

AUG 30 1988

Docket No. 50-461
EA 88-90

Illinois Power Company
ATTN: Mr. D. P. Hall
Vice President
Illinois Power Company
Clinton Power Station
PO Box 678
Clinton, IL 61727

SUBJECT: ENVIRONMENTAL QUALIFICATION VIOLATIONS AT CLINTON

This is in response to your letter of June 1, 1988, concerning our Inspection Report No. 50-461/88010(DRS) dated April 20, 1988 on environmental qualification findings at the Illinois Power Company (IPC) Clinton Facility. Your letter states that clarification is required on certain points in the inspection report concerning the enforcement conference held on March 31, 1988. Those matters are addressed below. In addition to raising questions about the documentation of the enforcement conference, your letter raised the issue regarding the adequacy of your AMP KYNAR butt splice testing. That testing issue will be addressed in our evaluation of the other technical issues raised in your letter of June 29, 1988 which responded to our Notice of Violation and Proposed Imposition of Civil Penalties.

First, you noted that the inspection report can be read to indicate that the staff took a final position and rejected IPC arguments during the enforcement conference of March 31, 1988. We did not explicitly communicate our position on your arguments during the enforcement conference. The inspection report which was issued after the enforcement conference communicated our position on these matters. The past tense used in the inspection report may have led to the confusion over the timing of our decision.

Second, your letter noted that the inspection report incorrectly indicates that IPC stated in the enforcement conference that the AMP KYNAR splices were not originally tested in a configuration which is consistent with the plant application. Instead, you state that the position IPC took in the enforcement conference was that the test configuration was consistent with field configuration. We agree that you stated this position. However, in the enforcement conference discussion, you acknowledged that there were no restraints on the installed splices to assure that they will not contact metal enclosures or other conductors. While as you indicate in your letter, splices examined in the field were found not to be in contact with metal enclosures or other conductors, it is possible that in the past as well as a result of future maintenance activities, contact could take place (in fact the reason for insulating materials being used in the splices is to preclude grounding of connectors). We also recollect your acknowledging in the enforcement conference that, in hindsight, you recognized such testing would be appropriate. In conclusion, we agree that the phrasing of our inspection report may not have fully conveyed your position on this matter; this resulted from the brevity of our summary and was not intentional.

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If you have any further questions or concerns on this matter, please contact me or Mr. H. J. Miller, Director, Division of Reactor Safety, Region III.

Carl J. Paperiello
for Robert Davis
Regional Administrator

Enclosure: Letter dated
7/29/88

cc w/enclosure:

- J. Lieberman, OE
- L. J. Chandler, OGC
- F. J. Miraglia, NRR
- D. P. Hall, Vice President
- R. D. Freeman, Manager,
Nuclear Station
Engineering Department
DCD/DCB (RIDS)
- Licensing Fee Management Branch
Resident Inspector, RIII
Richard Hubbard
- J. W. McCaffrey, Chief, Public
Utilities Division
- H. S. Taylor, Quality Assurance
Division, Sargent & Lundy
Engineers
- David Rosenblatt, Governor's
Office of Consumer Services
- Sheldon Zabel, Esquire,
Schiff, Hardin, & Waite
- L. Larson, Project Manager,
General Electric Company
Chairman of DeWitt County
Illinois Department of
Nuclear Safety
- D. Schopfer, Project Manager,
Sargent & Lundy Engineers

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ILLINOIS POWER COMPANY



CLINTON POWER STATION P.O. BOX 878 CLINTON ILLINOIS 61727

DPH-0621-88
June 29, 1988

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FILE #45

Docket No. 50-461

Mr. James Lieberman, Director
Office of Enforcement
ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Response to Notice of Violation and Proposed
Imposition of Civil Penalty Dated June 1, 1988,
Docket No. 50-461, EA 88-90

Dear Mr. Lieberman:

On June 1, 1988, the Nuclear Regulatory Commission (NRC) issued a Notice of Violation and Proposed Imposition of Civil Penalty, EA 88-90, to Illinois Power Company (IP). That Notice was based upon items described in NRC Inspection Reports No. 87026 and 88010. The Notice proposes to impose a civil penalty upon IP in the amount of \$75,000.

