NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

Consumers Power Company
Big Rock Point Nuclear Plant

Docket No. 50-155
License No. DPR-06
EA 87-80

During an NRC inspection conducted on September 15-19, 1986, of the licensee's program for environmental qualification (EQ) of equipment, a violation of NRC requirements was identified. In accordance with the "Modified Enforcement Policy Relating to 10 CFR 50.49, Environmental Qualification of Electrical Equipment Important to Safety of Nuclear Power Plants," contained in Generic Letter 88-07, 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 each item of electrical equipment important to safety to be environmentally qualified by testing and/or analysis.

10 CFR 50.49(k) specifies that requalification of electric equipment important to safety is not required if the Commission has previously required qualification in accordance with "Guidelines for Evaluating Environmental Qualification of Class 1E Electrical Equipment in Operating Reactors," November 1979 (DOR Guidelines).

DOR Guidelines, Section 5.2.2, states that type tests should only be considered valid for equipment identical in design and material construction to the test specimen and any deviations should be evaluated as part of the qualification documentation.

Contrary to the above Consumers Power Company failed to qualify equipment important to safety by appropriate testing and/or analysis as evidenced by the following examples:

1. Limitorque Motor Actuator MO-7068, an item of electrical equipment important to safety, was removed from service after 13 years of operation and was subjected to a Loss of Coolant Accident (LOCA) test on April 23, 1975. This actuator was then reinstalled and returned to service in the containment spray system without being qualified by testing and/or analysis to evaluate aging and degradation due to the LOCA test. This condition existed from November 30, 1985 until February 13, 1987, at which time Limitorque Motor Actuator MO-7068 was replaced.

2. Butyl rubber and polyethylene insulated cables, items of electrical equipment important to safety, which had not been environmentally qualified by testing and/or analysis, were installed in various Class 1E circuits inside containment. This condition existed from November 30, 1985 until June 30, 1987, at which time the unqualified cables were replaced.

This is an EQ Category B violation.

Civil Penalty - $187,500
(The facility operated in excess of 100 days in violation of EQ requirements.)

Pursuant to the provisions of 10 CFR 2.201, Consumers Power Company is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, Nuclear Regulatory Commission, within 30 days of the date of the letter transmitting this Notice. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) admission or denial of the violation; (2) the reason for the violation if admitted; (3) the corrective steps which have been taken and the results achieved; (4) the corrective steps which will be taken to avoid further violations, and (5) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending the response time. 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 action, as may be proper, should not be taken. Consideration may be given to extending response time for good cause shown.

Within the same time as provided for response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, or money order payable to 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 an answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation of 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, such an answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in the "Modified Enforcement Policy Relating to 10 CFR 50.49, Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants," contained in Generic Letter 88-07 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 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, DC 20555 with a copy to the Regional Administrator, Region III, U.S. Nuclear Regulatory Commission, 799 Roosevelt Road, Glen Ellyn, IL 60137, and a copy to the NRC Resident Inspector, Big Rock Point.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Bert Davis
Regional Administrator

Date at Glen Ellyn, Illinois
this 22nd day of September 1988

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 7, 1988

Enclosure 2

TO ALL POWER REACTOR LICENSEES AND APPLICANTS

SUBJECT: MODIFIED ENFORCEMENT POLICY RELATING TO 10 CFR 50.49, "ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY FOR NUCLEAR POWER PLANTS" (GENERIC LETTER 88-07)

Background:

Generic Letters, Bulletins, and Information Notices have been issued to provide guidance regarding the application and enforcement of 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants." Generic Letter 85-15, issued August 6, 1985, and Generic Letter 86-15, issued September 22, 1986, provided information related to the deadlines for compliance with 10 CFR 50.49 and possible civil penalties applicable to licensees who were not in compliance with the rule as of the November 30, 1985 deadline. Upon review, the Commission found that the EQ Enforcement Policy promulgated in Generic Letter 86-15, could result in imposition of civil penalties that did not properly reflect the safety significance of EQ violations with respect to civil penalties imposed in the past. In the interest of continuing a tough but fair enforcement policy, the Commission determined that the EQ Enforcement Policy should be revised. The purpose of this letter is to provide a modification to the NRC's enforcement policy, as approved by the Commission, for environmental qualification (EQ) violations. This letter replaces the guidance provided in Generic Letters 85-15 and 86-15.

Modified EQ Enforcement Policy

The details of the modified EQ enforcement policy are provided in the enclosure. Generally, the changes made to the policy are to: (1) aggregate significant EQ violations together, rather than consider each separate item of unqualified electrical equipment, for assessment of a civil penalty, (2) assess a base civil penalty according to the number of systems or components which are affected by the unqualified equipment in a graded approach by assignment of the aggregate EQ problem into one of three categories, (3) establish a maximum EQ civil penalty of $750,000 for most cases, (4) maintain a minimum civil penalty of $50,000 for a significant EQ violation in most cases, and (5) consider mitigation or escalation of the base civil penalty based on the factors of identification and reporting, best efforts to complete EQ within the deadline, corrective actions, and duration of the violation.

This modified policy should not be interpreted as a lessening of the NRC's intention to assure that all plants comply with EQ requirements. The modified policy is intended to give a significant civil penalty to those licensees with significant EQ violations. The NRC's view is that the modified policy more closely reflects the relative safety importance of EQ violations with other enforcement issues.

Safety Issues

When a potential deficiency has been identified by the NRC or licensee in the environmental qualification of equipment (i.e., a licensee does not have an

adequate basis to establish qualification), the licensee is expected to make a prompt determination of operability (i.e., the system or component is capable of performing its intended design function), take immediate steps to establish a plan with a reasonable schedule to correct the deficiency, and have written justification for continued operation, which will be available for NRC review.

The licensee may be able to make a finding of operability using analysis and partial test data to provide reasonable assurance that the equipment will perform its safety function when called upon. In this connection, it must also be shown that subsequent failure of the equipment, if likely under accident conditions, will not result in significant degradation of any safety function or provide misleading information to the operator.

