

RELATED CORRESPONDENCE



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
BOSTON EDISON COMPANY et al.)
)
(Pilgrim Nuclear Generating)
Station, Unit 2))
)
)

Docket No. 50-471



DETAILED STATEMENT OF
THE COMMONWEALTH'S
TMI-RELATED CONTENTIONS

- I. The Applicants' PSAR, including amendments thereto, fails to provide sufficient preliminary design information to comply with the Commission's regulations appearing at 10 C.F.R. §50.34(a) and 10 C.F.R. Part 50, Appendix A, or with the Commission's Final Rule on Licensing Requirements for Pending Construction Permit and Manufacturing License Applications.^{1/} The PSAR further fails to provide, as

^{1/} The Commonwealth learned from the NRC Staff on September 9, 1981 that this Final Rule had been passed by the Commission on August 27, 1981. The final version of the rule will apparently not be published or otherwise made available until the end of September. The Commonwealth has had to prepare these contentions, therefore, on the basis of the proposed Final Rule, as distributed to the parties on July 14, 1981, and will amend these contentions as necessary upon the availability of the Final Rule. Specifically, the Commonwealth has assumed that nothing in the Final Rule as issued will allow challenges to the rule in the context of individual licensing proceedings. If such challenges are allowed, the Commonwealth may wish to broaden the scope of these contentions.

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required by the Commission's regulations appearing at 10 C.F.R. §50.35 (a) and 10 C.F.R. §50.40(a) and by the aforementioned Final Rule, reasonable assurance that outstanding safety questions will be satisfactorily resolved by the time construction is completed or that Pilgrim II can be constructed and operated without undue risk to the health and safety of the public.

As is explained in more detail below, the PSAR fails to provide sufficient information to comply with these regulatory requirements as regards the following specific safety items, identified as a result of the TMI-2 accident and contained in the Commission's Final Rule on Licensing Requirements for Pending Construction Permit and Manufacturing License Applications and in NUREG-0718, Rev. 1: "Licensing Requirements for Pending Applications for Construction Permits and Manufacturing License" (June, 1981):

A. Item I.A.4.2. Long-Term Training Simulator

Upgrade.^{2/} Applicants have failed to commit to provide a simulator which will correctly model their control room or to describe the manner in which they will assure that it does so.

^{2/} Item numbers and headings taken from NUREG-0718, Rev. 1, Appendix B.

B. Item I.D. 1. Control Room Design Reviews. Applicants have failed to assure that their human factors review and operability analysis of the control room design will be completed, and the results thereof submitted to the NRC, prior to fabrication of control room panels and layouts. Therefore, Applicants have not assured that they will provide for Staff approval a control room design that applies state-of-the-art human factor principles prior to committing to fabrication. Furthermore, there are no clear acceptance criteria for the ultimate control room design.

C. Item I.D. 2. Plant Safety Parameter Display Console. Applicants have failed to describe how they intend to meet the Staff criteria contained in NUREG-0696 for a plant safety parameter display console or to provide sufficient preliminary design information. They have failed to specify the design concept selected and the supporting design bases and criteria or to demonstrate that the design concept is technically feasible and within the state of the art or that there exists reasonable assurance that the plant safety parameter display console will be designed so as to display to operators a minimum set of parameters defining the safety status of the plant, capable of displaying a full range of important plant parameters and data trends on demand, and capable of indicating when process limits are being approached or exceeded.

D. Item I.F. 1. Expand QA List. Because Applicants have not yet utilized sequence analysis techniques to determine structures, systems and components important to safety, they have not ensured that their QA list includes all such structures, systems, and components, including all equipment necessary for executing emergency procedures.

E. Item I.F. 2. Develop More Detailed QA Criteria. Applicants have failed to describe the changes to their QA programs that have resulted from their review of the accident at TMI-2.

F. Item II.B.2. Plant Shielding to Provide Access to Vital Areas and Protect Safety Equipment For Post-Accident Operation. Applicants have failed to perform adequate radiation and shielding design reviews to assess the need for plant shielding.

