

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

NRC POR

JAN 19 1979

Docket No. 50-471

Mr. R. M. Butler Nuclear Projects Manager Boston Edison Company 800 Boylston Street Boston, Massachusetts 02199

Dear Mr. Butler:

79012900GA

SUBJECT: ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS) - PILGRIM STATION, UNIT 2

Potential modifications to nuclear reactor facilities that may be necessary to resolve staff concerns have been identified in a Staff Report, "Anticipated Transients Without Scram for Light Water Reactors," NUREG-0460, Volume 3, December 1978. For the Pilgrim Unit 2 facility, these modifications are:

- Provision of diverse actuation circuitry for mitigating systems. This diversity can be attained by implementation of (a) or (b) below:
 - (a) Provision of a diverse, four-channel supplementary protection system (SPS) described by Combustion Engineering. It would be diverse and independent from the reactor trip system. The staff would require that such a system meet IEEE-279.
 - (b) Provision of actuating circuitry for some existing systems (i.e., primary system relief valves, turbine trip, and auxiliary feedwater) that is diverse from the reactor scram system.
- (2) Provision of increased pressure relief capacity, through the addition of pressurizer safety valves, sufficient to comply with Service Level C of the ASME code for the ATWS events specified in the next paragraph. Further analysis may show that a larger pressurizer, increased auxiliary feedwater flow rate, or some combination of these design variables would reduce or substitute for this requirement in future designs.

JAN 1 9 1979

(3) Demonstration of the functionability of valves needed for longterm couling following conditions calculated for specified ATWS events. This demonstration would include the postulated initiating events described in Appendix IV of NUREG-0460, Section IV.2, and prescription four in Table 7 of Appendix VII of NUREG-0460 (99 percent MTC and reliability based failure assumptions).

- 2 -

Volume 3 of NUREG-0460, which describes the rationale for specifying these plant modifications, is currently being reviewed by the Advisory Committee on Reactor Safeguards. The Regulatory Requirements Review Committee has completed its review and concurred with the staff approach described in Volume 3 of NUREG-0460 for the Pilgrim Unit 2 type design. Additionally, we plan to issue requests to all reactor vendors to supply generic analyses of ATWS mitigation capability and anticipate presenting to the Commission in May 1979 our recommendations for its actions to resolve the ATWS issue.

Although deliberations are ongoing, we are concerned that the design of the Pilgrim Unit 2 facility might proceed over the coming months so as to preclude full implementation of the design modifications to satisfy the recommendations in NUREG-0460, Volume 3, should they eventually be adopted by the Commission, either with or without rule making. As indicated in NUREG-0460, Volume 3, the resolution of this issue for the Pilgrim Unit 2 facility may require implementing some or all of the riant modifications of Alternative 4 discussed in NUREG-0460, Volume 3, Section 2.2 and summarized above.

Therefore, provide a commitment that Pilgrim Unit 2 will be designed such that implementation of the above three potential requirements will not be compromised by construction.

Provide your response to this request by January 26, 1979 or, if you cannot meet that date, advise us of a date by when you can provide a response.

If you need additional clarification of this report, please advise us.

Sincerely,

Illa D. Van an D. Parr, Chief

Light Water Reactors Branch No. 3 Division Project Management

cc: See next page

Mr. R. M. Butler

cc: Mr. William Griffin
 Project Engineer
 Boston Edison Company
 800 Boylston Street
 Boston, Massachusetts 02199

Dale G. Stoodley, Counsel Boston Edison Company 800 Boylston Street Boston, Massachusetts 02199

George H. Lewald, Esq. Ropes & G.ay 225 Franklin Street Boston, Massachusetts 02110

William S. Abbott Attorney & Counsellor at Law 50 Congress Street, Suite 925 Boston, Massachusetts 02109

B. N. Pushek
Bechtel Power Corp.
P. O. Box 3695
San Francisco, California 94119

John D. Fascett Vice President and General Counsel United Illuminating Company 80 Temple Street New Haven, Connecticut 06506

Mr. R. Newman Combustion Engineering, Corp. 1000 Prospect Hill Road Windsor, Connecticut 06095

W. C. Tallman, President Public Service Company of New Hampshire 1000 Elm Street Manchester, New Hampshire 03105

JAN 1 9 1979

Charles Corkin, II, Esq. Assistant Attorney General Commonwealth of Massachusetts One Ashburton Place, 19th Floor Boston, Massachusetts 03105

Henry Herrman, Esg. 151 Tremont Street, 27K Boston, Massachusetts 02111

Mr. & Mrs. Alan R. Cleeton 22 Mackintush Street Franklin, Massachusetts 02038

W. M. Sides Quality Assurance Manager Boston Edison Company 800 Boylston St. Boston, Massachusetts 02199

Mr. R. A. Fortney EDS Nuclear 220 Montgomery Street San Francisco, California 94104

Edward Luton, Esq., Chairman Atomic Safety and Licensing Board U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Dr. Dixon Callihan Union Carbide Corporation P. O. Box Y Oak Ridge, Tennessee 37830

Dr. Richard F. Cole Atomic Safety and Licensing Board U. S. Nuclear Regulatory Commission Washington, D. C. 20555

- 3 -

Mr. R. M. Butler

..

- 4 -

cc: Richard S. Salzman, Esq., Chairman Atomic Safety and Licensing Appeal Board U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Dr. John H. Buck Atomic Safety and Licensing Appeal Board U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Michael C. Farrar, Esq. Atomic Safety and Licensing Appeal Board U. S. Nuclear Regulatory Commission Washington, D. C. 20555