

limerick ecology action

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UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PHILADELPHIA ELECTRIC COMPANY

(Limerick Generating Station,
Units 1 and 2)

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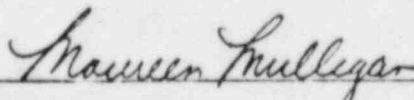
Docket Nos. 50-352
50-353

LIMERICK ECOLOGY ACTION'S PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW IN THE FORM OF A PARTIAL INITIAL DECISION RELATING TO LEA CONTENTION I-42

Limerick Ecology Action, lead intervenor in the above captioned proceeding, in accordance with 10 C.F.R. §2.754 and the Atomic Safety and Licensing Board's "Order Scheduling Proposed Findings" (April 27, 1984), hereby submits its Proposed Findings of Fact and Conclusions of Law in the form of a Partial Initial Decision Relating to LEA Contention I-42.

Respectfully submitted,

June 21, 1984



MAUREEN MULLIGAN, LEA V. PRESIDENT

PARTIAL INITIAL DECISION
(ON LEA CONTENTION I-42)

Preliminary Statement

1. Limerick Ecology Action ("LEA") filed a petition to intervene in the Limerick Generating Station ("Limerick" or "Station") operating license proceeding on September 21, 1981. At a prehearing conference held January 6-8, 1982, this Atomic Safety and Licensing Board ("Board") found that LEA had standing to intervene and admitted, inter alia, its Contention I-42 concerning environmental qualification of safety-related equipment, subject to its further specification.^{1/}

2. In our unpublished "Memorandum and Order Confirming Rulings Made at Prehearing Conference," dated October 28, 1983, LEA Contention I-42 was admitted as respecified. Contention I-42 states that:

The applicant (sic) has not shown compliance with the Commission's rule, Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants, Jan. 21, 1983, 48 FR 2729, 10 CFR §50.49. Particularly, it has neither established a program for qualifying all of the electrical equipment covered by §50.49, nor performed an analysis to ensure that the plant can be safely operated pending completion of

^{1/} Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1439, 1497-98 (1982).

equipment qualification, as required by §50.49(i). Failure to comply will threaten the health and safety of the public.

The City of Philadelphia, which was admitted to the Limerick operating license proceeding as an interested governmental participant, also took part in the litigation of this issue.^{2/} Evidentiary hearings were held on April 9-10, 1983 in Philadelphia, Pennsylvania.

Introduction

3. The Applicant presented the testimony of a panel of witnesses relating to Contention I-42. The panel included William J. Boyer, leader of the Environmental Qualification Group of Philadelphia Electric Company's ("PECO") Nuclear Generating Branch; Daniel Thompson, the electrical engineer responsible for the environmental qualification of Nuclear Steam Supply System ("NSSS") equipment at Limerick; Dennis Klein, supervisor of the Bechtel Power Corporation ("Bechtel") licensing group assigned to Limerick; Loren Stanley, President and Principal Consultant of Zytro, Inc., and formerly Quadrex Corporation Group Manager in charge of the Limerick Component Classification Program; Edward Sproat, Electrical Project Engineer, PECO; Thomas Shannon, engineer in charge of the NSSS Branch of the Limerick Power Plant Design Section, PECO; Wesley Bowers, supervising

^{2/} Id. at 1456.

engineer in charge of the Nuclear Control Branch of the Control Engineering Section, PECO; and John Doering, Limerick Operations Engineer and Senior Reactor Operator, PECO.

4. The NRC Staff presented the testimony of Armando Masciantonio, Environmental Qualification Branch, NRC; and Robert LaGrange, Section Leader, Equipment Qualification Branch, NRC.

5. A representative of Limerick Ecology Action and the City of Philadelphia cross-examined the Applicant's and Staff's witnesses on April 10, 1984. Neither LEA or the City of Philadelphia presented witnesses on this contention.

SUMMARY

6. The litigation of the issue focused on the basic issue of whether the EQ program at Limerick complies with 10 CFR Part 50, Section 50.49. The regulation, "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants," was published in the Federal Register on January 21, 1983, and became effective February 22, 1983.

7. Unlike NUREG-0588, Section 50.49 applies to electrical equipment important to safety and therefore includes both safety-related and nonsafety-related equipment. The rule defines the scope of its coverage as follows:

- (b) (1) Safety-related electric equipment: This equipment is that relied upon to remain functional during and following design basis events to ensure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition, and (iii) the capability to prevent or mitigate the consequences of accidents that could result in potential off-site exposures comparable to the 10 CFR, Part 100 guidelines
- (b) (2) Nonsafety-related electric equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions specified in subparagraphs (i) through (iii) of paragraph (b)(1) of this Section by the safety-related equipment.
- (b) (3) Certain post-accident monitoring equipment [specified as "Category 1 and 2" in Regulatory Guide 1.97, Revision 2].