G. Item II.B.3. Post-Accident Sampling. Applicants have failed to demonstrate the ability to obtain and analyze samples in a sufficiently prompt fashion. Applicants have also failed to review the radiological spectrum facility design and to modify the design on the basis thereof.

H. Item II.B.8. Rulemaking Proceeding on Degraded Core Accidents. Applicants have failed to submit a program plan that demonstrates how their site/plant-specific probabilistic risk assessment program will be scheduled so

as to influence system designs as they are being developed. Applicants have also failed to provide sufficient preliminary design information to demonstrate that the containment and associated systems will provide reasonable assurance that uniformly-distributed hydrogen concentrations do not exceed 10% during and following an accident that releases an amount of hydrogen equivalent to that generated from a 100% fuel clad metal-water reaction or that the systems necessary to ensure containment integrity will be designed to perform their function during and after being exposed to the environmental conditions created by activation of the distributed ignition system.

I. Item II.D.1. Testing Requirements. Applicants have failed to commit to demonstrate the applicability of the generic tests regarding reactor coolant system relief and safety valves and PORV block valves described in the PSAK to Pilgrim II or to modify their design on the basis of plant-specific testing.

J. Item II.D.3. Relief and Safety Valve Position Indication. Applicants have failed to provide sufficient preliminary design information with respect to relief and safety valve position indication. They have failed to specify the design concept selected and the supporting design bases and criteria or to demonstrate that the

design concept is technically feasible and within the state-of-the-art or that there exists reasonable assurance that the final design will adequately provide for direct indication of relief and safety valve position in the control room.

K. Item II.E.1.1. Auxiliary Feedwater System

Evaluation. Applicants have failed to perform the reevaluation of their EFWS system required by sections (1) and (2) of this Item as set forth in NUREG-0718, and have failed to provide a program to assure that the results of the reevaluation described in section (3) will be factored into the final design.

L. Item II.E.3.1. Reliability of Power Supplies for

Natural Circulation. Applicants have failed to provide for an adequate level of safety because they have failed to comply with clarification items 4, 5, and 7 of NUREG-0737 which require (1) shedding of non-Class 1E loads on a safety injection signal, (2) reset of safety injection signal to permit operation of the heaters, and (3) the changeover of the heaters from offsite to emergency onsite power to be accomplished manually in the control room.

M. Item II.F.1. Additional Accident Monitoring

Instrumentation. Applicants have failed to provide for continuous sampling of radioactive iodines and

particulates in gaseous effluents from all potential accident release points, and for onsite capability to analyze and measure these samples.

N. Item II.F.2. Identification of and Recovery from Conditions Leading to Inadequate Core Cooling. Applicants have failed to demonstrate that the final design of their system for monitoring reactor vessel water level will provide for unambiguous indication of inadequate core cooling under all accident and off-normal conditions.

O. Item II.F.3. Instrumentation for Monitoring Accident Conditions (Reg. Guide 1.97). Applicants have failed to provide sufficient preliminary design information with respect to instrumentation for monitoring accident conditions. They have not provided conceptual design information or justifications for alternatives to items in R.G. 1.97, Rev. 2.

P. Item II.K.2.16. Impact of RCP Seal Damage Following Small Break LOCA With Loss of Offsite Power. Applicants have failed to provide a program to assure that the results of their evaluation of the potential for and impact of reactor coolant pump seal damage with loss of off-site power will be factored into their final design.

Q. Item III.A.1.2. Upgrade Licensee Emergency Support Facilities. Applicants have failed to assure compliance with the functional criteria in NUREG-0696 relative to the

location, habitability, structure, and communication facilities of the TSC and EOF.

II. Because the Applicants' PSAR contains insufficient information as outlined in Contention I above, and in the absence of an Environmental Impact Statement addressing the environmental impact of allowing construction to proceed on the basis of the information and commitments contained in PSAR Amendments 42 and 43 and approved in the Staff's SER Supplement No. 6, there is insufficient basis for the Board to strike the cost/benefit balance required by the National Environmental Policy Act of 1969, 42 U.S.C. §4321 et seq.^{3/} Before that balance can appropriately be struck in this case, an EIS must be prepared which outlines alternatives to allowing construction of Pilgrim II on the basis of the information and commitments contained in PSAR Amendments 42 and 43 and analyzes the environmental impacts of the Applicants' and Staff's suggested approach to resolving TMI issues as they relate to Pilgrim II and of the alternative approaches which are identified.

