

July 2, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of)
)
PHILADELPHIA ELECTRIC COMPANY)
)
(Limerick Generating Station,)
Units 1 and 2))

Docket Nos. 50-352
50-353

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

NRC STAFF'S FINDINGS OF FACT AND CONCLUSIONS
OF LAW IN THE FORM OF A PARTIAL INITIAL DECISION

The NRC staff, in accordance with 10 C.F.R. § 2.754 and this Licensing Board's "Memorandum and Order Establishing Format of Proposed Findings of Fact and Conclusions of Law" (December 9, 1983), hereby submits its attached Partial Findings of Fact and Conclusions of Law in the form of a partial initial decision on Environmental Qualification of Electric Equipment (LEA Contention I-42).

Respectfully submitted,

Ann P. Hodgdon

Ann P. Hodgdon
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 2nd day of July, 1984

DESIGNATED ORIGINAL

Certified By D007 [Signature]

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PARTIAL INITIAL DECISION

(On Environmental Qualification of
Electric Equipment, LEA Contention I-42)

OPINION

I. SCOPE OF DECISION

This Partial Initial Decision addresses a contention proposed by Limerick Ecology Action (LEA) for consideration by this Licensing Board in connection with Philadelphia Electric Company's application to operate the Limerick Generating Station, Units 1 and 2 (LGS), located on the Schuylkill River, near Pottstown in Limerick Township, Montgomery County, Pennsylvania. LEA alleged that Philadelphia Electric Company (PECo) is not in compliance with a recently promulgated rule concerning environmental qualification of electric equipment important to safety for nuclear power plants. Specifically, this contention alleges that the Applicant has not established a program for qualifying all electric equipment covered by the rule or performed an analysis to ensure that the plant can be operated safely pending completion of equipment qualification. LEA claims that the Applicant's failure to comply with this rule will threaten public health and safety.

Contrary to the allegations made in the contention, the record indicates that the Applicant has established and is implementing a program for environmental qualification of electric equipment in compliance with the relevant rule. While the NRC staff's review of the Applicant's implementation of the program is not yet complete, the Board concludes that the unresolved aspects of the review do not prevent the Board from reaching a decision on the contention based on the existing record. The Board concludes that PECO has complied with the requirements of the rule.

II. BACKGROUND

On March 17, 1981, Philadelphia Electric Company (PECO) filed an application with the Nuclear Regulatory Commission (NRC) to operate the Limerick Generating Station, Units 1 and 2. The application was docketed on July 27, 1981.^{1/} On September 21, 1981, Limerick Ecology Action (LEA) petitioned to intervene in the LGS operating license proceedings. During a prehearing conference held January 6-8, 1982, this Board found that LEA had standing to intervene. In its Special Prehearing Conference Order, the Board provided LEA the opportunity to restate its contention concerning the Applicant's failure to qualify safety-related electric equipment after the Applicant submitted as part of the Application sufficient information regarding its plans to qualify electric equipment to allow LEA to develop a specific contention.^{2/} As litigated, Contention I-42 states:

^{1/} 46 Fed. Reg. 42,557.

^{2/} See, Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1429, 1497-98 (1982).

The applicant 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 equipment qualification, as required by § 50.49(i). Failure to comply will threaten the health and safety of the public.^{3/}

The City of Philadelphia, admitted to the Limerick operating license proceeding as an interested governmental representative^{4/}, also participated in the litigation of this contention. Evidentiary hearings were held April 9-10, 1984, in Philadelphia, Pennsylvania.

III. SUMMARY

Testimony by the NRC staff and the Applicant revealed that PECO has an adequate program for qualification of electric equipment important to nuclear power plant safety at the LGS, which is in compliance with 10 C.F.R. § 50.49 as adopted in January 1983. The Board heard testimony regarding how this program was developed and how it identified items to be qualified. The Board noted that the Applicant retained a private organization to conduct an independent verification program to make certain that all electrical equipment needed to perform safety functions was properly identified. Evidence also indicated that the Staff's review,

^{3/} The resubmitted contention was admitted by the Board in an unpublished order, "Memorandum and Order Confirming Rulings Made At Prehearing Conference," dated October 28, 1983.