Attachment A to this letter provides IP's reply to the items listed in the Notice of Violation, and Attachment B provides IP's answer to the Proposed Imposition of Civil Penalty. These attachments describe the actions IP has taken to correct the noted items, to address their generic implications, and to prevent their recurrence.

As described in Attachments A and B, two of the conditions, those relating to electrical butt splices and wire caps, cited by the NRC as the basis for the Notice of Violation and subsequent civil penalty, involve a new interpretation by the NRC of environmental qualification regulations and standards. IP was not notified of this new interpretation prior to the time the NRC identified these conditions during its inspection of IP's Environmental Qualification Program in August 1987. IP believes that it was in compliance with the standards applicable to these items that existed at the time and notes that the NRC did not identify any noncompliance during prior inspections of the components containing the wire caps. Also, as described in Attachment A, testing of the butt splices and wire caps demonstrated that there was no immediate safety concern and that continued operation was justified. Therefore, although IP has taken extensive action in response to the NRC's concerns with respect to the butt splices and wire caps, IP denies that a violation occurred with respect to these two items.

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IP also submits that issuance of a violation relating to the butt splices and wire caps was inconsistent with sound regulatory practice. To the extent that the NRC identified a previously unknown safety concern that was serious enough to warrant a civil penalty, it would have been appropriate for the NRC to notify licensees so that they would have the opportunity to resolve this concern as soon as possible. Some form of generic notification, such as a telegram, or an IE Information Notice, Bulletin or Generic Letter would have given licensees appropriate notice of this issue and would have provided the speediest means to address the issue on an industry-wide basis. Instead, the NRC imposed a civil penalty on an individual licensee based upon a new interpretation of the industry standards applicable to the environmental qualification of these items, without providing any prior notice of the NRC's concerns. This is a less-than-effective method for resolving safety concerns in a timely fashion.

As noted in Inspection Report 87026, the NRC has found IP's environmental qualification program to be generally sound, with limited exceptions. In addition, IP has taken vigorous corrective action to resolve the issues identified in the Notice. As a result, IP is requesting remission of the proposed civil penalty.

I trust that this response is satisfactory. If you have any questions, please call me or Frank Spangenberg, Manager of Licensing and Safety.

Sincerely yours,



D. P. Hall
Vice President

DPH/krm

Attachments

cc: Regional Administrator, Region III, USNRC
NRC Clinton Licensing Project Manager
NRC Resident Office
Illinois Department of Nuclear Safety

STATE OF ILLINOIS
COUNTY OF DEWITT

DONALD P. HALL, being first duly sworn, deposes and says: I am the Vice President of Illinois Power Company. The foregoing Response to Notice of Violation and Proposed Imposition of Civil Penalty (Letter No. U-601218), dated June 29, 1988, and the attached Reply to Notice of Violation (Attachment A) and Answer to Proposed Imposition of Civil Penalty (Attachment B), were prepared under my supervision and direction. I know the contents thereof, and to the best of my knowledge and belief the facts contained therein are true and correct.



Donald P. Hall

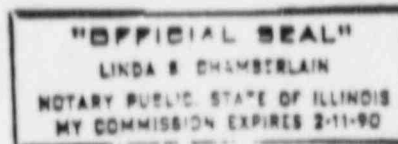
Dated: June 29, 1988

Subscribed and sworn to
before me this 30th day
of June, 1988


Notary Public

My Commission Expires:

2-11-90



Attachment A

Illinois Power Company's Reply to Notice of Violation (EA 88-90)

The Notice of Violation describes three alleged examples of violation of 10 CFR 50.49(f). These examples concern (1) AMP KYNAR electrical butt splices; (2) electrical junction boxes; and (3) Thomas and Betts nylon wire caps used inside Limitorque motor operated valve actuators. Illinois Power Company's (IP) reply pursuant to 10 CFR 2.201 is accordingly organized into three parts, each corresponding to one of the cited examples. Within each of these parts, the specific issues required to be addressed by 10 CFR 2.201, the Notice of Violation and the accompanying cover letter are addressed.