The following actions are to be taken if a licensee is unable to demonstrate equipment operability:

a. For inoperable equipment which is in a system covered by plant technical specifications, the licensee shall follow the appropriate action statements. This could require the plant to shut down or remain shut down.

b. For inoperable equipment not covered by the plant technical specifications, the licensee may continue reactor operation:

   1. If the safety function can be accomplished by other designated equipment that is qualified, or

   2. If limited administrative controls can be used to ensure the safety function is performed.

The licensee must also evaluate whether the findings are reportable under 10 CFR 50.72 and 50.73, 10 CFR Part 21, the Technical Specifications or any other pertinent reporting requirements, including 10 CFR 50.9(b), particularly if equipment is determined to be inoperable.

This letter does not require any response and therefore does not need approval of the Office of Management and Budget. Comments on burden and duplication may be directed to the Office of Management and Budget, Reports Management Room 3208, New Executive Office Building, Washington, DC 20503. Should you have questions on this letter, the staff contact is Howard Wong, Office of Enforcement. He can be reach on (301) 492-3281.

Frank J. Miraglia

Frank J. Miraglia
Associate Director for Projects
Office of Nuclear Reactor Regulation

Enclosure: As stated

ENCLOSURE

MODIFIED ENFORCEMENT POLICY FOR EQ REQUIREMENTS

This enclosure provides the details of the modified enforcement policy for EQ requirements for those licensees who were not in compliance with 10 CFR 50.49 as of the November 30, 1985 deadline.

I. Scope of the Enforcement Policy for EQ Requirements

If violations of the EQ rule identified at plants operating after November 30, 1985 existed before the deadline and the licensee "clearly knew or should have known" of the lack of proper environmental qualification, then enforcement action may be taken as described in Sections III and IV. If the licensee does not meet the "clearly knew or should have known" test, no enforcement action will be taken.

This enforcement policy applies to violations of the EQ rule identified after November 30, 1985 which relate back to action or lack of action before the deadline. Violations which occurred after November 30, 1985 (either as a result of plant modifications or because the plant was licensed after November 30, 1985) will be considered for enforcement action under the normal Enforcement Policy of 10 CFR Part 2, Appendix C. In addition, EQ violations which are identified after the NRC's last first-round inspection, 1/ approximately mid-1988, will also be considered under the normal Enforcement Policy.

II. Application of the "Clearly Knew, or Should Have Known" Test

Licensees who "clearly knew" they had equipment for which qualification could not be established may have committed a deliberate violation of NRC requirements. This situation will be evaluated on a case-by-case basis.

The NRC will examine the circumstances in each case to determine whether the licensee "clearly should have known" that its equipment was not qualified. The factors the NRC will examine include:

1. Did the licensee have vendor-supplied documentation that demonstrated that the equipment was qualified?

2. Did the licensee perform adequate receiving and/or field verification inspection to determine that the configuration of the installed equipment matched the configuration of the equipment that was qualified by the vendor?

3. Did the licensee have prior notice that equipment qualification deficiencies might exist?

4. Did other licensees identify similar problems and correct them before the deadline?

1/ First-round inspections are special team inspections to review licensees' compliance with 10 CFR 50.49.

In assessing whether the licensee clearly should have known of a deficiency, the information provided to the licensees by the NRC and the industry on specific deficiencies will be taken into consideration. This information, and the timeliness of it being provided to licensees prior to the EQ deadline are relevant factors. If one licensee determined that a specific EQ deficiency existed, it would not be assumed that all licensees should have also come to the same conclusion unless information about the specific deficiency had been widely disseminated within the industry or by the NRC. The staff will carefully consider these criteria when evaluating whether a licensee clearly should have known of a deficiency prior to the deadline.

III. EQ Violations not Sufficiently Significant to Merit a Civil Penalty Under the Modified Policy

Any failure to adequately list and demonstrate qualification of equipment required by 10 CFR 50.49 may constitute a violation of the rule. This does not require, however, that all violations of the rule be considered for escalated enforcement or be assessed a civil penalty. For example, if the qualification file presented to the inspector during an inspection did not demonstrate or support qualification of equipment, the equipment would be considered unqualified 2/ and 10 CFR 50.49 requirements would be violated. However, although not in the qualification file, if sufficient data exists or is developed during the inspection to demonstrate qualification of the equipment or, based on other information available to the inspector, the specific equipment is qualifiable for the application in question, the qualification deficiency is not considered sufficiently significant for assessment of civil penalties. These violations would be considered to be Severity Level IV or Severity Level V violations based on a violation of 10 CFR 50.49 requirements at the time of the inspection.

Programmatic violations or problems that are identified as a result of the EQ inspections that involve several EQ violations which themselves would not be considered sufficiently significant to merit a civil penalty under the modified EQ enforcement policy nonetheless may be aggregated and evaluated for escalated enforcement action (generally Severity Level III) for the failure to satisfy applicable requirements of 10 CFR 50.49 and/or 10 CFR Part 50, Appendix B. The civil penalties for these violations would be assessed under the normal Enforcement Policy of 10 CFR Part 2, Appendix C (Supplement I).

IV. Basis for Determining Civil Penalties

A. Base Civil Penalty

Significant EQ violations, for which the licensee clearly should have known that they had equipment for which qualification had not been established,

---

2/ For purposes of enforcement, "unqualified equipment" means equipment for which there is not adequate documentation to establish that this equipment will perform its intended functions in the relevant environment.

are to be considered together, in the aggregate, and the base civil penalty assessed in a graded approach based on the number of systems or components affected. 3/

The base civil penalty would be determined as described below.

EQ Violation Category		Base Civil Penalty
A.	Extensive; EQ violations affecting many systems and many components.	$300,000
B.	Moderate; EQ violations affecting some systems and some components.	$150,000
C.	Isolated; EQ violations affecting a limited number of systems and components.	$ 75,000

The three EQ violation categories reflect the overall pervasiveness and the general safety significance of significant EQ violations. The NRC considers violations of EQ requirements to be safety significant because the electrical equipment required to be qualified were those which have importance to safety. The violation categories do not include those EQ violations which have been determined to be not sufficiently significant standing alone to be considered for escalated enforcement and which will be normally considered as Severity Level IV or V violations, as described in Section III. As stated in Section III, however, programmatic problems may be the subject of escalated enforcement action under the NRC's normal Enforcement Policy.