^{4/} 15 NRC at 1456.

while not yet complete, verified the adequacy of the program. As the Staff noted, nuclear power plants can be brought into operation, even without qualification of all electric equipment important for safety functions, after submission and approval of a Justification for Interim Operation (JIO).^{5/} However, the Applicant does not anticipate a need for JIOs for the LGS.

As discussed in detail below, the Board finds that the Applicant has established an adequate program for qualification of electric equipment needed to perform safety functions at the LGS, which is in compliance with the requirements of 10 C.F.R. § 50.49.

IV. FINDINGS OF FACT

Introduction

1. The NRC staff presented the testimony of Armando S. Masciantonio an Equipment Qualification Engineer in the Environmental Qualification Section of the Equipment Qualification Branch, Division of Engineering, Office of Nuclear Reactor Regulation (NRR). He is responsible for the technical reviews, analyses and evaluations of the adequacy of the environmental qualification of electric equipment important to safety and safety-related mechanical equipment whose failure under postulated environmental conditions could adversely affect the performance of safety systems. Also appearing on behalf of the Staff was Robert G. LaGrange, Section Leader of the Environmental Qualification

^{5/} See, 10 C.F.R. § 50.49(i).

Section of the Equipment Qualification Branch, Division of Engineering, NRR, who is responsible for planning, organizing and directing the section's technical reviews, analyses and evaluations of the adequacy of the environmental qualification of electrical equipment. See, NRC Staff Revised Testimony of Armando Masciantonio on LEA Contention I-42 and attached Professional Qualifications, ff. Tr. 9640.

2. The Applicant presented testimony by a panel which included: William J. Boyer, leader of the Environmental Qualification Group of PECO's Nuclear Generating Branch; Daniel Thompson, an electrical engineer responsible for environmental qualification of Nuclear Steam Supply System (NSSS) equipment at the LGS; Dennis Klein, supervisor of the Bechtel Power Corporation licensing group assigned to the LGS; Loren Stanley, currently the president and principal consultant of Zytor, Inc., and formerly, manager of the Quadrex Corporation's group in charge of the Limerick Component Classification Program; Edward Sproat, Electrical Project Manager, PECO; Thomas Shannon, a Senior Engineer in PECO's Mechanical Engineering Division responsible for the design of the NSSS at the LGS; Wesley Bowers, a supervising engineer in charge of PECO's Nuclear Control Branch of the Control Engineering Section; and John Doering, Operations Engineer of the LGS, who is responsible for the day-to-day operations of the plant. See, Testimony and Professional Qualifications of W. J. Boyer, et al., ff. Tr. 9529.

3. The Staff's and Applicant's witnesses are highly qualified in their respective fields and were of invaluable assistance in developing the record in this proceeding. Neither LEA nor the City of Philadelphia presented witnesses to address this contention but took the opportunity to cross-examine the Staff's and Applicant's witnesses.

10 C.F.R. § 50.49

4. Electric equipment important to safety as defined in 10 C.F.R. § 50.49(b) includes safety-related equipment, certain nonsafety-related equipment and certain post-accident monitoring equipment. Masciantonio, ff. Tr. 9640, at 4; Tr. 9649-50 (Masciantonio).

5. Subsection 50.49(b) lists three categories of electric equipment important to safety that are required to be qualified under subsection (a) of the rule. The first category is that defined in § 50.49(b)(1): safety related electric equipment is the equipment relied upon to remain functional during and following design basis events to ensure (i) the integrity of the reactor coolant pressure boundary, (ii) 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 offsite exposures comparable to the 10 CFR Part 100 guidelines. The second category, nonsafety-related electric equipment important to safety, is defined in § 50.49(b)(2): Nonsafety-related equipment whose failure under postulated environmental conditions could prevent the satisfactory accomplishment of required safety functions by safety-related equipment. Subsection § 50.49(b)(3) addresses the third category, post-accident monitoring equipment, and states that guidance regarding that equipment is given in Reg. Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following An Accident." Equipment identified as monitoring a Category 1 or 2 variable of that Regulatory Guide is equipment important to safety and is required to be environmentally qualified if installed in a potentially harsh environment, unless an adequate basis

exists for exempting the equipment from qualification. Masciantonio, ff. Tr. 9640, at 4-5.