I. AMP KYNAR Electrical Butt Splices

The Notice of Violation states in part:

Contrary to [10 CFR 50.49(f)], as of August 19, 1987, the following equipment important to safety was not qualified by 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.

This example was described in NRC Inspection Report No. 87026 as item 87026-02 and in NRC Inspection Report No. 88010 as item 88010-01.

A. Admission or Denial of the Violation

The AMP KYNAR electrical butt splices were qualified by testing and/or analysis which reflected the installed configuration of these items at the Clinton Power Station (CPS). IP reviewed and accepted a qualification test report that demonstrated that these butt splices would perform their intended function under the most severe temperature, pressure, humidity, and radiation conditions, including thermal and radiation aging, anticipated in the event of a design basis accident (DBA). (See Wyle Laboratories Test Report Number 17955-1, Revision 0, dated January 29, 1988; AMP Qualification Test Report 110-11004, Revision 0, dated February 2, 1982.) The testing reviewed and accepted by IP was consistent with industry practices, and the butt splices were mounted, positioned and connected in a fashion similar to their actual installation. Additionally, the AMP test conditions were more severe than worst case conditions expected during a Clinton DBA. As described in section C of

the attached Answer to Proposed Imposition of Civil Penalty, IP believes that the environmental qualification testing of the butt splices met applicable NRC regulations and industry standards. IP also believes that the NRC's view that environmental qualification testing of these items was not adequate is a result of a new interpretation by the NRC of industry standards, of which IP was not informed until during the inspection (87026) in which the NRC identified this item. Therefore, IP does not consider that there was a violation for this item.

B. Reasons for the Condition Described

The AMP environmental qualification testing of the KYNAR butt splices accounted for the most severe temperature, pressure, humidity and radiation conditions expected to be encountered at CPS, accounted for thermal and radiation aging, and appropriately simulated the installed configuration of the butt splices in the plant. The rest of the splices did not account for contact with a metal ground, because the design use of the splices does not contemplate installation of the splices in a configuration in which they are in contact with a metal ground. When a walkdown of butt splices used in high humidity areas was performed, none were found in contact with a metal ground. The NRC informed IP, during its inspection of the CPS environmental qualification program on August 17-21, 1987, that the reason for testing the splices in contact with a metal ground is that there exists some possibility that such a ground could occur during accident conditions.

C. Steps Taken to Correct the Problem and Results Achieved

Upon being notified by the NRC during the week of August 17, 1987 that the fact that the failure to have tested the materials in contact with a metal ground called into question the adequacy of the environmental qualification of the butt splices, IP arranged for further testing. On August 21, 1987, Wyle Laboratories performed testing of AMP KYNAR butt splices. The test conditions simulated the most severe temperature, pressure and humidity conditions likely to be experienced during a design basis accident at CPS, and the butt splices were restrained in contact with a metal ground. All of the tested butt splices performed satisfactorily during these tests. Thus, the tests determined that there was no immediate safety concern with use of the butt splices. IP submitted these test results to the NRC on August 28, 1987, in conjunction with IP's Justification for Continued Operation (JCO) which demonstrated that continued operation of CPS was justified until further testing on the butt splices was performed.

Because the qualification tests performed on August 21, 1987, did not account for thermal or radiation aging of the butt splices, IP commissioned further tests, which were performed by Wyle Laboratories on October 9 through November 19, 1987. These tests were performed using AMP KYNAR butt splices that had been artificially aged for eight (8) years and for forty (40) years. Again, the splices were restrained in contact with a metal ground under the most severe temperature, pressure and humidity conditions that would be experienced during a design basis accident at CPS. A number of the splices in both groups failed to retain adequate insulating capacity under these extended service conditions. However, as discussed above, this presented no immediate safety concern.

Upon learning of these test results on November 10, 1987, while CPS was in cold shutdown, IP immediately initiated a walkdown of electrical devices in areas where 100% humidity could occur. During this walkdown, 196 AMP KYNAR butt splices in these areas were located. Each of these was reworked using qualified tape or Raychem tubing, resulting in a configuration that the NRC agrees is qualified. See NRC Inspection Report 88010, Item 88010-01. The walkdown and rework of all butt splices in high humidity areas was completed on November 18, 1987, prior to the time power ascension from the shutdown commenced.