The significance of the EQ violations is considered when the NRC evaluates the number of systems affected by the EQ violations and determines the EQ violation category. The NRC will assume, for escalated enforcement cases, that the unqualified equipment could affect operability of the associated system. The NRC will not consider refinements on the operability arguments such as the actual time the equipment is required to be operable, administrative measures or controls available to ensure the safety function is accomplished, the degree to which the operability of a system is affected, or, that through additional analyses or testing, the equipment may be demonstrated to be qualified or qualifiable. This assumption is made for enforcement purposes in order to reduce the resources anticipated to be spent by licensees and the NRC to evaluate in detail whether system operability was in question.

3/ The EQ violation categories (A-C) will be used rather than the severity levels in the normal Enforcement Policy of 10 CFR Part 2, Appendix C. The base civil penalty for the violations will be applied consistent with the statutory limits on civil penalties under Section 234 of the Atomic Energy Act.

Because the NRC is considering enforcement action rather than a justification for continued operation and the EQ deficiencies have been corrected in most instances, the NRC will make a conservative judgment as to the overall safety significance of the EQ violations based on the number of safety systems affected. This approach has the benefits of a relatively quick, though conservative, view on the safety consequences of unqualified equipment and will focus on the underlying cause of the EQ violations.

Cases involving deliberate violations or very serious EQ violations (more safety significant than considered in this modified enforcement policy such as widespread breakdowns or clearly inoperable systems) will be evaluated on a case-by-case basis and may be subject to more severe sanctions than those described in this policy.

B. Mitigation/Escalation Factors

Mitigation and escalation of the base civil penalty determined in Section IV.A will be considered in the determination of the civil penalty amount. The NRC will consider the EQ violations in aggregate, not based on individual violations. Adjustment of the base civil penalty will be considered as described below:

Mitigation/Escalation Factors	Maximum Mitigation/ Escalation Amount (from base civil penalty)
1. Identification and prompt reporting, if required, of the EQ violations (including opportunities to identify and correct the deficiencies).	± 50%
2. Best efforts to complete EQ within the deadline.	± 50%
3. Corrective actions to result in full compliance (including the time taken to make an operability or qualification determination, the quality of any supporting analysis, and the nature and extent of the licensee's efforts to come into compliance).	± 50%
4. Duration of violation which is significantly below 100 days.	- 50%

In order to be fair and equitable to those licensees who took appropriate actions prior to November 30, 1985 or shut down prior to this date to be in compliance, civil penalties generally should not be less than $50,000 to emphasize that a significant environmental qualification failure is unacceptable.

The NRC will, however, consider full mitigation (no civil penalty) for those EQ violations which satisfy all of the five following criteria: (1) violations which are isolated and affect a limited number of systems and components, (2) violations which are identified by the licensee, (3) violations which are promptly reported to the NRC, if required, (4) violations which are corrected and actions taken will result in full compliance within a reasonable time, and (5) violations for which the licensee has demonstrated best efforts to complete EQ within the deadline.

The intent of full mitigation of the civil penalty for EQ violations which meet all five criteria is to increase the incentive for self-identification of EQ deficiencies which might not otherwise be found by NRC. The NRC will generally issue only a Notice of Violation for violations which meet all these criteria.

If the licensee is able to convincingly demonstrate at the time of the inspection, or shortly thereafter, that an item is not required to be on the EQ list, then the item would not be considered for enforcement action. The NRC does not intend to consider for enforcement purposes the results of a licensee's after-the-fact testing for mitigation where the licensee clearly should have known that its documentation was not sufficient.

LIST OF RECENTLY ISSUED GENERIC LETTERS

Generic Letter No.	Subject	Date of Issuance	Issued To
GL 88-06	REMOVAL OF ORGANIZATION CHARTS FROM TECHNICAL SPECIFICATION ADMINISTRATIVE CONTROL REQUIREMENTS	03/22/88	ALL POWER REACTOR LICENSEES AND APPLICANTS
GL 88-05	BORIC ACID CORROSION OF CARBON STEEL REACTOR PRESSURE BOUNDARY COMPONENTS IN PWR PLANTS	03/17/88	ALL LICENSEES OF OPERATING PWRS AND HOLDERS OF CONSTRUCTION PERMITS FOR PWRS
GL 88-04	DISTRIBUTION OF GEMS IRRADIATED IN RESEARCH REACTORS	02/23/88	ALL NON-POWER REACTOR LICENSEES
GL 88-03	RESOLUTION OF GENERIC SAFETY ISSUE 93, "STEAM BINDING OF AUXILIARY FEEDWATER PUMPS"	02/17/88	ALL LICENSEES, APPLICANTS FOR OPERATING LICENSES, AND HOLDERS OF CONSTRUCTION PERMITS FOR PRESSURIZED WATER REACTORS
GL 88-02	"INTEGRATED SEFETY ASSESSMENT PROGRAM II (ISAP II)"	01/20/88	ALL POWER REACTOR LICENSEES
GL 88-01	"NRC POSITION ON IGSCC IN BWR AUSTENITIC STAINLESS STEEL PIPING"	01/25/88	ALL LICENSEES OF OPERATING BOILING WATER REACTORS AND HOLDERS OF CONSTRUCTION PERMITS FOR BWRS
GL 87-16	NUREG-1262, "ANSWERS TO QUESTIONS AT PUBLIC MEETINGS RE IMPLEMENTATION OF 10 CFR55 ON OPERATORS LICENSES	11/12/87	ALL POWER AND NONPOWER REACTOR LICENSEES AND APPLICANTS FOR LICENSES
GL 87-15	POLICY STATEMENT ON DEFERRED PLANTS	11/04/87	ALL HOLDERS OF CONSTRUCTION PERMITS FOR A NUCLEAR POWER PLANT
GL 87-14	REQUEST FOR OPERATOR LICENSE SCHEDULES	08/04/87	ALL POWER REACTOR LICENSEES

