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DCD

November 13, 1990

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

Subject: Quad Cities Nuclear Power Station Units 1 and 2
Response to Notice of Violation Contained in
Inspection Report 50-254 265/90014
NRC Docket No. 50-254 and 50-265

Reference: W.D. Shafer to Cordell Reed letter dated
October 5, 1990.

Mr. Davis:

The referenced letter transmitted Inspection Report 50-254/90014 and 50-265/90014 which contained two (2) Notices of Violation. The first violation related to the lack of acceptance criteria contained in an Operating Surveillance procedure. The second violation cited that appropriate design reviews were not performed in 1978 during installation of permanent test leads to perform the Emergency Core Cooling Systems (ECCS) simulated automatic actuation and diesel generator automatic start surveillance.

Quad Cities Station acknowledges that some procedures are weak and has initiated a resource intensive program to upgrade procedures. The delineation of appropriate acceptance criteria in procedures is included in the Procedure Writer's Guide and is an important aspect to the Procedure Upgrade Program.

Since 1978, Commonwealth Edison's Modification Program has undergone significant improvements. One important improvement to the program is a more thorough definition of modifications. We believe that the improved modification program (which heightened the awareness of work requiring engineering review) should prevent future recurrence of the installation of the equipment without proper design reviews.

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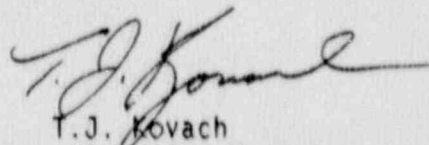
Mr. A.B. Davis

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November 13, 1990

An extension to this response was requested by Commonwealth Edison. The extension was granted by W. Shafer, Branch Chief.

Very truly yours,



T.J. Kovach
Nuclear Licensing Manager

cc: Document Control Desk
L. Olshan, Project Manager
W. Shafer, Branch Chief
J. Hind, Section Chief
T. Taylor, Senior Resident Inspector

TK/RS/1mw
ZNL605/3

RESPONSE TO NOTICE OF VIOLATION

254/90-014-01

VIOLATION

10 CFR 50, Appendix B, Criterion XI in part states that a test program shall be established to assure that all testing required to demonstrate that structures, 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 the applicable design documents.

Contrary to the above, monthly operability surveillance testing was performed on the Residual Heat Removal System/Low Pressure Coolant Injection (LPCI) pumps in accordance with procedure QOS 1000-2, Revision 12, Residual Heat Removal System (RHRS) Pump Operability, which did not contain any acceptance limits to demonstrate that the LPCI pumps were able to perform their design function.

This is a Severity Level IV violation.

BACKGROUND

Commonwealth Edison concurs that surveillance procedure QOS 1000-2, "Residual Heat Removal System Pump Operability" does not contain sufficient acceptance criteria to determine the acceptability of the surveillance procedure.

Technical Specification 4.5.A.3 defines the testing requirements for the LPCI mode of the RHR system which includes a monthly pump operability test, a quarterly flow rate test (which defines the acceptance criteria of 9000 gpm per division against a system head corresponding to a reactor vessel pressure of 20 psig) and a simulated automatic actuation each refueling outage. The combination of these three (3) tests demonstrate the system can meet its design function. Each individual surveillance demonstrates an important aspect of the design function.

Technical Specification bases 4.5, paragraph 2 states, "To increase the availability of the individual components of the core and containment cooling system the components which make up the system, i.e., instrumentation, pumps, valve operators, etc., are tested more frequently. The instrumentation is functionally tested each month. Likewise, the pumps and motor-operated valves are also tested each month to assure their operability." Commonwealth Edison has interpreted these bases to require that a "functional" test of the pumps is required monthly. The "functional" pump test requires that the pumps start and provide flow to the system. Verification of the 9000 gpm flow per division is, therefore, not required during the monthly test. This is further validated through paragraph 3 which discusses the required surveillances during out-of-services. The paragraph states "The degree of operability to be demonstrated depends on the nature of the reason for the out-of-service equipments. For routine out-of-service period caused by preventative maintenance, etc., the pump and valve operability checks will be performed to demonstrate operability of the remaining components. However, if a failure, design deficiency, etc., cause the out-of-service period, then the demonstration of operability should be thorough enough to assure that a

similar problem does not exist on the remaining components. For example, if an out-of-service period is caused by a failure of a pump to deliver rated capacity due to a design deficiency, then other pumps of this type might be subjected to a flow rate test in addition to the operability checks." The acceptance criteria for the monthly operability test will therefore ensure that a "functional" test of the pumps are satisfactorily performed.

The Operating Department has reviewed all Emergency Core Cooling System (ECCS) operating surveillance procedures. The review determined that the lack of acceptance criteria was limited to this operating surveillance procedure. Remaining ECCS surveillance procedures were found to have adequate acceptance criteria.