D. Corrective Steps to Avoid Further Violation

As described in C above, the scope of this problem has been identified and it has been completely corrected. Therefore, no additional specific action in response to this item is required to avoid further violation.

However, it should be noted that, in addition to the environmental qualification program that was audited by the NRC, IP is engaged in a number of activities to ensure that plant equipment at CPS is properly qualified and to monitor industry sources that provide information that could affect the qualification status of equipment at CPS. IP receives, reviews, tracks and responds to Institute of Nuclear Power Operations (INPO) Significant Event Reports and Significant Operating Event Reports, General Electric Service Information Letters, NRC Generic Letters, IE Information Notices and IE Bulletins. Where requested, written responses to these documents are provided to the NRC. Any of these industry and NRC items containing information relating to environmental qualification are provided to the appropriate group within the CPS Nuclear Station Engineering Department (NSED) so that the potential impact on the environmental qualification of equipment at CPS can be addressed. File packages documenting IP's actions in response to such items are prepared and maintained.

IP also participates in industry groups that provide information relating to environmental qualification issues. For example, IP receives reports and attends meetings of the Environmental Qualification Advisory Group of the Electric Power Research Institute. IP also is a member of the Regional Utility Group for Region III. Environmental qualification information obtained from IP's participation in these groups is provided to appropriate personnel and reviewed for applicability to equipment installed at CPS. Finally, IP reviews violations issued in Region II to determine whether they contain information that might pertain to CPS. Such violations relating to environmental qualification are provided to the appropriate group within NSED to review for potential impact at CPS. Thus, IP has in place a number of programs designed to keep it abreast of developments in the area of environmental qualification and to assure that events that might affect the qualification of equipment at CPS are addressed. IP believes that these programs will help prevent environmental qualification violations in the future.

E. Date When Full Compliance Will Be Achieved

IP is in compliance.

II. Electrical Junction Boxes

The Notice of Violation states in part:

Contrary to [10 CFR 50.49(f)], 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:

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

This item was discussed in NRC Inspection Report No. 87026 as item 87026-03b and in NRC Inspection Report No. 88010 as item 88010-02, and was described in Licensee Event Report No. 87-066-00, submitted by IP to the NRC on December 4, 1987.

A. Admission or Denial of the Violation

IP admits that this item occurred as stated in the Notice of Violation.

B. Reason for the Violation

This problem was caused by the failure of the constructor, Baldwin Associates (BA), to install required weep holes in the electrical junction boxes. BA failed to include the requirement for the weep holes in the construction travelers for these junction boxes. The requirement for the weep holes was not clearly defined by the architect/engineer, Sargent & Lundy, in the installation specification for the junction boxes.

In addition, corrective action for the nonconformance documents that initially identified junction box drainage problems in some junction boxes, and corrective action for an NRC noncompliance (87026-03b) relating to a junction box that lacked a drainage hole, was limited to the junction boxes in question.

C. Steps Taken to Correct the Problem and Results Achieved

This problem was identified as a generic condition on November 5, 1987, while the plant was in cold shutdown. IP ordered that the plant remain in cold shutdown until all of the junction boxes were repaired. A walkdown was conducted to identify all junction boxes lacking required weep holes. A total of 156 boxes were identified as lacking weep holes. These were reworked by drilling a drain hole in each box. This work was completed on November 12, 1987, prior to initiating power ascension from the shutdown.

D. Corrective Steps to Avoid Further Violation

Engineering Change Notices have been issued for the construction drawings for the affected junction boxes to show the requirement for weep holes in the boxes. In addition, the CPS Quality Assurance and Nuclear Station Engineering departments, and Sargent & Lundy, performed a review of the Sargent & Lundy electrical installation specification to determine whether other cases existed where requirements in the installation specification might have been misunderstood. No other instances were identified.