Enclosure 3

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50- [illegible] (DRS)

Docket No. 50-[illegible] License No. DPR-06

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Facility Name: Big Rock Point Nuclear Plant

Inspection At: Charlevoix, MI

Inspection Conducted: September 15 through 19, 1986

Inspector: A. S. Gautam, A. S. Gautam 11/3/86
Reactor Inspector, RIII Date

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

J. W. Muffett, Section Chief, RIII
R. J. Smeenge, Reactor Inspector, RIII
R. Lasky, Engineer, I&E
M. Jacobus, Technical Staff Engineer, Sandia National Laboratories
M. Yost, Consultant Engineer, Idaho National Engineering Laboratory
D. Jackson, Consultant Engineer, Idaho National Engineering Laboratory

Approved By: J. W. Muffett, Section Chief J. W. Muffett 11/4/86
Plant Systems Section Date

Inspection Summary

Inspection on September 15 through 19, 1986 (Report No. 50-155/86013(DRS)
Areas Inspected: Special announced safety inspection of the environmental qualification of electrical equipment within the scope of 10 CFR 50.49. The inspection included licensee action on SER/TER commitments; environmental qualification (EQ) program compliance to 10 CFR 50.49; adequacy of equipment EQ files; and a plant physical inspection of EQ equipment (Module Nos. 30703 and 25176).
Results: The licensee has implemented a program to meet the requirements of 10 CFR 50.49. Certain deficiencies were identified in the areas inspected and are listed below.

POTENTIAL ENFORCEMENT/UNRESOLVED ITEMS

Item Numbers	Description	Report Section
50-155/86013-01(DRS)	Inadequate implementation of SER/TER commitment regarding the qualification of Polyethylene and Butyl Rubber insulated cables	2
50-155/86013-05(DRS)	Limitorque Actuator MO-7068 not qualified to DOR Guidelines for operation in a Design Basis Accident (DBA) due to unqualified materials	4a
50-155/86013-06(DRS)	Rotork Actuator MO-7072 not qualified to DOR Guidelines for operation in a DBA due to unqualified materials	4b
50-155/86013-07(DRS)	Flow Transmitter FT-2162 not qualified for intended function, past the November 30, 1985, EQ deadline	4c
50-155/86013-12(DRS)	Limitorque Actuator MO-7080 found unqualified to DOR guidelines due to broken terminal block barriers	4

OPEN ITEMS

Item Numbers	Description	Report Section
50-155/86013-02(DRS)	Items removed from the MEL still relied on in the Emergency Procedures	3b(1)
50-155/86013-03(DRS)	Use of inaccurate dates in the PACS master file listing of maintenance and surveillance activities	3c(1)
50-155/86013-04(DRS)	Inadequate program to train key personnel for EQ activities	3e(1)

Item Numbers	Description	Report Section
50-155/86013-08(DRS)	Deficiencies in the EQ files for various power and control cables	4d(1)(2)(3)
50-155/86013-09(DRS)	Qualification for 30 day operability after a DBA has not been established in file.	4e
50-155/86013-10(DRS)	Missing sections in EQ file for STATES terminal blocks	4f
50-155/86013-11(DRS)	Lack of licensee response to concerns in IE 83-72 for Limitorque actuators.	4g

DETAILS

1. Persons Contacted

a. Consumers Power Company (CPCo)

*F. W. Buckman, Vice President
*D. P. Hoffman, Plant Superintendent
*G. C. Withrow, Engineering and Maintenance Superintendent
*C. R. Abel, Production and Performance Superintendent
*J. L. Beer, C/HP Superintendent
*C. E. MacInnis, Director, Public Affairs
*E. M. Evans, Senior Engineer
K. A. Toner, Palisades Engineering Supervisor
*R. R. Frisch, Licensing Analyst, Corporate
*R. J. Alexander, Technical Engineer
L. Darran, Acting Operation Supervisor
*R. L. Krchmar, Quality Assurance Engineer
*E. Raiciborski, Outage Planner

b. Consultants

*P. A. DiBenedetto, DiBenedetto Associates, Inc.
E. J. Olfier, Staff Engineer, Jackson Associates

c. U.S. NRC

*S. Guthrie, Senior Resident Inspector

*Denotes those attending the exit interviews on September 19, 1986.

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 in the February 18, 1983, FRC/TER; April 26, 1983, SER; June 5 thru 7, 1984, NRR audit; and October 3, 1985, final SER.

During the June 5 thru 7, 1984, audit the NRC staff had observed that the licensee had not demonstrated an EQ program meeting the requirements of 10 CFR 50.49. Consequently, the NRC staff had recommended large scale efforts for EQ program compliance in the areas of file maintenance; file auditibility; qualification of equipment for peak temperature; installation and location of equipment; assignment of key EQ personnel; and increased management commitment in the area of EQ.

In particular the staff identified outstanding file deficiencies for Motor Operators; Cables with Polyvinyl Chloride (PVC), Polyethylene (PE) and Butyl rubber insulations; Static-O-Ring Pressure Switches; Yarway Level Switches; Westinghouse Terminal Blocks; General Electric Terminal Blocks; and Target Rock Solenoid Valves.

The licensee initiated efforts to take corrective action relative to the above deficiencies and submitted evidence of this effort, including Justifications for Continued Operation (JCO's) in their letters of August 27 and October 31, 1984, January 7 and 28, 1985 and February 7 and 21, 1985. The NRC staff accepted these JCO's as well as the licensee's approach to the resolution of these deficiencies in their October 3, 1985, SER.

