to immediately prepare a Justification for Continued Operation (JCO) for review by the NRC.

The licensee took immediate corrective action and submitted a JCO to Region III on August 28, 1987. This JCO took credit for a Wyle Test, Report No. 17943-1 dated August 21, 1987, conducted by the licensee subsequent to the NRC finding but during this EQ inspection. In the Wyle Test, the licensee subjected an SMB-0 Limitorque actuator to a 100% steam environment at elevated temperatures and pressure with nylon wire caps in an appropriate configuration. No failures were noted in that the actuator cycled, however, the nylon wire caps were not thermally or radiation aged. The licensee has committed to conduct an additional test at Wyle in full compliance to 10 CFR 50.49,

NUREG-0588 Category I, and to submit a final report by February 12, 1988. The inspectors considered the licensee's prompt action in conducting this test very responsible, in regard to ensuring the safety of the plant.

In the JCO, the licensee also evaluated the operability of 90 actuators with dual voltage motors. Eighty-three were identified by the licensee to be operable in the event of a postulated accident despite the wire caps. Seven actuators were identified to be compromised, and the licensee immediately replaced the wire caps in these actuators with Raychem splices. The JCO took credit for location, redundancy, duration, application, and the position of the actuators if a failure occurred. No immediate NRC safety concerns were identified.

Pending review of additional testing at Wyle by the licensee to demonstrate the qualification of the nylon wire caps, this is a Potentially Enforceable/Unresolved Item (50-461/87026-01(DRS)).

b. AMP KYNAR Splices in Limitorque Actuators

During examination of Limitorque Actuator E51-F010 in the auxiliary building, the inspectors observed the use of AMP KYNAR (Polyvinylidene Fluoride) butt splices on 480V motor leads. The licensee confirmed that these splices had been used in various instances inside and outside the containment in instrument, control, and power circuits, and that plant specification K-2999 allowed the use of these splices when leads were found too short to terminate. The licensee's EQ files, however, did not have adequate documentation to qualify these splices, in that plant specific configurations were not tested in postulated accident environments. The inspectors informed the licensee that actuators containing these splices were unqualified based on inadequate documentation and that the licensee was required to immediately prepare a JCO for review by the NRC.

The KYNAR Splices are exposed to the following profiles:

	Normal	Accident
Temperature	104° 150°F	345°F
Radiation	5 x 10^7 Rads	2 x 10^8 Rads
Pressure	±2" of water	33 psig
Relative Humidity	90% RH	100% RH/Steam
Spray	N/A	Demineralized water spray

The licensee took immediate corrective action and submitted a JCO to Region III on August 28, 1987. This JCO took credit for a Wyle test conducted by the licensee on August 21, 1987, subsequent to the NRC finding, but during the EQ inspection. In the Wyle test (Report No. 17943-2) AMP KYNAR butt splices were exposed to a 100% steam and water spray environment at elevated temperature and pressure while monitoring circuit integrity. No failures were noted,

however, these splices were not thermally or radiation aged nor given the radiation exposure postulated during an accident. The licensee has committed to conduct an additional test at Wyle in full compliance to 10 CFR 50.49, NUREG-0588 Category I and to submit a final report by February 12, 1988.

In their JCO, the licensee stated that based on their review, information on specific locations of AMP splices in instrument and control circuits was not immediately available. The licensee stated, however, that the Wyle test provided an adequate basis for the qualification of these circuits. The licensee did identify ten actuators where the AMP splices were used in power circuits, and submitted an operability analysis for these actuators assuming splice failure during accident conditions. The operability analysis took credit for location, duration, redundancy, application, and the position of the actuators during an accident. No immediate NRC safety concerns were identified in regard to the JCO. Pending review of the results of the additional testing of these splices at Wyle, this is a Potentially Enforceable/Unresolved Item (50-461/87026-02(DRS)).

c. The following deficiencies were considered in violation of 10 CFR 50.49.

(1) ASCO Solenoid Valves, ORA027

During the plant walkdown, two concerns were identified.

The first concern involved Valve ORA027. Based on their file review the inspectors had determined that this valve was used for "breathing air isolation" and that it was qualified based on it being energized for less than one hour each month. During the field examination, the inspectors noted that this valve was continuously energized for much longer periods. The inspectors were concerned that such operation would affect the qualified life of the solenoid valve. The licensee took immediate corrective action and recalculated the qualified life of this valve to be 9.13 years. The licensee also established a new replacement schedule (50-461/87026-03a(DRS)).