A training program was developed to ensure that engineering and quality assurance personnel responsible for performing reviews of nonconformance documents and defining corrective action are aware of the need to look for possible generic implications of problems and to take a broad view of remedial action for hardware deficiencies. The training reinforced that all conditions, including those that are themselves determined not to be significant, should be evaluated for generic implications. In particular, personnel were instructed to consider applications for

similar items that are located elsewhere in the plant or in a different environment, or that perform different functions, as well as to consider the cause of the condition to determine whether a widespread condition may be indicated. This training was administered pursuant to a written plan. This training was completed on December 18, 1987.

In addition, as described in subsection I.D above, IP is engaged in a number of other activities to avoid environmental qualification violations in the future.

E. Date When Full Compliance Will Be Achieved

IP is in compliance.

III. Thomas and Betts Nylon Wire Caps Used Inside Limitorque Motor Operated Valve Actuators

The Notice of Violation states in part:

Contrary to [10 CFR 50.49(f)], 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:

- 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 item was discussed in NRC Inspection Report No. 87026 as item 87026-01 and in NRC Inspection Report No. 88010 as item 88010-03.

A. Admission or Denial of the Violation

The Thomas and Betts nylon wire caps installed in Limitorque motor operated valve actuators were qualified by appropriate testing which reflected the installed configuration at CPS. The motor operated valve actuators were tested by Limitorque under temperature, pressure, humidity and radiation conditions, including thermal and radiation aging, which exceeded those anticipated to occur during their use at CPS. The actuators tested utilized the same type of Thomas and Betts nylon wire caps as those used at CPS. Limitorque has confirmed that no other types of wire caps were ever used in its actuators. Thus, the Thomas and Betts nylon wire caps were appropriately qualified in the same configuration as they are installed in the plant. As described in section C of the attached Answer to Proposed Imposition of Civil Penalty, IP believes that the environmental qualification testing of the wire caps met applicable NRC regulations and

industry standards. IP also believes that the NRC's view that environmental qualification testing of these items was not adequate is the result of a new interpretation by the NRC of industry standards, of which IP was not informed until during the inspection (87026) in which the NRC identified this item. Therefore, IP does not consider that there was a violation for this item.

B. Reason for the Condition Described

Limitorque's environmental qualification testing of the Thomas and Betts wire caps accounted for the most severe temperature, pressure, humidity, and radiation conditions expected to be encountered during a design basis accident at CPS, accounted for thermal and radiation aging, and simulated the installed configuration of the wire caps in the plant. The test of the wire caps did not account for contact with a metal ground because the design of the actuators does not contemplate use of the wire caps in a configuration in which they are in contact with a metal ground. The NRC informed IP during its inspection of the CPS environmental qualification program on August 17-21, 1987 that the reason for testing the splices in contact with a metal ground is that there exists some possibility that such a ground could occur during accident conditions.

C. Steps Taken to Correct the Problem and Results Achieved

Upon being notified by the NRC during the week of August 17, 1987 that the fact that the wire caps were not tested in contact with a metal ground called into question the adequacy of the environmental qualification of the Thomas and Betts nylon wire caps, IP arranged for further testing. On August 21, 1987, Wyle Laboratories performed testing of the nylon wire caps. The test conditions simulated the most severe temperature, pressure and humidity conditions likely to be experienced during a design basis accident at CPS, and the wire caps were restrained in contact with a metal ground. All of the tested wire caps performed satisfactorily during the tests. IP submitted these test results to the NRC on August 28, 1987, in conjunction with IP's JCO which demonstrated that continued operation of CPS was justified until further testing of the wire caps could be performed.

Because the qualification tests performed on August 21, 1987, did not account for thermal or radiation aging of the nylon wire caps, IP commissioned further tests, which were performed by Wyle Laboratories on January 29, 1988. These tests were performed using Thomas and Betts nylon wire caps that had been artificially aged for eight years and forty years. Again, the wire caps were restrained in contact with a metal ground under the most severe temperature, pressure and humidity conditions that would be experienced during a

design basis accident at CPS. The test of wire caps in the forty-year group was discontinued after a number of wire caps failed the test. All of the wire caps in the eight-year group functioned properly. Analysis of the test results demonstrated a minimum of a 9.9-year qualified life for the wire caps. IP has either reworked the wire caps with qualified Okonite tape or will replace them prior to the expiration of their qualified life.

