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July 5, 1988

Mr. A. Bert Davis
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL. 60137

Subject: Byron Station Units 1 and 2
Response to Inspection Report Nos. 50-454/88-007 and 50-455/88-007
NRC Docket Nos. 50-454 and 50-455

Reference (a): W.L. Forney letter to C. Reed
dated June 1, 1988

Dear Mr. Davis:

This letter is in response to the inspection conducted by Messrs. Brochman, Greger, Ogg, Lerch, Tongue, Landsman and Sunderland and Ms. Gilles and Azab from April 1 through May 16, 1988 of activities at Byron Station. Reference (a) indicated that certain activities appeared to be in violation of NRC requirements. The Commonwealth Edison Company response to the Notice of Violation is provided in the enclosure.

If you have any further questions on this matter, please direct them to this office.

Very truly yours,

H. E. Bliss
Nuclear Licensing Manager

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encl.

cc: NRC Resident Inspector-Byron
NRC Document Control Desk

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ATTACHMENT A

Byron Station Units 1 and 2
Response to Notice of Violation

Violation

- 1.A 10 CFR 50, Appendix B, Criterion III, as implemented by Commonwealth Edison Company's Quality Assurance Manual, Quality Requirement 3.0, requires that measures shall be established to assure that the applicable design basis is correctly translated into specifications, drawings, procedures and instructions. Quality Procedure QP 3-51, paragraph C.28.d requires that all procedures necessary for system operation are completed prior to placing modified equipment in operation.

Post Fuel Load Engineering Change Notice (PECN) P-155-1 described a revision to the design of modification M6-1-85-0049 and was transmitted via a letter from Sargent & Lundy (Architect/Engineer for Byron) to R. E. Querio, dated June 17, 1986. PECN P-155-1 changed the position of valves 1RY087A and 1RY087B from open to locked open. Byron Administrative Procedure BAP 330-3, "Locked Equipment Program," defines the licensee's program for locking equipment. BAP 330-A1, "Safety Related Locked Valves," lists all valves which are required to be locked. Byron Operating Procedure BOP RY-M1, Revision 5, "Reactor Coolant Pressurizer (RY) System Valve Lineup," defines the normal positions of valves in the RY system.

Contrary to the above, from May 8, 1987 through April 13, 1988:

- (1) Procedure BAP 330-A1 had not been revised to include valves 1RY087A and 1RY087B.
- (2) Procedure BOP RY-M1 had not been revised to indicate that the normal position of valves 1RY087A and 1RY087B was locked open.

- B 10 CFR 50.55a(a)(2) requires that systems and components of pressurized water-cooled nuclear power reactors must be constructed in accordance with the applicable edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) as described in 10 CFR 50.55a(b).

10 CFR 50.55a(g)(4) requires that throughout the service life of a pressurized water-cooled nuclear power reactor, components which are repaired or replaced and are classified as ASME Code Class 3 shall meet the requirements set forth in Section XI of the ASME Code and its addenda that are effective as described in 10 CFR 50.55a(g)(3).

To implement these requirements the licensee has committed to the 1974 Edition, Summer 1975 Addenda, of the ASME Code, for Section III (construction) activities and to the 1980 Edition, Winter 1981 Addenda, of the ASME Code for Section XI (repair and replacement) activities.

ASME Code, Section XI, Division I, Article IWA-7210, paragraph a, 1980 Edition, Winter 1981 Addenda, requires that replacement components shall meet the requirements of the Construction Code to which the original component was built.

ASME Code, Section III, Division I, Article ND-7100, 1974 Edition, Summer 1975 Addenda, requires that Class 3 components be protected from the consequences of overpressure conditions which are in excess of the system's design. Article ND-7153 requires that no stop valves (isolation valves) be located between the safety valve (overpressure protection device) and the system it is to protect, unless such stop valves are constructed and installed with positive controls and interlocks so that the relieving capacity of the safety valve is met under all conditions of operation. Measures shall be provided to verify the operability of the positive controls and interlocks by testing.

Safety valves 1RY030A, 1RY030B, 2RY030A, and 2RY030B are designated as ASME Code Class 3 and provide overpressure protection for accumulators (pressure vessels) 1RY32MA, 1RY32MB, 2RY32MA, and 2RY32MB, respectively. Manual isolation (stop) valves 1RY087A, 1RY087B, 2RY087A, and 2RY087B are located between their respective safety valves and accumulators.

Contrary to the above:

- (1) From May 8, 1987 through April 13, 1988, positive controls and interlocks were not utilized on valves 1RY087A and 1RY087B to prevent their inadvertent closure.
- (2) From November 6, 1986 through April 13, 1988, positive controls and interlocks were not utilized on valves 2RY087A and 2RY087B to prevent their inadvertent closure.