8. It is the Applicant's position that the scope of equipment required to be considered for environmental qualification was unchanged by the adoption of 10 CFR §50.49 in January 1983. Tr. 9553 (Boyer).

9. A verification program of equipment to be qualified was performed under contract to the Applicant by the Quadrex Corporation which was initiated in February 1982. This program is referenced in the Environmental Qualification Report (10/83) as the Component Classification Program. Applicant's witnesses testified that the component classification program has covered all of the equipment that is required to be qualified under 10CFR 50.49. Tr. 9565 (Boyer); W. Boyer, et al., ff. Tr. 9529 at 9.

10. The Quadrex Component Classification Program (CCP) preceded promulgation of the new EQ Rule. Tr. 9566 (Boyer)

11. Applicant's witness Mr. Stanley testified that electrical equipment classified by the term "important to safety" used by Quadrex would have been coded "2E" or "3E". The "4F" components are certain Regulatory Guide 1.97 accident monitoring components. Tr. 9567 (Thompson).

12. Mr. Stanley agreed that Items 2E and 3E correlated to important-to-safety components, and that it was his belief that these had been included in the scope of the program. He stated that 2E, 3E, and 4F components were included in the CCP program, and that they corresponded to important-to-safety equipment defined in 10 CFR § 50.49. Tr. 9570, 9571, (Stanley)

FINDINGS OF FACT

15. There are still a number of outstanding equipment qualification records which are part of Appendix E that need to be completed. PECO expects them to be completed by fuel load. PECO anticipates providing these records sometime in June. Tr. 9577-9578 (Boyer).

16. As of 4/10/84, Applicant's witness testified that PECO did not anticipate requesting justification for interim operation. Tr. 9561 (Boyer). However, Mr. Boyer also testified that if for some reason the work were not completed before fuel load, PECO would anticipate requesting approval of justification for interim operation. Tr. 9561, (Boyer).

17. Applicant's witnesses testified that all equipment requiring qualification by 10 CFR§ 50.49 will be qualified by fuel load, and that as of 4/10/84 about 95% of that work was completed. Tr. 9560 (Boyer).

18. (Mr. Boyer) testified that as of 4/10/84 5% out of 1600 electrical items within the scope of the EQ rule (50.49) were not yet qualified at Limerick. Tr. 9620 (W. Boyer).

19. PECO is committed to installing and qualifying all necessary post-accident monitoring equipment prior to fuel load. W. Boyer, et al., ff. Tr. 9529 at 6. This item is still incomplete.

20. The NRC Staff's basic review of the Limerick EQ program consists of three steps. First is the identification of the equipment which has to be qualified and this is defined in 10 CFR 50.49. The second step is the determination that the environments which are postulated for the plant are correct and reasonable. This is done by different branches and by the Staff in general. The third step is verifying that the equipment which has to be qualified is indeed qualified for the conditions that it is required to operate. And the third item is basically a review of summary sheets which are provided. In the case of Philadelphia Electric, it would be Appendix E of their submittal. Each sheet is reviewed individually and tabulated in the Safety Evaluation Report. Tr. 9649-9650 (Masciantonio).

21. In addition, the NRC Staff has recently requested additional information concerning several items under Section 3.11 of the FSAR, which indicates that more information is needed to demonstrate compliance with NUREG 0588, Appendix E.



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

JUN 17 1982

Docket Nos. 50-352/353

Mr. Edward G. Bauer, Jr.
Vice President & General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

Subject: Request for Additional Information - Limerick Equipment Qualification

The Equipment Qualification Branch has reviewed FSAR Section 3.11 concerning qualification of safety-related electrical equipment. The staff will complete its review after you submit the information requested in Appendix E of NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment." In addition, you will be required to update Section 3.11 to include the environmental qualification of mechanical equipment in the harsh environment as well as electrical and mechanical equipment located in the mild environment so that the extent of compliance with GDC #4 can be evaluated. The current status of the review is reflected in the EQB Draft SER (see Enclosure 1).

Please provide us, within 7 working days from receipt of this letter, with the date(s) on which you plan to respond to the above. Any questions concerning this information request should be directed to Dr. Harvey Abelson (301) 492-9774, the Licensing Project Manager.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. Schwencer", is written over the typed name.

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure:
As stated

cc: See next page

REFER TO LEA FINDINGS OF FACT
page 9, item #21

22. On 4/10/84 the NRC Staff's witness testified that the Staff's audit of the Limerick EQ program is not complete and that several items are still unresolved. They include:

1. Clarification of how PECO will perform some surveillance of equipment outside of containment to account for unanticipated age-related degradation.
2. Verification from PECO that all the equipment is qualified at the time it does become qualified.
3. Containment profile approval (being reviewed by Containment Systems Branch)
4. Approval of temperature profile.
5. Response to Information Notice 79-22.