D. Corrective Steps to Avoid Further Violation

As described in C above, the scope of this problem has been identified and it has been completely corrected. Therefore, no additional specific action in response to this item is required to avoid further violation. However, as described in subsection I.D above, IP is engaged in a number of activities that should prevent environmental qualification violations in the future.

E. Date When Full Compliance Will Be Achieved

IP is in compliance.

ATTACHMENT B

Illinois Power Company's Answer to Proposed Imposition of Civil Penalty (EA 88-90)

The Notice of Violation and Proposed Imposition of Civil Penalty describes three items which were collectively considered a single violation, and states:

This is a Severity Level III violation (Supplement 1).

Civil Penalty - \$75,000.

The letter accompanying the Notice of Violation and Proposed Imposition of Civil Penalty states that:

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (Enforcement Policy), the violation described in the enclosed Notice has been categorized at a Severity Level III. The escalation and mitigation factors in the Enforcement Policy were considered and the base civil penalty amount has been increased by 50%. Your prompt and extensive corrective action once the problem was identified to you is offset by the prior notices you have had concerning the junction boxes in the form of IE Information Notice 84-57, a previous NRC violation (50-461/87026-03(b)) and your own Nonconforming Material Report written on September 16, 1986, and the multiple examples found for each violation involving numerous safety-related systems.

The Civil Penalty Should Not Have Been Escalated; Remission of the Civil Penalty is Appropriate

10 CFR Part 2, Appendix C describes factors to be considered by the NRC in determining whether to mitigate a proposed civil penalty. These include prompt and effective corrective action and good past performance in the area where the violation occurred. In addition, with respect to two of the items cited as the basis for the violation in EA 88-90, IP believes that no violation occurred and that other extenuating circumstances exist which make escalation of the civil penalty unwarranted and render remission of the penalty appropriate.

A. Past Performance

IP's performance in the area of environmental qualification (EQ) of equipment at CPS has been generally good. The staff performed an audit of IP EQ files and a walkdown of installed equipment between March 11 and 14, 1985. Only one file with discrepancies was identified, and no discrepancies between the qualification files and the hardware were

identified. Similarly, during August-October of 1987, the NRC conducted an in-depth evaluation of the EQ program for CPS, and found that IP's program complies with NRC EQ requirements, and with limited specific exceptions, was properly implemented. Furthermore, NRC inspectors on several occasions have remarked that IP has a "strong EQ program."

B. Prompt and Effective Corrective Action

For two of the examples cited in the alleged violation (AMP KYNAR butt splices and the nylon wire caps), IP's corrective action, described in subsections I.C. and D. and III.C. and D. of the Reply to the Notice of Violation, was prompt and effective, resulting in completion of correction action with no impact on plant operation. Corrective action was designed to identify the scope of the problem and to identify and correct each instance where the problem appeared. In addition, IP is engaged in a number of activities, described in subsection I.D. of the Reply to the Notice of Violation, that should prevent future violations. The NRC recognized in the cover letter accompanying the Notice of Violation that IP's corrective action in response to these items was "prompt and effective."

As described in subparts II.C. and D. of IP's Reply to the Notice of Violation, corrective action for the violation involving the electrical junction boxes included a determination of the scope of the problem, included action to assure that similar problems did not exist elsewhere, and included training to assure that personnel involved in responding to nonconforming hardware conditions address possible generic implications of those conditions. IP believes that it has taken thorough corrective action which should preclude this type of problem in the future.

C. Other Extenuating Circumstances

The citation of a violation involving the AMP KYNAR butt splices and the Thomas and Betts nylon wire caps represents a change in the NRC's interpretation of its regulations and industry standards. As required by 10 CFR § 50.49, the environmental qualification testing of these items reviewed and accepted by IP accounted for the most severe pressure, temperature, humidity and radiation conditions that would be experienced by these items in the event of a design basis accident at CPS. In addition, these items were tested in a configuration that appropriately simulated the mounting method, positioning, and connection of these items as installed at CPS.