(2) Junction Box 1JB673

This junction box had a top conduit entry and contained a Marathon terminal block, however, there were no provisions for moisture removal during an accident (no weep holes). The licensee confirmed the box was in a HELB environment and issued Condition Report No. 1-87-08-081 to install weep holes in the box (50-461/87026-03b(DRS)).

The licensee also stated that ASCO Solenoid Valve 1E12-F065B, which is energized from this terminal block, would have failed to an accident safe position if the terminal block was compromised during an accident.

(3) Low Pressure Core Spray Motor (IE21-C001)

During the plant walkdown, the inspectors identified an oil leak from the upper motor bearing drain plug onto the motor case. The licensee committed to correct the leakage and issued MWR No. C40312 (50-461/87026-03c(DRS)).

(4) Fuel Pool Cooling Pump (1FC02PA)

During the plant walkdown, the following discrepancies were noted:

(a) One bolt on this motor connection box was missing.

(b) There was rust on the motor connection box sealing surface.

(c) The thermocouple connection box cover was broken and there was no gasket.

(d) The pump inboard bearing had little or no oil in it.

(e) There was a pool of oil on the floor under the pump outboard bearing.

The licensee took immediate corrective action and generated work orders to make repairs. The licensee also stated that this pump would not be needed until after the first fuel outage, and that Modification FC-12 had been issued to replace the existing unqualified pump motors prior to the first refueling outage. The licensee issued MWR C37556 to address the oil leakage (50-461/87026-03d(DRS)).

10 CFR 50.49, Paragraph (f), requires licensees to environmentally qualify equipment important to safety by testing and analysis. The licensee was informed that deficiencies described in Sections 6c(1), (2), (3), and (4) were considered examples of a violation of 10 CFR 50.49 Paragraph (f), failure to qualify equipment in their installed condition. This is a Severity Level V violation (Supplement IE) (50-461/87026-03[a,b,c,d](DRS)).

d. T Drain on Limitorque Actuators 1SX095A and IE51F045

Limitorque Actuator 1SX095A (inside the containment) was found installed in a position such that the T drain could not provide drainage for condensate during an accident. The licensee stated that they could provide a failure analysis to demonstrate that this actuator was not within the scope of 10 CFR 50.49 and that its failure would not affect other safety equipment or mislead the operator. The inspectors had no immediate safety concerns regarding this actuator. Pending review of the licensee's failure analysis, this is an Open Item (50-461/87026-04(DRS)).

Limitorque Actuator 1E51F045 was found installed without a T drain outside the containment. The licensee's EQ File CL-009 which contained Limitorque Reports No. 600376A and B0009, qualified actuators with T drains installed. The licensee demonstrated that this actuator could also be qualified by Limitorque Reports No. B0003 and B0058 which did not require T drains on the tested actuators. No further concerns were identified.

e. Damper 1VR034V Blocked by Cables

During the plant walkdown, a compartment damper between the General Containment Area and the Steam Tunnel was found blocked open to facilitate routing of some temporary cables. The routing was such that the cables prevented the damper from closing. The licensee was requested to provide documentation demonstrating that this installation had received a 50.59 safety review.

The licensee stated " . . . Damper 1VR034Y, per K-2903, is classified as non safety-related. It is normally open to allow air from the general area to the steam pipe tunnel. In the event of a High Energy Line Break in the steam tunnel, it would fail open. The consequences of this failure were addressed when worst case environmental conditions for adjoining areas were established. The cable routed through Damper 1VR034Y therefore does not impact equipment environmental qualification." No further NRC concerns were identified.

f. KULKA Terminal Block

During examination of Resistance Temperature Detector (RTD) ITE-VY001 in the field, the inspectors noted a KULKA terminal block installed in the RTD to have broken/cracked barriers. The licensee demonstrated that this deficiency did not affect plant safety based on the application of this RTD. The licensee issued MWR No. C40298 to correct the problem and agreed to review six other RTDs for a similar problem. No further concerns were identified.

g. Valcor Solenoid Valve IPS044B

During the inspection, the inspectors observed that Check Valve 1E12F031B was leaking water onto the valve section of the solenoid valve assembly. The solenoid valve was sealed for water intrusion, however, the licensee took immediate corrective action and issued maintenance request MWR No. C40311 to stop the leakage. No further concerns were identified.