The majority of the deficiencies identified above involved files not being adequate to demonstrate qualification. During this current review the NRC inspection team determined that in most cases EQ files on equipment previously reviewed had been updated and corrected to contain appropriate qualification documentation; details of the files reviewed are referenced in Section 4 of this report. Based on a review of the licensee's implementation of the SER/TER commitments, the NRC inspection team identified the following deficiency:

In their August 8, 1984, audit report of the June 5-7, 1984, EQ audit the NRC audit team had concluded that "the electrical cables reviewed in Appendix B (of the report) should be tested as originally planned, or a more positive effort to show qualification through testing already completed should be initiated." Appendix B of this August 8, 1984 report had referenced three unqualified electrical cables having PVC insulation, Butyl rubber insulation, and PE insulation respectively, for Class 1E circuits inside the containment. Appendix B had also recommended that the once scheduled testing by the licensee be resumed.

During this review the NRC audit team observed that the licensee had not performed testing of similar or identical kinds of PE or Butyl rubber insulated cables, but had attempted to qualify them through reference to an analysis of generic industry tests of PE and Butyl Rubber Cables. The licensee stated that tests of identical cables could not be performed due to a lack of sufficient plant records needed to locate and obtain identical samples from their plant. The licensee also stated that such tests would not be cost effective. The NRC inspectors reviewed the licensee's generic qualification of these cables and determined that the PE and Butyl cables were unqualified due to the failure of the licensee to establish adequate similarity between the tested cables in the generic reports and the plant cables. Review of these cable files is discussed in Sections 4d(4) and 4d(5) of this report. The NRC inspectors also concluded that the licensee had not implemented their SER/TER commitment for cables, in that they had not made a more positive effort to show the qualification of these cables through testing of identical or similar cables. Pending further review of this issue with NRR, this is a Potentially Enforceable/Unresolved Item (50-155/86013-01(DRS)).

3. EQ Program Compliance to 10 CFR 50.49

The inspectors reviewed selected areas of the licensee's EQ program to verify compliance to 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; modifications to 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:

- BRP-EQ-NPS-1, "Upgrade of Big Rock Point Plant Environmental Qualification Files," Revision 0, dated September 20, 1984
- BRP-EQ-NPS-2, "Upgrade of Big Rock Point Plant EQ List," Revision 0, dated September 19, 1984
- Procedure 3.1.1, "Plant Modifications," Revision 0, dated July 30, 1986
- Procedure 3.1.1.1, "Facility Change, Minor," Revision 0, dated August 1, 1986
- Procedure 3.1.1.5, "Facility Change, Major," Revision 0, dated August 1, 1986
- Procedure 3.2.1, "Maintenance Order Processing," Revision 1, dated September 12, 1986
- Procedure 4.2.4, "Procurement of Materials," Revision 0, dated September 18, 1986
- "Periodic Activities Control System Master File Listing," dated August 27, 1986

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

The licensee's EQ program was found to identify methods for equipment qualification; provide for evaluation and maintenance of auditable EQ documentation, including maintenance records; provide for updating of replacement equipment and control of plant modifications. Based on the above review the inspectors determined that the licensee had established an adequate EQ program in compliance with the requirements of 10 CFR 50.49. No violations or deviations were identified.

b. 10 CFR 50.49 Master Equipment List (MEL)

IE Bulletin 79-01B required licensees of all power reactor facilities with an operating license to provide a master list that identified each Class IE electrical equipment item relied upon to perform a safety function during a design basis event. 10 CFR 50.49 Paragraph (d) required licensee's to prepare a list of electric equipment important to safety and within the scope of the rule. The NRC inspectors reviewed the Big Rock MEL titled "Environmental Equipment Qualification Program Equipment List", Revision 5, dated February 19, 1985, 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 list in terms of equipment needed under accident conditions through review of Piping and Instrumentation Drawings, Emergency Procedures, Technical Specifications and FSAR's. The inspectors reviewed the five revisions made to the MEL since December 1984, Revision 0, through March 1985, Revision 5, and found adequate technical justifications for the items removed from the list. Items removed were verified to not initiate any automatic spray functions or require any subsequent safety actions by the operator. Additions or deletions to the list due to field modifications were found acceptable and acceptable reviews had been performed.

The inspectors reviewed equipment needed to function under accident conditions including equipment used during natural recirculation after an accident and Post Accident Sampling. Accidents reviewed included a Minor LOCA inside the containment, Major LOCA inside the containment, Major LOCA outside the containment, and a LOCA in conjunction with a loss of off-site power. Equipment needed for the above accidents was identified in the Plant Emergency Procedure EMP 3.3-Loss of Reactor Coolant, Revision 138. All applicable equipment in this procedure was reviewed for applicability and inclusion in the MEL. The MEL was found accurate for all items sampled with the exception of the following discrepancy.

(1) During review of the Big Rock Emergency Procedures EMP 3.3-LOCA, Revision 138, the inspector observed that indications from one instrument removed from the EQ list was still relied upon in the EMP by the operator during an accident. For example, PT-1A07C had been removed from the EQ list in February 1985, however, EMP 3.3 page 5 reflected the Pressure Indicator PI-1A05 for transmitter PT-1A07C as having symptomatic information relative to a Major Loss of Reactor Coolant inside the containment. The licensee agreed to put in cautionary

statements in EMP's as appropriate, to prevent inadvertent misleading of operators during an accident due to the malfunctioning of any unqualified instruments removed from the MEL. Pending further review of licensee corrective action in this area, this is an Open Item (50-155/86013-02(DRS)).

c. EQ Maintenance Program

The inspectors reviewed specific maintenance, replacement, surveillance tests, and inspections necessary to preserve the environmental qualification of EQ equipment on the MEL. The NRC inspectors found no deficiencies in the licensee's methods for scheduling maintenance and surveillance, with the exception of the following:

(1) The inspectors observed that the licensee was using inaccurate dates in their new "Periodic Activities Control System" (PACs) Master File listing. This computerized listing identifies all preventive maintenance and surveillance requirements, but had certain inaccurate 'dummy' dates entered temporarily to facilitate the use of a computer program. The licensee stated that the correct dates would be identified in the PACs listing upon completion of the January 1987 scheduled plant refueling outage. The inspectors had no immediate concern regarding the qualification of relevant equipment since no maintenance deficiencies were identified in regard to the use of these dates. Pending a verification of the correction of these dates and a verification of the completion of appropriate maintenance activities, this is an Open Item (50-155/86013-03(DRS)).