As noted on page 2 of the letter accompanying the Notice of Violation, NRC Region III has concluded that the tests reviewed and accepted by IP were not adequate because the butt splices and wire caps were not tested while restrained to a grounded metal surface. However, as installed in the plant, these items are not restrained to a grounded metal surface. When walkdowns of the 196 butt splices were performed at CPS, no indication was found that these items were in contact with a metal surface. Furthermore, when testing the nylon wire caps in the fashion required by the NRC, the only way that the wire caps could be held in contact with metal was to physically restrain them to the actuator casing; otherwise contact could not be maintained. Thus, contact of these items with metal is only a speculative possibility that is unsupported by the design requirements or by the installations actually observed in the plant.

The NRC states that its position that the butt splices and wire caps should have been tested in contact with metal is supported by IEEE Standard 323-1974, "IEEE Standard for Qualifying Class IE Equipment for Nuclear Power Generating Stations." That standard states that during environmental qualifications tests:

6.3.1.2 Mounting. Equipment shall be mounted in a manner and in a position that simulates its expected installation when in actual use....

6.3.1.3 Connections. Equipment shall be connected in a manner that simulates its expected installation when in actual use....

The qualification tests reviewed and accepted by IP satisfied these requirements. Testing the butt splices and wire caps while restrained in contact with metal, as now required by the NRC, appears contrary to a straight-forward interpretation of IEEE 323-1974, because these items are not expected to be restrained in contact with metal in actual use, and indeed have not been found in that configuration at CPS.

In the cover letter accompanying the Notice of Violation, the NRC states that the butt splices and wire nuts should have been tested in contact with a ground "since that is a possible configuration and failure mode" (emphasis added). The requirement here imposed by the NRC is not supported by IEEE 323-1974. As noted above, that standard does not require testing of plant equipment in all "possible" configurations, but the expected configuration. According to Webster's Ninth New Collegiate Dictionary (1986), "expect" means "to consider probable or certain." Based upon the design and installation of the butt splices and wire caps, contact of these items to a metal ground was not probable or certain, and in fact was not a condition found in the plant. Thus, the argument that the butt splices and

wire caps should have been tested in contact with metal as inconsistent with the plain language of IEEE 323-1974.

IP is not aware that the NRC has applied this type of interpretation to environmental qualification of items until now, and believes it should not be penalized for this new departure from the customary reading of the IEEE standard. In this connection, it should be noted that in 1985 the NRC audited the CPS environmental qualification file for the Limitorque motor operated valve actuators, including internal components of the actuators, and concluded in SSER 6 (after IP resolved certain discrepancies in the file) that environmental qualification of the actuators and their internal components had been adequately demonstrated (See IP letter U-600429 from F. A. Spangenberg (IP) to W. R. Butler (NRC) dated February 14, 1986; CPS SSER 6 at pp. 3-8 to 3-9). Thus, the interpretation of EQ requirements being proposed by the NRC is not only unprecedented, but is in contradiction to findings made earlier by the NRC. IP has sought to be responsive to the NRC's concerns with respect to the butt splices and wire caps, and has taken action to bring CPS into conformance with the NRC's new interpretation of how these items should have been tested, as described in subparts I.C and D and III.C and D of IP's Reply to the Notice of Violation. However, IP believes that it is unfair to penalize individual licensees on the basis of new interpretations of which the licensees were not notified, especially when these interpretations are not consistent with earlier findings made by the NRC and are not apparent from a plain reading of the interpreted standard.

IP therefore denies that any violation occurred with respect to the AMP KYNAR butt splices and the nylon wire caps inside Limitorque motor operated valve actuators. Thus, two of the three examples listed in the Notice of Violation should not be used in calculating the amount of civil penalty to be assessed against IP. Based upon the one remaining item, which has been thoroughly corrected by IP (see subsections II.B. and C. of the Reply to the Notice of Violation), and upon the fact that IP's environmental qualification program is generally sound, IP submits that it is inappropriate to escalate the civil penalty for the items contained in the Notice of Violation, and that remission of the penalty is warranted.