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J. EDWARD HOWARD
VICE PRESIDENT
NUCLEAR ENGINEERING

July 8, 1982

BECO. Ltr. #82-189
VPNE Ltr. #82-99

Mr. Ronald C. Haynes, Director
Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

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- References: (A) Letter, J. Edward Howard to
Ronald C. Haynes dated
February 26, 1982
- (B) Letter, George H. Smith to
William D. Harrington dated
May 12, 1982

Dear Sir:

The purpose of this letter is to report: 1) Completion of correction of deficiencies revealed as a result of initial testing of the prompt public notification system for the Pilgrim Nuclear Power Station; 2) to describe actions taken beyond those concerned with correction of reported deficiencies; and 3) to describe efforts to evaluate the effectiveness of system coverage, undertaken in cooperation with FEMA, state and local authorities.

My letter to Mr. DeYoung, dated February 26, 1982, and referenced above, indicated that installation and initial testing of the system had been completed on February 26, 1982. These initial tests involved activating each unit from central warning points in each of five towns. Of the 90 units, 12 did not activate. An additional 6 rotating type sirens activated, but did not rotate.

Boston Edison began an immediate program to identify and correct the deficiencies observed. In the case of units which did not activate, these problems were the result of faulty radio receivers or control boards. The failure of some units to rotate was the result of fuses of too low an amperage for the cold weather conditions of February 26. Faulty radio receivers and control boards were shipped back to the manufacturer for repair or replacement.

All of the deficiencies identified as a result of the initial test of February 26, 1982 were corrected within 120 days of that date.

Boston Edison also began a program of checking each unit in the field, which proceeded through the Spring. Operations performed on each unit included:

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- Equipping each unit with control box locks, and visible serial numbers;
- Checking public address level;
- Checking a capacitor on the decoder unit for tone differential;
- Modifying signal output leads for dual tone operation;
- Check "all call" function (to assure that unit will activate when central warning points activates all units);
- Check receiver signal strength;
- Replace motor fuse with 20 amp fuse (for rotating units);
- Check signal length setting (five minutes);
- Add battery compartment holding bars;
- Check output of all amplifiers (four each for omnidirectional units; six for rotating units);
- Check setting of battery charges

A number of problems were isolated and corrected during the course of this system checkout. For instance, approximately 10% of the 480 amplifiers used in the system required repair or replacement because they were not functioning, or functioning below rated output. These, also, were either repaired or replaced by the manufacturer. During the greater part of the 14-week systems check, Boston Edison continuously dedicated a team consisting of four engineers, two linemen, oversight personnel as well as two bucket trucks to this effort.

On March 10, 1982, Boston Edison emergency preparedness planners met with FEMA and State officials to map out a plan for conducting a preliminary evaluation of the effectiveness of system coverage by late Spring. The objective of this test is to isolate areas where improvement in the system may be necessary. The test was conducted on June 19, 1982. At the time of the test, all units had been checked, and were fully operational except one unit in an essentially unpopulated beach area of Duxbury, for which the radio receiver was in transit from Phoenix, Arizona, and one unit in Plymouth, for which two of the four speakers were found to be inoperable in the days immediately before the test.

(The radio receiver was received and installed in the Duxbury unit during the week following the June 19 evaluation, prior to the expiration of the 120 day period commencing February 26.)

A postage paid mailing to residents, a questionnaire administered to school children, and telephone and field surveys were used during the evaluation. A report on the results of the evaluation is being prepared by an independent

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consultant. It will be ready for delivery to FEMA on or about July 15, 1982.

FEMA also participated in the evaluation, and has agreed to provide the NRC with "interim findings" based upon evaluation results.

Should you have any further comments or response, please do not hesitate to call or write us.

Very truly yours,

J Edward Howard