d. Plant Procurement and Upgrading of Replacement Equipment

Licensee procedures were found to adequately address upgrading of replacement equipment purchased after February 22, 1983. 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. Checklists were observed to have been used to provide evidence of reviews and approvals. For example, procurement packages for replacement level transmitters and position switches were found to properly address upgrading of replacement equipment to requirements of IEEE 323-1974. No violations or deviations were identified.

e. Quality Assurance (QA) and Training Program

During this review the inspectors determined that the licensee had implemented a significant effort in monitoring the quality of EQ activities through surveillance and review of plant modification records and files. The inspectors noted that the plant QA personnel had conducted detailed EQ reviews during the 1985 refueling outage and performed another QA audit in May 1986. The inspectors found the methodology and results of these QA audits very acceptable. The following exception was identified.

(1) Based on NRC interviews of licensee personnel responsible for EQ activities, the inspectors determined that the licensee had not implemented an adequate training program to support their EQ activities. In particular, plant maintenance personnel were observed to have a low level of awareness of the significance of the environment qualification of critical equipment in the plant. This was also evidenced by broken terminal block barriers found in the EQ Limitorque actuator MO 7080, discussed in Section 5(1) of this report. The licensee personnel acknowledged a lack of formal EQ training, but were aware of the special requirements applying to EQ equipment within the scope of 10 CFR 50.49. Pending further review of licensee actions in this area, this is an Open Item (50-155/86013-04(DRS)).

4. Detailed Review of Qualification Files

IE Bulletin 79-01B required licensees of all power reactor facilities with an operating license to provide written evidence of the environmental qualification of each piece of electrical equipment listed on their MEL. 10 CFR 50.49 Paragraph (f) requires records of qualification of equipment on the MEL to be maintained in an auditable form for the entire period during which the equipment is installed in the plant or stored for future use, to permit verification of qualification and specified performance for accident conditions.

The licensee qualified their EQ equipment to the requirements of the DOR Guidelines (10 CFR 50.49 Paragraph K). The inspectors reviewed 52 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 the DOR Guidelines. Files were found to include a full description of the equipment; similarity analysis of tested equipment to that installed in the plant; allowed monitoring methods and orientation; qualification of interfaces (conduit housing, seal etc.); evaluation of aging effects on equipment; performance/acceptance criteria for the qualification of equipment; description of test sequence and methology; environmental conditions for the equipment during an accident; qualification for submergence of equipment; resolution of test anomalies; and maintenance/surveillance criteria for the preservation of the qualified status of the 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; and licensee evaluation of discrepancies identified in IE Information Notices and Bulletins.

EQ files were reviewed for Electrical Cables, Cables Splices, Level Switches, Level and Flow Transmitters, Pressure Switches, Pressure Transmitters, Radiation Monitors, Electrical Motors, Motor Operated Valve Actuators, Solenoid Valves, Terminal Blocks, Electrical Penetrations and Position Switches. During this review the inspectors found the files well organized and very auditable. In almost all cases the files allowed verification of equipment qualification to a specified performance for DBA conditions. Exceptions are noted below:

a. Limitorque Actuator MO-7068

Limitorque Actuator MO-7068 was reviewed for qualification to the DOR Guidelines in EQ File No. 3.80. This actuator was procured under Limitorque Order No. 50744, Serial No. 95921 and is mounted inside the containment. In early 1975, Valve Actuator MO-7068 was removed from service after 13 years of operation and shipped to the Franklin Laboratories for LOCA testing (referenced in Franklin Report F-C4124). On April 23, 1975, a LOCA test which included a steam environment, was performed on MO-7068 for 36 hours. The valve actuator was then shipped to the Limitorque Corporation plant in King of Prussia, Pennsylvania, where Limitorque inspected the actuators and greased it. Limitorque then shipped the actuator back to the Big Rock Plant, where it was placed back in service in the containment spray system. The EQ file, however, did not evidence any refurbishment of degradable materials prior to MO-7068 being placed back in service.

During this review the licensee reported that they could not retrieve documentation necessary to confirm any refurbishment of materials. EQ File No. 3.80 did not address the effects of the Franklin LOCA test on the qualified life of the installed actuator nor did it provide evidence that the valve actuator could sustain another DBA. In addition to the above, the inspectors could not inspect the materials in the valve actuator in the field as this action would have placed the operating plant in a Limiting Condition of Operation (LCO).

During this inspection the licensee provided a thermal degradation evaluation of materials postulated to be in the actuator, as well as a letter from Limitorque Corporation describing their inspection of MO-7068 after it had undergone the Franklin LOCA test. The licensee was informed that this evaluation was inadequate because of the following:

(1) No detailed evaluation was provided for degradation due to the steam environment experienced by materials during the LOCA testing.

(2) LOCA testing (including steam) for the purpose of thermal degradation has not been justified as an acceptable method of calculating qualified life. Further, such a methodology may apply only to newly installed equipment, not a test specimen that has already experienced aging degradation due to a LOCA environment, and required to survive a second LOCA at the end of its qualified life, and maintain post LOCA operability.

(3) The evaluation assumed that Buna N was the weakest link material in the Limitorque actuator MO-7068. Due to the lack of documentation of the types and condition of materials in the actuator after the LOCA test, and due to the inability of the inspectors to perform a physical inspection in the field, this assumption was not considered justified.

The licensee was informed that the Limitorque Actuator MO-7068 was considered unqualified for operation during a DBA. The licensee then provided an interim JCO regarding the operability of MO-7068. The JCO has been accepted by the NRC. In the JCO the licensee indicated that MO-7068 was actuated only during a Main Steam Line Break to initiate containment spray if the principal valve MO-7064 failed to open. The inspectors determined that in view of the relatively less harsh accident environments in the containment at Big Rock, manual initiation of MO-7068 during a MSLB would be accomplished in a relatively mild environment early into the accident. Based on a review of this JCO, the inspectors had no immediate concerns regarding the actuation of the valve and the operability of the plant.