Corrective Action Taken and Results Achieved

Upon further investigation, and contrary to the violation statement, safety valves (1/2RY030A/B) are not designed to provide overpressure protection for the accumulators (1/2RY32MA/B), but are designed to protect the PORV diaphragms (1/2RY455A & 456).

As described in Design Specification IA-01-BB, Rev. 0, the PORV accumulators (1/2RY32MA/B) have been designed for the maximum overpressure condition (150 psig) that could occur as a result of heating of the air in the accumulators under design basis accident conditions. Therefore, the design is in compliance with the cited article of ASME Section III without safety valves. However, safety valves (1/2RY030A/B), with a setpoint of 110 psig, have been provided for protection of the PORV diaphragms.

- 1.A An investigation was immediately performed by the Byron Technical Staff to ensure operability. Technical Specification surveillances 1/2 BVS 0.5-2.RY.1 had been completed quarterly, thereby, verifying the valves had remained open and PORV operability maintained.

- 1.A(1) BAP 330-3A1 and 1BOS XLE-R1 have been revised to include unique lock core identification. Note: BAP 330-3A1 supersedes BAP 330-A1. Completed June 24, 1988.
- 1.A(2) BOP RY-M1 was revised April 13, 1988, to include the locked open position for valves 1RY087A and 1RY087B.
- 1.B(1) Valves 1RY087A and 1RY087B were locked open on April 13, 1988.
- 1.B(1) Unique lock cores were installed for valves 1RY087A and 1RY087B during the Unit 1 outage for S/G tube repairs. Completed June 9, 1988.
- 1.B(2) Unique core locks will be installed for valves 2RY087A and 2RY087B and BOP RY-M2 and 2BOS XLE-R1 updated to reflect these plant conditions during the Unit 2 refuel outage. Completion of these activities is being tracked by AIR 88-0106.

Corrective Action to Avoid Further Violation

The Byron Station Modification program (BAP 1610 series) has been revised and reorganized. The program now requires detailed reviews for lineup changes. Checkoff lists have been added for System Engineer verification that all requirements for operability have been met. These changes were completed June 9, 1988.

Additionally, the Conduct of Testing Manual has been revised to provide further guidance for the System Engineer on Modification testing requirements. This was completed on June 13, 1988. A System Engineer is required to pass a Conduct of Testing Manual exam prior to performing any test. Additionally, annual requalification is required for the Conduct of Testing Manual.

Training on the Modification program changes was completed on June 21, 1988, for all applicable System Engineers.

Violation

2. 10 CFR 50, Appendix B, Criterion XI, as implemented by Commonwealth Edison Company's Quality Assurance Manual, Quality Requirement 11.0, requires that a test program be established to assure that all testing required to demonstrate that systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

A letter from the Project Engineering Department (PED) to Byron Station (letter from D. Elias to R. E. Querio, dated December 23, 1986), stated that the accumulators should be verified to pressurize with needle valves 1RY092A and 1RY092B fully open; or else the valves should be throttled as required to allow the accumulators to pressurize, and then the valves should be secured in place.

Contrary to the above:

- a. On April 21, 1987, post-modification test M6-1-85-0049 failed to incorporate PED's recommended testing of valves 1RY092A and 1RY092B.
 - b. On April 21, 1987, post-modification test M6-1-85-0049 failed to verify that the piping upstream of check valves 1RY085A*, 1RY085B*, 1RY086A*, and 1RY086B* was depressurized prior to performing a leakage test of these check valves.
- * Inspection report had incorrect valve numbers.

Corrective Action Taken and Results Achieved

- A. PED's recommended testing of valves 1RY092A and 1RY092B was successfully completed on June 9, 1988, using SPP 88-41.

In addition, the Unit 2 testing will be completed during the Unit 2 first refuel outage. This is being tracked by AIR 88-0107.

- B. Further investigation has shown that the piping upstream of check valves 1RY085A, 1RY085B, 1RY086A and 1RY086B (incorrectly identified in the text of the inspection report as 1RY092A/B and 1RY093A/B) was depressurized prior to performing a leakage test of these check valves.

This is supported by the completed BOP RY-M1 on April 29, 1987. This lineup was completed prior to the successful second execution of test sections 9.5 and 9.6 of the modification test on May 1, 1987.

Corrective Action to Prevent Further Violation

The Byron Station Modification program (BAP 1610 series) has been revised and reorganized. The program now requires detailed reviews for lineup changes. Checkoff lists have been added for System Engineer verification that all requirements for operability have been met. These changes were completed June 9, 1988.

Additionally, the Conduct of Testing Manual has been revised to provide further guidance for the System Engineer on Modification testing requirements. This was completed on June 13, 1988. A System Engineer is required to pass a Conduct of Testing Manual exam prior to performing any test. Additionally, annual requalification is required for the Conduct of Testing Manual.

Training on the Modification program changes was completed on June 21, 1988, for all applicable System Engineers.