ACTION TAKEN TO CORRECT THE DEFICIENCY

QOS 1000-2, Residual Heat Removal System Pump Operability, has been revised to include acceptance criteria. The revision was approved on October 10, 1990.

CORRECTIVE ACTIONS TAKEN TO PREVENT FURTHER NONCOMPLIANCE

Quad Cities Station is in the process of upgrading Station procedures. The Procedure Upgrade Program is accomplished through the guidance contained in the Procedure Writer's Guide. This writer's guide requires that appropriate acceptance criteria be included in the procedures. Also, the verification checklist for the upgraded procedure (which is used for review of the procedure) requires that acceptance criteria be included in the upgraded procedure. All ECCS surveillance procedures are scheduled to be upgraded by December 31, 1990. Completion of the Procedure Upgrade Program is scheduled for 1996.

In the interim, all Technical Specification surveillance procedures will be reviewed by March 5, 1991 to ensure adequate acceptance criteria is included in the surveillance procedures. The procedures, which are identified to be deficient through this review, will be revised by June 5, 1991.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on October 10, 1990 when QOS 1000-2 was revised to include acceptance criteria.

RESPONSE TO NOTICE OF VIOLATION

254/90-014-02

VIOLATION

10 CFR 50, Appendix B, Criterion III in part states that: "Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization."

Contrary to the above, on April 28, 1978, the licensee installed wiring behind the Unit 1 control room panels that connected auxiliary contacts for Emergency Core Cooling Systems (ECCS) and Emergency Diesel Generators (EDGs) to a common test point on a terminal strip behind the 901-5 panel. The installation was performed without doing the required design change reviews.

This is a Severity Level IV violation.

DISCUSSION

Quad Cities Station accepts the Notice of Violation in that permanent test leads were installed in 1978 without proper engineering reviews.

In order to conduct surveillance procedures QTS 1100-1 and QTS 1100-3, Unit 1 and Unit 2 Emergency Core Cooling System (ECCS) Simulated Automatic Actuation and Diesel Generator Automatic Start Surveillance, temporary test leads were installed from all required test points in the Control Room to a test recorder. On April 28, 1978, Work Requests 1232-78 and 1233-78 were written to permanently install the test wires to streamline the performance of the test. Since the installation of the permanent configuration was not performed under the modification program, adequate design reviews were not performed.

On August 29, 1990 at 1736 hours, the Corporate Engineering and Construction Department notified the Station that both units were potentially outside of the design basis (since electrical divisional separation for ECCS was violated). The installation of the permanent test leads, which were connected to the logic circuitry of Division I and II ECCS equipment, were landed to the same terminal strip in the 901(2)-5 panel. A twenty-four hour shutdown Limiting Condition for Operation requirement was entered, as specified by Technical Specifications 3.5.A.6 and 3.5.B.5.

SAFETY SIGNIFICANCE

The divisional separation criteria for electrical systems in the control room is designed to prevent failure of the ECCS equipment in both divisions due to a fire of missiles (from rotating equipment). Since there is no rotating equipment in the Control Room, the missile failure mechanism is not a concern. Damage due to a fire has been evaluated under the Appendix R evaluation. In this evaluation, the control room was assumed to be damaged. Modifications have been installed as a result of the evaluation to assure the reactor can be shutdown to a cold condition independent of the equipment located in the control room. The safety significance of this violation is minimal.

ACTIONS TAKEN TO CORRECT THE DEFICIENCY

The test leads installed in panels 901(2)-3, 901(2)-5 and 901(2)-8 were removed under work request Q86872. The 1/2 Diesel Generator test leads were terminated for Unit 2 under temporary alteration 90-1-20. The removal of the diesel generator test leads will be accomplished during an outage of sufficient duration for 1/2 Diesel Generator.

CORRECTIVE ACTIONS TAKEN TO PREVENT FURTHER COMPLIANCE

Since 1978, Commonwealth Edison's modification program has been significantly revised. Internal evaluations, as well as the NRC's SSOMI at Dresden and Zion, identified that work was not properly classified as modifications. As a result, a new modification program was developed. The new modification program better defines when the modification program is required to be implemented.

The Operating Engineer is required to classify the work, i.e., whether the work constitutes a modification. The Technical Staff Supervisors provide assistance (when requested) to the Operating Engineer for the classification of the work. With the better definition of a modification, personnel should properly classify modifications and therefore, this type of occurrence should be prevented in the future.

Procedures QTS 1100-1 and 1100-3 will be revised to require temporary installation of test leads to accomplish the test. The procedures will be revised by 12/31/90.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved at 0810 hours on 8/30/90 when the test leads were removed and all systems were declared operable.