7. Open Items

Open Items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. An Open Item disclosed during this inspection is discussed in Paragraph 6d.

8. Potentially Enforceable/Unresolved Item

An unresolved item is a matter about which more information is required in order to ascertain whether it is an acceptable item, an open item, a deviation, or a violation. Potentially Enforceable/Unresolved Items are unresolved items, which if ascertained to be a violation may be followed up with enforcement action in accordance with NRC enforcement guidance on environmental qualification. Potentially Enforceable/Unresolved Items are discussed in Paragraphs 6a and 6b.

9. Exit Interview

The Region III inspectors met with the licensee's representatives (denoted under Paragraph 1) during an interim exit on August 21, 1987, and discussed their findings by phone at the conclusion of the inspection on October 13, 1987. The inspectors summarized the purpose and findings of the inspection and the licensee acknowledged this information. The licensee did not identify any documents/processes reviewed during the inspection as proprietary.

APR 20 1988

Docket No. 50-461
License No. NPF-62
EA 88-90

Illinois Power Company
ATTN: Mr. W. C. Gerstner
Executive Vice President
500 South 27th Street
Decatur, IL 62525

Gentlemen:

This refers to the special safety inspection conducted by Mr. A. S. Gautam and other NRC representatives of this office on February 25 through March 31, 1988, of activities at the Clinton Nuclear Station authorized by NRC Operating License No. NPF-62. An enforcement conference was held in the Region III office on March 31, 1988, between you and others of your staff and Dr. C. J. Paperiello and others of the NRC staff to discuss the potential Environmental Qualification violations, root causes and corrective actions.

During this inspection, certain of your activities appeared to be potential violations of NRC requirements. You will be notified by separate correspondence of our decision regarding enforcement actions based on the findings of this inspection. No written response is required until you are notified of the proposed enforcement action.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room unless you notify this office, by telephone, within ten days of the date of this letter and submit written application to withhold information contained therein within thirty days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1). If we do not hear from you in this regard within the specified periods noted above, a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

We will gladly discuss any questions you have concerning this issue.

Sincerely,

ORIGINAL SIGNED BY HUBERT J. MILLER

H. J. Miller, Director
Division of Reactor Safety

Enclosure: Inspection Report
No. 50-461/88010(DRS)

See Attached Distribution

8804080419 2pp

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/88010(DRS)

Docket No. 50-461 Operating License No. NPF-62

Licensee: Illinois Power Company
500 South 27th Street
Decatur, IL 62525

Facility Name: Clinton Nuclear Station

Inspection At: Glen Ellyn, Illinois

Inspection Conducted: February 25 through March 31, 1988

Inspector: Anil S. Gautam
Reactor Inspector, Region III

4/19/88
Date

Also participating in the inspection and contributing to the report was:

M. Kopp

Approved By: Ronald N. Gardner, Chief
Plant Systems Section, Region III

4/19/88
Date

Inspection Summary

Inspection on February 25 through March 31, 1988 (Report No. 50-461/88010(DRS))
Areas Inspected: Special safety inspection of the environmental qualification (EQ) of electric equipment within the scope of 10 CFR 50.49. The inspection included a review of licensee action on previously identified findings.
Results: Previously identified EQ deficiencies were determined to be potential violations of 10 CFR 50.49.

DETAILS

1. Persons Contacted

   a. Illinois Power Company (IPCo)

   W. C. Gerstner, Executive Vice President
   F. A. Spangenberg, Manager, Licensing and Safety
   R. D. Freeman, Manager, NSED
   R. E. Campbell, Manager, QA
   J. D. Weaver, Director, Licensing
   M. E. D'Haem, Supervising specialist, EQ
   S. A. Zabel, Attorney
   W. E. Baer, Attorney

   b. Nuclear Regulatory Commission (NRC)

   C. J. Paperiello, Deputy Regional Administrator
   H. J. Miller, Director, Division of Reactor Safety
   J. A. Grobe, Director, Enforcement Staff
   R. C. Knop, Chief, Reactor Projects Branch 3
   R. N. Gardner, Chief, Plant Systems Section
   R. W. Cooper, Chief, Reactor Projects Section 3B
   S. P. Ray, Resident Inspector, Clinton
   M. J. Kopp, Reactor Inspector, Plant Systems Section
   C. D. Anderson, Enforcement Specialist
   Z. Falevits, Reactor Inspector, Plant Systems Section

