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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 10, 1997

Mr. Lew W. Myers
Vice President - Nuclear
P.O. Box 97, A200
Perry, Ohio 44081

SUBJECT: PERRY UNIT 1, DESIGN INSPECTION (NRC INSPECTION REPORT NO. 50-440/97-201)

Dear Mr. Myers:

From February 17 through March 27, 1997, the staff of the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation (NRR) Special Inspection Branch, performed a design inspection of the Unit 1 high pressure core spray (HPCS) system, the Unit 1 emergency closed cooling (ECC) system, and their support systems. The purpose of the inspection was to evaluate the capability of the selected systems to perform the safety functions required by their design bases, the adherence of the systems to their design and licensing bases, and the consistency of the as-built configuration and system operations with the updated safety analysis report (USAR).

The findings of the inspection were discussed during a public exit on April 22, 1997, and are presented in the enclosed report. The team identified significant findings, as discussed below and in the report, which challenged the capability of the systems to perform their complete scope of design basis accident mitigation actions. Where appropriate, your staff took immediate corrective or compensatory actions to ensure system operability.

The team identified three examples where the facility was being operated or maintained differently than described in the USAR or in vendor's design input information. Two of these examples were not supported by a written safety or engineering evaluation. The first example involved continuous operation of the suppression pool cleanup system and the second example related to the improper setting of the governor speed droop for the division III emergency diesel generator. These examples have a direct impact on the HPCS system performance. The third example, determined by the NRC to be a potential unreviewed safety question (USQ), resulted from an inadequate 10 CFR 50.59 safety evaluation for a change involving early use of operator action to fill the ECC system surge tank in a post LOCA environment.

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The team identified concerns with tornado missile protection of the HPCS and RCIC suction piping from the condensate storage tank (CST) and protection of the CST level instrumentation tubing. The existing plant configuration for this equipment did not conform to the licensing basis described in the USAR. The current plant design and initial evaluation of the team's findings used a probability approach, which differed from the licensing basis described in the USAR and the NRC's SER (NUREG-0887). This is considered to constitute a potential unreviewed safety question.

For the two issues identified as potential unreviewed safety questions, you can restore the nonconforming systems to meet their licensing basis through the corrective action process. However, if you wish to revise the licensing basis to reflect the existing plant configuration, you should request an amendment to your license pursuant to 10 CFR Part 50.90 requirements. We understand that you have determined that the nonconforming systems involved are operable.

The team found deficiencies in testing and surveillance activities at the plant. For example, the test pressure used to monitor ECC and the nuclear closed cooling system boundary valve leakage did not represent values that would be experienced under accident conditions. Also the corrective action for previously identified problems associated with the diesel generator testable rupture disk has not been effective in improving reliability of that equipment.

The team noted design program weaknesses, including updating and control of calculations, and nonconservative assumptions and inputs to calculations. In addition, the team identified discrepancies and inconsistencies in the USAR, procedures, system description manuals (SDMs), calculations, drawings, and other documents.

Your engineering staff exhibited adequate knowledge of the systems evaluated and provided excellent support to the inspection team. Although we considered the HPCS safety system self-assessments performed by your staff in 1992, to be a positive initiative, the team identified some significant issues that were not found in the self-assessment.

Please provide a schedule, within 60 days, detailing your plans to complete the corrective actions for the open items listed in Appendix A to the enclosed report. This schedule will enable the NRC staff to plan for the reinspection and closeout of these items.

As with all NRC inspections, we expect that your staff will evaluate the applicability of the results and specific findings of this inspection to other systems and components throughout the plant.

Mr. Lew W. Myers

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In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room. Any enforcement action resulting from this inspection will be handled by NRC Region III via separate correspondence. Should you have any questions concerning the enclosed inspection report, please contact the project manager, Mr. J. B. Hopkins at (301) 415-3027, or the inspection team leader, Mr. M. W. Branch, at (301) 415-1279.

Sincerely,

A handwritten signature in cursive script that reads "Robert M. Gallo". The signature is written in black ink and is positioned above the printed name and title.

Robert M. Gallo, Chief
Special Inspection Branch
Division of Inspection and Support Programs
Office of Nuclear Reactor Regulation

Docket Nos.: 50-440

Enclosure: Inspection Report 50-440/97-201

cc: see next page

Mr. Lew W. Meyers

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Sincerely,

ORIGINAL SIGNED BY:

Robert M. Gallo, Chief
Special Inspection Branch
Division of Inspection and Support Programs
Office of Nuclear Reactor Regulation

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Mr. Lew W. Meyers

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Division of Inspection and Support Programs
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