



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

January 6, 1992

Docket No.: 50-293

Mr. Roy A. Anderson  
Senior Vice President (Nuclear)  
Boston Edison Company  
Pilgrim Nuclear Power Station  
RFD No. 1  
Rocky Hill Road  
Plymouth, Massachusetts 02360

Dear Mr. Anderson:

SUBJECT: SYSTEMS BASED INSTRUMENTATION AND CONTROL INSPECTION AT THE  
PILGRIM NUCLEAR POWER STATION UNIT 1 (NRC INSPECTION REPORT  
NO. 50-293/91-201)

Enclosed is the report of the systems-based instrumentation and control inspection that inspectors in the Nuclear Regulatory Commission (NRC) Office of Nuclear Reactor Regulation (NRR) conducted at the Pilgrim Nuclear Power Station, Unit 1, during November 4 through 8 and November 18 through 22, 1991. This inspection was conducted to verify the proper design and configuration of selected instrumentation and control equipment, and was focused on this equipment's interface with key safety-related systems. The specific areas the NRC inspectors examined are discussed in the inspection report. The results of this inspection were discussed with you and your staff during the exit meeting on November 22, 1991.

During the course of the inspection the team found seven deficiencies. The significant deficiencies included:

- an inadequate setpoint for the salt service water discharge pressure switch that could have resulted in the potential overloading of both emergency diesel generators;
- inadequate operating procedures for controlling the torus water level and temperature which failed to account for instrument uncertainties; and
- failures of the 10 CFR 50.59 evaluations for two modifications performed to the reactor water level instrumentation to consider reference leg heatup due to a high energy line break.

Collectively, these findings indicate a potentially significant weakness with regard to the ability of certain instrumentation and control equipment to perform intended safety functions. Although you acted promptly and adequately to correct the specific deficiencies identified, we believe a timely, more comprehensive review of other important instrumentation should be considered.

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We found your staff technically competent and your more recent engineering work generally satisfactory. The plant calibration procedures were adequate. The team concluded that several deficiencies could be attributed to the lack of design basis information. We encourage the continued development of your design basis reconstitution program and believe that emphasis should be placed on the identification of the technical specification bases and the margins that exist between technical specification values and analytical limits.

Please inform us in writing, within 60 days, of your assessment of the safety significance of the deficiencies contained in Appendix A of the enclosed inspection. 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. Region I will issue in separate correspondence any enforcement actions resulting from this inspection.

Should you have any questions concerning this inspection, please contact the NRR project manager, Ronald Eaton, or the inspection team leader, Jeffrey Jacobson. Messrs. Eaton and Jacobson can be reached at (301) 504-3041 and (301) 504-2996, respectively.



Steven A. Varga, Director  
Division of Reactor Projects, I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
NRC Inspection Report 50-293/91-201

cc w/enclosure: See next page

Mr. Roy A. Anderson

-3- Pilgrim Nuclear Power Station

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