



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

June 17, 1994

Docket No. 50-293

Mr. E. Thomas Boulette, Ph.D
Senior Vice President - Nuclear
Boston Edison Company
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Dear Mr. Boulette:

SUBJECT: REEVALUATION OF THE APPROACH FOR DEVELOPING FLOOR RESPONSE
SPECTRA FOR THE RESOLUTION OF USI A-46 (GENERIC LETTER 87-02,
SUPPLEMENT 1)

- References:
1. Letter from BECo to NRC, "120-Day Response to Supplement 1 of Generic Letter 87-02 for PNPS," dated September 21, 1992.
 2. Letter from R. Eaton (NRC) to R. Anderson (BECo), "Safety Evaluation of PNPS Response to Generic Letter (GL) 87-02, Suppl. 1," dated Nov. 18, 1992.
 3. Letter from E. Boulette (BECo) to NRC, "Additional Response to GL 87-02, Suppl. 1," dated Feb. 9, 1994.
 4. Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment, Rev. 2, dated Feb. 1992.

Based on the U.S. Nuclear Regulatory Commission (NRC) staff review of the information provided in Reference 1, the staff had concluded (Reference 2) that the in-structure response spectra (IRS) presented in Reference 1 should be treated as 'median centered' spectra for the resolution of USI A-46. In Reference 3, the Boston Edison Company (BECo or licensee) requested a reevaluation of the staff position based on the additional information provided with the request. The licensee believes that the Pilgrim Nuclear Power Station (PNPS)-IRS should be considered as "Conservative, design" as defined in Reference 4.

Reference 3 contains three attachments: (1) Discussion of Conclusions, (2) Description of New Modeling and Analyses Work together with the supporting reports from EQE, Inc. and Stevenson and Associates, and (3) Spectra Comparison Plots.

The staff reviewed the reasonableness of the approach used in selecting input spectra (Regulatory Guide 1.60), soil-structure interaction analysis, structural modeling of the reactor building (RB), and the approach utilized in the development of the IRS. For the purpose of gross comparison with the PNPS

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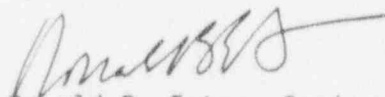
original spectra, the staff finds the approaches reasonable and believes that if the PNPS original spectra indicate higher amplifications than the newly developed IRS, the PNPS original spectra could be considered as "Conservative, design," for verifying the seismic adequacy of equipment, their supports and anchorages.

The comparisons of the PNPS original spectra with the newly developed IRS at five elevations in the RB show that the PNPS original spectra indicate consistently higher amplifications than those of the newly developed spectra above the frequency of 4 Hertz (Hz). Below the frequency of 4 Hz, the newly developed spectra exhibit higher responses. The staff agrees with the licensee's contention that a similar trend will be present in the PNPS original spectra for the turbine building (TB) and the radwaste building.

Based on this review, the staff concludes that for verifying the seismic adequacy of equipment, their supports and anchorages in the RB, the TB and the Radwaste Building, the PNPS original spectra may be treated as "Conservative, design" for the equipment with fundamental frequencies above 4 Hz. For the equipment having their fundamental frequencies lower than 4 Hz, the licensee should consider the PNPS original IRS as "median centered."

This review and response completes all work associated with this effort and closes TAC No. M89211.

Sincerely,



Ronald B. Eaton, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

cc: See next page

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Based on this review, the staff concludes that for verifying the seismic adequacy of equipment, their supports and anchorages in the RB, the TB and the Radwaste Building, the PNPS original spectra may be treated as "Conservative, design" for the equipment with fundamental frequencies above 4 Hz. For the equipment having their fundamental frequencies lower than 4 Hz, the licensee should consider the PNPS original IRS as "median centered."

This review and response completes all work associated with this effort and closes TAC No. M89211.

Sincerely,
Original signed by:
Ronald B. Eaton, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Mr. E. Thomas Boulette

Pilgrim Nuclear Power Station

cc:

Mr. E. Thomas Boulette, Acting
Vice President of Nuclear
Operations & Station Director
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Mr. Robert V. Fairbanks
Manager, Reg. Affairs Dept.
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Resident Inspector
U. S. Nuclear Regulatory Commission
Pilgrim Nuclear Power Station
Post Office Box 867
Plymouth, Massachusetts 02360

Mr. David F. Tarantino
Nuclear Information Manager
Pilgrim Nuclear Power Station
RFD #1, Rocky Hill Road
Plymouth, Massachusetts 02360

Chairman, Board of Selectmen
11 Lincoln Street
Plymouth, Massachusetts 02360

Mr. Thomas Rapone
Secretary of Public Safety
Executive Office of Public Safety
One Ashburton Place
Boston, Massachusetts 02108

Office of the Commissioner
Massachusetts Department of
Environmental Protection
One Winter Street
Boston, Massachusetts 02108

Mr. David Rodham, Director
Massachusetts Emergency Management
Agency
400 Worcester Road
P.O. Box 1496
Framingham, Massachusetts 01701-0317
Attn: James Muckerheide

Office of the Attorney General
One Ashburton Place
20th Floor
Boston, Massachusetts 02108

Chairmen, Citizens Urging
Responsible Energy
P. O. Box 2621
Duxbury, Massachusetts 02331

Mr. Robert M. Hallisey, Director
Radiation Control Program
Massachusetts Department of
Public Health
305 South Street
Boston, Massachusetts 02130

Citizens at Risk
P. O. Box 3803
Plymouth, Massachusetts 02361

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

W. S. Stowe, Esquire
Boston Edison Company
800 Boylston St., 36th Floor
Boston, Massachusetts 02199

Mr. Paul J. Hamilton
Licensing Division Manager
Boston Edison Company
600 Rocky Hill Road
Plymouth, Massachusetts 02360-5599

Chairman
Nuclear Matters Committee
Town Hall
11 Lincoln Street
Plymouth, Massachusetts 02360