The licensee agreed to replace the Limitorque Actuator MO-7068 with an environmentally qualified replacement at the earliest opportunity, but no later than the January 2, 1987, outage. In addition to the above, the licensee has modified EMP 3.3 to no longer require the secondary use of MO-7068 in washing down iodine released to the containment during a LOCA or MSLB. The licensee was informed that in accordance with the guidance in Generic Letter 85-15 enforcement action may be taken, in that the licensee clearly should have known that Limitorque MO-7068 was unqualified past the EQ deadline of November 30, 1985. Pending further review, this is a Potentially Enforceable/Unresolved Item (50-155/86013-05(DRS)).

b. Rotork Actuator MO-7072

Rotork Actuator MO-7072 was reviewed for qualification to the DOR guidelines in EQ File No. 3.90. This valve was part of the Franklin LOCA testing for MO-7068 described in paragraph 4a of this report, and was also put back in service without adequate documentation or

record of any refurbishment of degraded materials. The EQ file did not address the effects of the Franklin LOCA test on the qualified life of the installed actuator nor did it provide evidence that the valve actuator could sustain another DBA.

The licensee was informed that the Rotork Actuator MO-7072 was considered unqualified for operation during a DBA. Subsequent to the audit on September 26, 1986, the licensee submitted a response to Region III (No. AT0986-0162-NL02), which included an adequate technical evaluation to justify removal of this actuator from the MEL. This evaluation indicated that MO-7072 was a third source of water to the core and containment spray systems which already had redundant paths to achieve their safety functions. Based on a review of appropriate plant drawings, the NRC inspectors accepted this technical evaluation; however, the licensee was informed that in accordance with guidance in Generic Letter 85-15 enforcement action in regards to this programmatic problem may be taken, in that the licensee clearly should have known that unqualified actuator MO-7072 was on their MEL past the November 30, 1985, EQ deadline. This item was removed from the MEL, only after being identified as unqualified by the NRC inspectors. Pending further review this is a Potentially Enforceable/Unresolved Item (50-155/86013-06 (DRS)).

c. Flow Transmitter FT-2162

Rosemount Model 1153, Series D, transmitters, including Flow Transmitter FT-2162, were examined in EQ File No. 2.120. The inspector noted that FT-2162 was located below the containment flood level, but that the Rosemount test report in the file did not qualify this transmitter for submergence. The licensee was informed that this transmitter was unqualified for performing its stated safety function during a DBA.

Subsequent to this finding in their September 26, 1986, response to RIII the licensee stated that the time during the accident sequence at which this flow transmitter becomes submerged varies as a function of the break size and location. The licensee stated that since it was impossible for the transmitter to escape submergence, they had revised the EQ file to indicate that FT-2162 was qualified up to the point of submergence, and that a cautionary statement had been added in the EMP to advise operators not to rely on FT-2162 for core spray flow indications once FT-2162 was submerged. References to adequate redundant core spray flow indications were provided by the licensee. The inspectors reviewed this response and were concerned that operators could be misled if they did not know when the transmitter was submerged; however, the inspectors determined that due to available redundant indications and corrective action taken, the lack of qualification of this transmitter for submergence would not affect the safety of the plant. The licensee was informed that their failure to qualify this transmitter for its stated function was a programmatic deficiency. The NRC staff informed the licensee

that in accordance with guidance in Generic Letter 85-15, enforcement action may be taken, in that the licensee clearly should have known that Flow Transmitter FT-2162 was unqualified for its stated safety function past the November 30, 1985, deadline. This is a Potentially Enforceable/Unresolved Item (50-155/86013-07(DRS)).

d. Control Cables

The inspectors reviewed the following files for Control Cables. Exceptions are noted below:

(1) File No. 2.10-Raychem Control Cable

No performance criteria relative to IR characteristics was addressed in the file, however, results of testing included in the file indicated reasonably high IR values to mitigate inspector concerns. The licensee agreed to add appropriate data to the file.

(2) File No. 2.16-Rockbestos Control Cable

No performance criteria relative to IR characteristics was addressed in the file. In addition to the above, the latest test reports from Rockbestos on cross linked Polyethylene Cable, which would justify the qualification of this cable to 10 CFR 50.49, had not yet been included in the file. The inspectors determined that sufficient information existed in the file to mitigate concerns, and the licensee agreed to update their files.

(3) File No. 2.25-Kerite Control Cable

No performance criteria relative to IR characteristics was addressed in the file, consequently effects of IR's on circuits during an accident had not been considered in the files. In addition to the above, the System Component Evaluation Work (SCEW) sheet stated a qualification for 30 days while the test documentation qualified the cable for 7 days and 13 hours.

The inspectors determined that sufficient information existed in the file to mitigate concerns, in that the test profile used could qualify the cable for 30 days based on the significant margins used in the test. The licensee agreed to update their file.

Pending review of licensee corrective action for deficiencies identified in Paragraphs 4d(1), (2), and (3), this is an Open Item (50-155/86013-08(DRS)).

(4) Files 2.45, 2.50 and 2.51-General Electric and Anaconda Power and Control Cable

The inspectors reviewed the GE Anaconda Butyl rubber insulated

cable for qualification to the DOR Guidelines. File No. 2.45 cited a IEEE Transactions paper of April 1986 as a basis for the qualification of these cables. This paper contained limited test data on one styrene-butadiene synthetic rubber based insulation, per IPCEA 5-19-81 Sections 3.15 and 3.16. Since this paper did not establish adequate similarity in accordance with the DOR Guidelines to the cables installed in the plant, generic qualification for the cable installed inside the containment was not accepted by the inspectors. The licensee was informed that further testing and analysis of identical or similar specimens of plant installed cable was necessary to complete their file.