2. Previously Identified Findings

   a. (Closed) Unresolved Item (50-461/87026-02(DRS))

   This item addressed AMP KYNAR splices used in Limitorque actuators. During examination of Limitorque Actuator E51-F010 in the auxiliary building, the inspectors observed the use of AMP KYNAR (Polyvinylidene Fluoride) butt splices on 480V motor leads. The licensee confirmed that these splices had been used in various instances inside and outside the containment in instrument, control, and power circuits, and that plant specification K-2999 allowed the use of these splices when leads were found too short to terminate. The licensee's EQ files, however, did not have adequate documentation to qualify these splices, in that plant specific configurations were not tested in postulated accident environments.

   Subsequent to the inspection, the licensee conducted two tests at Wyle Laboratories, Report No. 17955-1, dated January 29, 1988, to demonstrate that the KYNAR AMP butt splices were qualifiable to postulated accident environments at the Clinton Station. During the first test, six specimens were irradiated and thermally aged for a 40 year qualified life to simulate an ambient temperature of 125°F.

The specimens were then exposed to a loss of coolant accident (LOCA) environment of elevated temperature, pressure, steam, and demineralized water spray. During the LOCA portion of the test, five of the six specimens energized by 528VAC, 132VAC, and 132VDC circuits shorted to ground; thereby failing the test. Failures were attributed to insulation degradation due to aging.

The licensee performed a second test on samples aged for an eight year qualified life. Six samples were exposed to a LOCA environment without any spray. One of the six specimens failed during the first six minutes of the LOCA exposure. Two other specimens failed after 17 and 24 hours of testing, respectively. The licensee discontinued the test and concluded that the splices had failed to perform under conditions tested.

Subsequent to this test the licensee reviewed appropriate equipment and identified 196 AMP butt splices in valve actuators, solenoid valve leads, and in one junction box. These splices have since been replaced at the Clinton Station with qualified tape or Raychem tubing.

This item was previously identified as a Potentially Enforceable Unresolved item, and has now been determined to be an apparent violation of 10 CFR 50.49 (50-461/88010-01(DRS)).

b. Licensee Event Report 87-066

During the EQ inspection, junction Box 1JB673 was observed to have a top conduit entry and contain a Marathon terminal block; however, there were no provisions for moisture removal during an accident (no weep holes). The licensee confirmed the box was in a high energy line break (HELB) environment and issued Condition Report No. 1-87-08-081 to install weep holes in the box. The licensee also stated that ASCO Solenoid Valve 1E12-F065B, which is energized from this terminal block, would have failed to an accident safe position if the terminal block was compromised during an accident. At the conclusion of the inspection, the licensee indicated that this was an isolated deficiency. Based on this information, this item was cited as part of a Severity Level V violation in the NRC EQ Inspection Report 50-461/87026(DRS).

Subsequent to the EQ inspection, Nuclear Station Engineering Department (NSED) received a copy of a letter written by General Electric (GE) to Sargent and Lundy (S&L) discussing electrical boxes that failed EQ testing. Based on this letter, NSED re-reviewed a Nonconforming Material Report (NCMR) written on September 16, 1986, dealing with standing liquid in a 1E junction box causing corrosion of terminals. Previously identified remedial corrective action for the NCMR had failed to identify the lack of the required drainage opening. No generic corrective action was specified for the NCMR as the condition was identified during a generic walkdown for a class 1E cable splice insulation deficiency.

NSED also re-reviewed the Condition Report written on the junction box deficiency identified during the EQ inspection. Based on all of this information, a limited plant inspection was performed by the licensee on November 5, 1987. During this inspection one hundred fifty-six junction boxes were identified as lacking the required drainage openings. These boxes were subsequently reworked by drilling a drain hole in each box. The rework was completed in the field by November 13, 1987, prior to starting up from the outage. Licensee Event Report 87-066 was initiated to report this event in accordance with 10 CFR 50.73(a)(2)(ii) and 10 CFR 50.73(a)(2)(v).