3/ The Board expressly notes, in its Partial Initial Decision in this matter (at p. 191) that the costs and benefits of TMI-related issues have not yet been factored into its cost-benefit analysis and that the cost-benefit balance which it has tentatively struck must be reassessed in the light thereof.

III. The NRC Staff has failed to include in the Pilgrim II SER an adequate resolution of safety issues identified as a result of the TMI-2 accident, as follows:

- A. The TMI-2 accident demonstrated the need for "documentation of deviations" from current regulatory practices. A major contributing factor to the TMI-2 accident was that the plant had not been required by the NRC Staff to be in compliance with the then current regulatory practices. The Kemeny Commission,^{4/} the NRC Special Inquiry Group,^{5/} Congress,^{6/} and the Commission in a proposed rulemaking^{7/} have all recognized the need for such documentation of deviations. Documentation of deviation procedures for Pilgrim II were recognized as a Staff need by Benjamin C. Rusche, then Director of the Division of Nuclear Reactor Regulation,

^{4/} Keneny Report, pp. 20, 53, 65-66.

^{5/} Special Inquiry Report, Vol. II, p. 21.

^{6/} The Bingham Amendment, P.L. 96-295, Section 110.

^{7/} 45 Fed. Reg. 67099 (Oct. 9, 1980).

in a letter dated September 20, 1976.^{8/}

The Commonwealth contends that the NRC Staff has failed to require the Applicants to document in the PSAR where the Pilgrim II design, structures, and components do not conform with current regulatory practices (i.e., Regulatory Guides, Branch Technical Positions, and Standard Review Plans) and the bases for and acceptability of those deviations. The Staff has further failed to set forth in the SER the standards against which Pilgrim II has been reviewed and the bases for any deviations approved by the Staff from conformance with current regulatory practices. Absent such documentation, there is no basis for a Board finding that a level of safety equivalent to that provided by current regulatory practices is assured in the case of Pilgrim II, as required by 10 C.F.R. §50.45 and the regulations cited therein and by 10 C.F.R. Part 50, Appendix A.

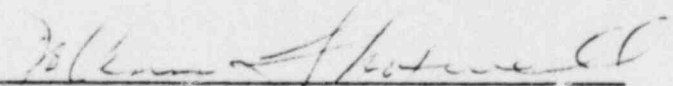
8/ The Pilgrim II facility, due to its long licensing period, is basically of the early 1970's design and, in many instances, was reviewed by the Staff against regulatory practices which are no longer current. Indeed, the Standard Review Plan, NUREG-75/087, was first published in 1975. Neither the Applicants in the PSAR nor the Staff in the SER have systematically described the standards against which Pilgrim II has been reviewed and the basis for and acceptability of any deviations from current regulatory practices.

B. Contrary to the River Bend decision, ALAB-444, the NRC Staff has failed to include in the SER an adequate action plan for Pilgrim II with respect to the following unresolved safety issues which the Staff identified as a result of investigations of the TMI-2 accident:^{9/}

1. Shutdown Decay Heat Removal Requirements, Task A-45.
2. Safety Implications of Control Systems, Task A-47.
3. Hydrogen Control Measures and Effects of Hydrogen Burns on Safety Equipment, Task A-48.

Respectfully submitted,

By:


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Dated: September 14, 1981

^{9/} See NUREG-0705: "Identification of New Unresolved Safety Issues Relating to Nuclear Power Plants," March, 1981.

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CERTIFICATE OF SERVICE

I hereby certify that the within Statement has been served on the following by deposit of copies thereof in the United States Mail, first class mail, postage prepaid this 14th day of September, 1981:

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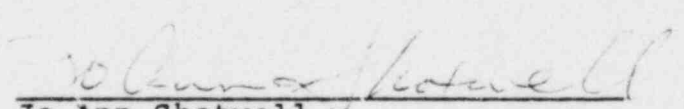
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