10 C.F.R. § 50.49(b)(1)

6. As the Applicant indicated, the equipment defined by 10 C.F.R. § 50.49(b)(1), safety-related equipment, has been traditionally recognized as requiring environmental qualification pursuant to the General Design Criteria appearing in Appendix A of 10 C.F.R. Part 50. These criteria have been referenced in the FSAR since it was originally submitted in March 1981.

7. The structures, systems and components required to be reviewed for environmental qualification appear in the Limerick Project Q-list, which was established in accordance with requirements of 10 C.F.R. Part 50, Appendix B. PECO's engineering staff along with Bechtel Power Corporation, the Limerick architect-engineer, evaluated equipment required for safety functions, using the General Design Criteria listed in 10 C.F.R. Part 50, Appendix A, to determine what equipment must appear on the Q-list. Also, information from other BWR plants was used in the evaluations, since many of the Limerick structures, systems and components are similar to the ones used in those facilities. Updates of the Q-list, which is revised as necessary to reflect design changes, are reviewed by both PECO and Bechtel to insure correct current classification of all structures, systems and components. Boyer, et al., ff. Tr. 9529, at 4-5.

8. Since all equipment must be qualified on the basis of actual tests, pursuant to § 50.49, PECO's EQ personnel reviewed the specifications

for the tests, the test plans and, in some cases, even participated in the tests, which were conducted by Bechtel. Tr. 9546-49 (Boyer).

10 C.F.R. § 50.49(b)(2)

9. Conformance with 10 C.F.R. § 50.49(b)(2) concerning nonsafety-related equipment whose failure under postulated accident conditions could prevent the satisfactory accomplishment of safety functions is determined by the Staff's review of responses to IE Information Notice 79-22 and conformance with Regulatory Guide 1.75. Masciantonio, ff. Tr. 9640, at 6; Tr. 9668, 9678, 9686 (Masciantonio), Tr. 9684-85, 9707 (LaGrange). IE Information Notice 79-22, "Qualification of Control Systems," concerns the performance of nonsafety-grade equipment subjected to an adverse environment that would affect the protective functions performed by safety-related equipment. Reg. Guide 1.75, "Physical Independence of Electrical Systems," gives guidance for complying with the requirements for physical independence of the circuits and electrical equipment associated with the Class IE power system, the protection system and other related systems. The Applicant's response to and conformance with these documents is reviewed by the Instrumentation and Control Systems Branch (ICSB) and Power Systems Branch. Masciantonio, ff. Tr. 9640, at 6-7; Tr. 9665-66, 9681 (Masciantonio).

10. The Staff review of conformance to Reg. Guide 1.75 is complete and was found acceptable as indicated in Chapter 8 of the Limerick SER. NUREG-0991 (August 1983). Masciantonio, ff. Tr. 9640, at 7; Tr. 9707 (LaGrange, Masciantonio). While the Staff's review under Information Notice 79-22 is not yet complete, SER § 7.7.2.1 has identified what infor-

mation the Instrumentation and Control Systems Branch (ICSB) is seeking as a basis for determining the Applicant's compliance with 10 C.F.R. § 50.49(b)(2). Mr. LaGrange indicated that this review has been completed on several plants and that he did not anticipate any problems for Limerick. He emphasized that the SER will not show compliance with § 50.49 until ICSB's review is complete. Masciantonio, ff. Tr. 9640, at 7; Tr. 9660 (Masciantonio); Tr. 9708 (LaGrange).

11. As the Applicant indicated, the interfaces between safety-related electrical components were evaluated as part of the plant design process. Wherever that evaluation revealed nonsafety-related components whose failure could prevent attainment of safety function objectives, those interfaces were eliminated by implementing design modifications or by adding the nonsafety-related components to the Project Q-list and qualifying them as necessary. As an example, the Applicant described the Electrical Equipment Separation Program where electrical equipment and wiring for the engineered safeguard and reactor protection systems are segregated into separate channels and divisions to ensure that no single credible event is capable of disabling sufficient equipment to prevent attainment of the safety function objectives. Boyer, et al., ff. Tr. 9529, at 7; Tr. 9554-57 (Boyer, Klein, Shannon). All design modifications have been evaluated and approved by the Staff, assuring that failures of these devices would not adversely affect the safety systems with which they interface. Tr. 9562 (Sproat).