(5) File No. 2.55-General Cable, GE and Anaconda Power and Control Cables

The inspectors reviewed the above three types of Polyethylene (PE) power and control cables for qualification to the DOR Guidelines. The file cited a test done by Wyle Laboratories on a PE cable from Plastics Wire and Cable Company as a basis for qualification of the cable installed at Big Rock. The above test had been performed by Wyle for the Tennessee Valley Authority (TVA), for cable installed at the TVA plant. The inspectors concluded that the generic qualification in the EQ file did not establish similarity in accordance with the DOR Guidelines, and that similarity of the tested cable of a different manufacturer to cables installed in the plant had not been demonstrated. The licensee was informed that further testing and analysis of identical or similar specimens of plant installed cable was necessary to complete their file.

Pending NRC review of further qualification testing or analysis for Butyl rubber and PE insulated cables, the deficiencies identified in Paragraph 4d(4), and (5) are considered part of Unresolved Item (50-155/86013-01(DRS)).

e. File No. 3.50 3M Electrical Splice Table

3M Electrical Splice Tape was reviewed for qualification to the DOR Guidelines. No performance criteria in terms of IR characteristics was addressed in the file. The inspector also observed that the test conditions noted in the file did not envelope the plant profile for either time or temperature. The SCEW sheet in the EQ file identified a required operability of 30 days, while the testing qualified the tape for approximately 24 hours. An analysis was presented and accepted during the audit for justifying a lower peak temperature; however, corrections need to be made to the EQ documents for a 30 day qualification. Pending review of licensee corrective action this is an Open Item (50-155/86013-09(DRS)).

f. STATES Terminal Blocks

STATES terminal blocks used for 120VAC and 125VDC control circuits were reviewed in EQ File No. 4.60 for qualification to the DOR Guidelines. EQ documentation in the file documented a Wyle report

for qualification, but the inspectors observed that the Wyle report in the file was missing certain sections of the LOCA test. The licensee stated that these sections would be retrieved from their document center in Jackson, Michigan as soon as possible. No problems are anticipated once the available information is replaced in the file. Pending verification of corrective action this is an Open Item (50-155/86013-10(DRS)).

g. Response to EQ Notices and Bulletins

During review of Limitorque Actuator files for responses to IE Notices and Bulletins concerning EQ, the inspectors observed that the licensee has not adequately addressed IE Notice 83-72 which had identified various generic concerns regarding the operability of Limitorque valve actuators. In a letter to their Safety Review Committee dated December 27, 1983, the licensee stated, "Limitorque operators are still an Open Item in the Big Rock Point EEQ program and are still being evaluated for adequacy. Deficiencies, if found will be resolved at a later date." The inspectors informed the licensee that a walkdown was necessary to verify that Limitorque actuators on their MEL were not affected by deficiencies identified in IE 83-72.

Based on their review of Limitorque and Franklin tests included in the EQ files, the inspectors had no concerns relative to Actuators MO-7050, 7051, 7061 and 7066. The remaining two Limitorque Actuators MO-7068 and 7080 are addressed in Sections 4a and 5a of this report. The licensee agreed to perform a complete walkdown of all (6) Limitorque Actuators for review to IE 83-72. Pending verification of this review, this is an Open Item (50-155/86013-11(DRS)).

5. Plant Physical Inspection

The NRC inspectors selected 50 items on the MEL for examination in the plant. The EQ file of each item had been reviewed, and information regarding the location, manufacturers, model/serial number, mounting, orientation, environment, and interfaces had been noted. The inspectors examined the selected items, where accessible, and verified that the method of installation of each item had not affected its environmental qualification. Specific areas reviewed included traceability of installed items to EQ files, ambient environmental conditions, qualification of interfaces (connectors, wires, seals, insulation, lubricants etc.), evidence of significant temperature rise from process, drainage, mounting methods, physical conditions and housekeeping. In almost all cases items examined in the field were found to meet their appropriate EQ requirements. One exception is noted below:

a. Limitorque Valve Actuator MO-7080

Valve actuator MO-7080, Model SMB 005, Serial No. 321750, was examined by the inspectors in the core spray room, elevation 586 ft. Mounting, orientation, housing seals and ambient environmental conditions were found adequate. On removal of the housing cover the inspectors observed that all the barriers between the lugs of

the terminal block had been completely severed. Since no pieces of the barriers were visible, the inspectors determined that this damage had occurred prior to their inspection. QA/QC documents for this installation indicated no record of this deficiency. In addition to the above, certain wires attached to the limit switch terminals were bent back 180°, thereby exceeding an allowable bend radius.

The licensee was informed that the Limitorque Valve actuator MO-7080 was potentially unqualified for a DBA, in that it was installed in a configuration other than tested during its qualification. The licensee took immediate corrective action and issued Deviation Report No. D-BRP-86-32 to process repairs. The inspectors determined that the valve currently functioned properly and that it would not see a harsh environment till it was opened during the recirculation mode. Since the core spray room was in a separate enclosure outside the containment, the actuator would not be exposed to excessive moisture that could cause shorting between the terminals.

Based on the above review the inspectors determined that valve actuator MO-7080 in its current state would not affect the safety of the plant during accident conditions. The licensee was informed that the identified damage to MO-7080 indicated a failure to preserve the qualified status of this Limitorque actuator. The licensee was also informed that in accordance with guidance in Generic Letter 85-15, enforcement action may be taken, in that the licensee should have clearly known that valve actuator MO-7080 was unqualified. Pending further review, this is a Potentially Enforceable/Unresolved Item (50-155/86013-12(DRS)).

6. 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. Open items disclosed during this inspection are discussed in Paragraphs 3b(1), 3c(1), 3e(1), 4d, 4e, 4f, and 4g.

7. 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 will be followed up with enforcement action in accordance with NRC enforcement guidance on environmental qualification. Potentially Enforceable Unresolved Items are discussed in Paragraphs 2, 4a, 4b, 4c, and 5a.

8. Exit Interview

The Region III inspectors met with the licensee representatives (denoted under Paragraph 1) at the conclusion of the inspection on September 19, 1986. 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.