Tr. 2651-9652, (Masciantonio)
Tr. 9700-9701, (Masciantonio)

23. Once these items have been addressed, Mr. Masciantonio testified that acceptability could be ascertained by the Staff.
Tr. 9701, (Masciantonio).

24. The NRC Staff's review of PECO's response to IE Notice 79-22 is not complete. Witness LaGrange testified that he did not know how long it would take to complete the review, and that it may take months or years. Tr. 9686 (LaGrange)

25. Witness LaGrange was unable to adequately justify the NRC Instrumentation and Control Systems Branch's judgement that compliance with Regulatory Guide 1.75 and an acceptable response to IE Notice 79-22 supported a conclusion that there is no equipment under category 50.49 category (b)(2). Tr. 9687-9688.

26. Furthermore, the NRC Staff has not yet addressed design issues involving systems interaction impacts that could affect category (b)(2) equipment under 10 CFR § 50.49. Tr. 9688 (LaGrange)

27. Revision 1 of Regulatory Guide 1.89 is still in draft form and has not yet been published. Tr. 9690 (LaGrange).

28. Resolution of generic unresolved safety issues A-47 and A-17 may show that there is other equipment that should be included under (b)(2). Tr. 9693 (LaGrange).

29. The NRC Staff has not yet completed its Limerick EQ review. No approval of the Limerick EQ program has been issued. A safety evaluation will be issued in the next few months. Masciantonio, II. Tr. 9640, at 11.

30. The SER won't be closed out until full compliance with the final rule 10CFR 50.49 has been demonstrated. A few outstanding items still have to be resolved, but full compliance with the rule must be demonstrated. Tr. 9698 (Masciantonio)

31. Staff must complete its review of 79-22 to verify that there is no category (b)(2) equipment. Tr. 9706 (Masciantonio).

32. NRC Staff has not yet completed its review of the design philosophy documentation relating to an interaction analysis between non-qualified equipment and safety related systems. Tr. 9580 (Sproad).

33. Completion of NRC Staff approval of the Limerick EQ Program is necessary to constitute completion of environmental qualification. Tr. 9621 (Boyer)

CONCLUSIONS OF LAW

34. We find in favor of Limerick Ecology Action on Contention I-42 because there is no basis in the present record for a finding that Limerick is in compliance with 10 CFR Part 50, Section 50.49. Further, we retain jurisdiction of this matter, and we identify in our detailed findings several actions which must be taken by PECO and by the Staff as preconditions for a finding of such compliance.

35. Although PECO urges us to find in its favor on this Contention and to rely on Staff review to assure proper resolution of these open items, we are unable to do so. As a licensing board, we have a duty to make findings on critical issues of health and safety prior to issuance of an operating license. We are not empowered to delegate that obligation to the Staff.^{1/} As the Commission has stated:

As a general proposition, issues should be dealt with in the hearings and not left over for later (and possibly more informal) resolution [T]he mechanism of post-hearing resolution must not be employed to obviate the basic findings prerequisite to an operating license -- including a reasonable assurance that the facility can be operated without endangering the health and safety of the public. 10 CFR 50.57. In short, the "post-hearing" approach should be employed sparingly and only in clear cases. In doubtful cases, the matter should be resolved in an adversary framework prior to issuance of licenses^{2/}

^{1/} Cleveland Electric Illuminating Company, (Perry Nuclear Power Plant, Units 1 and 2), ALAB-298, NRC 730,737 (1975). See also, Washington Public Power Supply System (Hanford No. 2 Nuclear Power Plant), ALAB-113, 6 AEC at 251, 252 (1973).

^{2/} See bottom page 14

26. Although certain minor matters may properly be left to the Staff for post-hearing resolution, such instances are limited to minor procedural deficiencies or issues where on-the-record proceedings would not be helpful for resolution of the issue. 3/ In this case, however, the unresolved issue before us is neither minor nor procedural: FECC admittedly has not yet complied with a Commission regulation dealing with equipment qualification, a critical safety issue. Promises or expectations of eventual compliance are not sufficient. We would violate our obligation as a licensing board were we to terminate our consideration of this matter given the present state of the record.

27. Accordingly, we must retain jurisdiction of this issue pending completion of the actions we identify in our findings and submission of the results thereof to us and to the parties. We will again review this issue and make a determination as to whether Limerick complies with Section 50.49.

2/ Consolidated Edison Company of New York, (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC at 947, 951-952. See Also, Public Service Company of Indiana, (Marble Hill Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 318 (1978).

3/ Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163 (1982).