This deficiency is considered an apparent violation of 10 CFR 50.49 (50-461/88010-02(DRS)).

c. (Closed) Unresolved Item (50-461/87026-01(DRS))

This item addressed the use of nylon wire caps in Limitorque actuators. Limitorque Actuator 1CC072 was examined by the inspectors in the auxiliary building. The inspectors noted the use of three nylon wire caps to terminate six of the nine 480V motor leads and subsequently confirmed that nylon wire caps had been installed in approximately ninety dual voltage 10 CFR 50.49 designated Limitorque actuators in the auxiliary and fuel buildings.

The licensee stated that Limitorque Test Reports No. 600376A and No. B003 demonstrated equipment qualification, and that a Limitorque letter dated August 20, 1987, confirmed that the suspect caps were used during these tests. The inspectors, however, found no evidence in the reports of the wire caps being tested. The licensee could not provide additional information. The inspectors informed the licensee that Limitorque actuators containing these wire caps were unqualified based on inadequate qualification documentation.

Subsequent to the inspection, the licensee conducted two tests at Wyle Laboratories, Report No. 17955-1, dated January 29, 1988, to demonstrate that the nylon wire caps were qualifiable to postulated accident environments at the Clinton Station. During the first test, six specimens were irradiated and thermally aged to simulate an eight year qualified life at 125°F ambient temperature and exposed to a LOCA environment of elevated temperature and steam. Specimens were mounted in appropriate configurations with an applied phase to phase voltage of 537 VAC, thereby simulating plant applications. No failures were observed.

The licensee performed a second test where twelve specimens were irradiated and thermally aged. Six specimens were aged to simulate 125°F for a 40 year life, and six specimens were aged to simulate 150°F for an eight year life. At the 22 hour point of the test, three specimens aged to simulate 125°F and two specimens aged to simulate 150°F failed and were found shorted to ground. The test was discontinued.

The licensee has re-evaluated the environmental zones in which these wire caps are installed and has determined that the wire caps will be exposed to an ambient temperature of 122°F. EQ files are being revised accordingly. The licensee concluded that the nylon caps were qualified for at least a 9.9 year qualified life (as opposed to the 40 year life documented in the EQ files) based on the success of the first test. The nylon wire caps will be replaced prior to the end of their qualified life.

This item was previously identified as a Potentially Enforceable Unresolved Item, and has now been determined to be an apparent violation of 10 CFR 50.49 (50-461/88010-03(DRS)).

3. Enforcement Conference on EQ Findings

On March 31, 1988, an enforcement conference was held in Region III in regard to NRC findings identified during the August 17 through October 13, 1987 and February 25 through March 31, 1988 10 CFR 50.49 EQ inspections. The licensee acknowledged and agreed with the NRC findings, and presented the following arguments:

a. With regard to the use of nylon wire caps in Limitorque valve actuators, the licensee stated that it had been their understanding that Limitorque had tested these caps during the qualification testing of the actuators. The NRC, however, determined that the licensee had no evidence to substantiate this claim, and that any licensee communications with Limitorque regarding these caps took place after the NRC finding. The licensee also stated that failures in the field would have been prevented, as the licensee found no contact of the wire caps to the metal enclosures in the field. The NRC rejected this argument as the numerous wire leads having wire caps were not, and are not required to be secured in the field, and may easily touch each other or the enclosure during operation or maintenance.

b. With regard to the KYNAR AMP splices, the licensee stated that even though they had not originally tested the splices in a configuration consistent with the plant application, their original testing had been consistent with industry practices. The NRC rejected this response as the Clinton Station is required to meet the latest industry standards for testing as outlined in NUREG 0588, Category I and in IEEE 323-1974. Both documents refer to the use of proper configuration and mounting of tested components. In addition, IE Information Notice No. 85-39 addresses the need for a similarity of the tested configuration of equipment to the configuration installed in the plant.

c. With regard to the lack of junction box weep holes, the licensee stated that based on their review of plant engineering specifications no other such installation deficiency was found for installed equipment. As a basis for enforcement of this item, the NRC has noted that IE Information Notice 84-57 did address the need for weep holes in junction boxes to prevent failures due to moisture intrusion.

The licensee did not provide any new or revised information during the enforcement conference to mitigate the findings but confirmed that adequate corrective and remedial action had been implemented. A review of the licensee's corrective action will be performed during a followup NRC inspection.

4. Exit Interview

The Region III inspectors met with the licensee's representatives (denoted under Paragraph 1) during an enforcement conference on March 31, 1988 and discussed their findings. The inspectors summarized the purpose and findings of the inspection and the licensee acknowledged this information.