12. Contrary to LEA's claim and based on the evidence presented above, both the Staff and Applicant concluded that no equipment exists at Limerick which must be qualified pursuant to 10 C.F.R. § 50.49(b)(2). Masciantonio,

ff. Tr. 9640, at 7; Tr. 9680, 9685, 9687-88 (LaGrange); Boyer, et al., ff. Tr. 9529, at 7; Tr. 9553, 9575, 9595 (Boyer).

PECo's Independent Verification Program

13. To make sure that all electric equipment required to perform safety functions was properly identified, the Applicant retained Quadrex Corporation (Quadrex) to conduct an independent verification program, which was initiated in February 1982. Quadrex has performed similar programs for other nuclear power plants, and was clearly qualified to evaluate the Limerick EQ program. Boyer, et al., ff. Tr. 9529, at 9; Tr. 9550-51 (Stanley); Tr. 9562 (Boyer); Tr. 9619 (Thompson). Quadrex used a recognized program, designated Q*5, to establish a Component Classification Program (CCP) to evaluate electrical equipment. The Limerick Component Classification Rules were adapted from previous classification experience gained with both BWR and PWR plants and were developed using various Staff and ANSI reference documents. Boyer, et al., ff. Tr. 9529, at 9-10.

14. The independent verification program conducted by Quadrex identified 30,000 components. This list was compared with the Limerick Q-list and it was found that Bechtel had omitted sixteen components from its Q-list that were identified by Quadrex as candidates for inclusion in the Limerick EQ program. Of the sixteen items, nine were located in a mild environment, four others did not require environmental qualification and the remaining three were included in the Limerick EQ program. W. J. Boyer, et al. ff. Tr. 9529, at 22-23.

10 C.F.R. § 50.49(b)(3)

15. The post-accident monitoring equipment, defined in 10 C.F.R. § 50.49(b)(3) and Reg. Guide 1.97, Rev. 2, was among the equipment alleged by LEA not to be properly qualified. The Post Accident Sampling System, which is specifically identified in the basis of the contention, is Reg. Guide 1.97 Category 3 equipment and is not, therefore, required to be environmentally qualified.

16. According to FSAR Section 7.5.2.5.1.1.2 and Table 7.5-5, PECO is committed to installing and qualifying all necessary post-accident monitoring equipment prior to fuel load. Boyer, et al., ff. Tr. 9529, at 6; Tr. 5622 (Bowers).

Systems Excluded from the EQ Program.

17. As a part of the basis for its Contention I-42, LEA asserted that the emergency lighting system, inplant communications system, plant process computer system and computer software were examples of systems that were improperly excluded from PECO's qualification program. The evidence indicated that the exclusions were proper in that the systems cited by LEA are not important to safety as the term is used in 10 C.F.R. § 50.49; that is, they are not relied on during a design basis accident in areas subject to a potentially harsh environment and their failure would not prevent achievement of safety function objectives. W.J. Boyer et al. ff. Tr. 9529, at 11-15; Masciantonio, ff. Tr. 9640, at 7-8.

Misleading the Operator

18. In the basis for its contention, LEA claimed that plant operators could be misled by the failure of equipment that had not been properly qualified pursuant to 10 C.F.R. § 50.49(b)(2) and (b)(3). See, Masciantonio, ff. Tr. 9640, at 2. Since there is no equipment at the LGS under the scope of § 50.49(b)(2) and PECO has committed to environmentally qualify the equipment defined in § 50.49(b)(3) before fuel load, Limerick plant operators will not be misled by the failure of this equipment. Further, the Limerick Transient Response Implementation Plan (TRIP) Procedures assure that plant operators will rely on Reg. Guide 1.97, Rev. 2, equipment when harsh environment conditions exist in the plant. Boyer, et al., ff. Tr. 9529, at 25.

The TRIP Procedures

19. The TRIP procedures are entered on entry condition symptoms to treat these symptoms and are specific to the LGS. The procedures are organized in such a manner as to control those plant parameters important for protecting the plant safety barriers against the release of radioactive material to the environment. Whenever a symptom develops, the operator immediately enters the applicable procedure and takes the corrective action directed by the procedures, until its exit conditions are satisfied. If the particular transient continues to degrade, the operator enters contingency procedures to handle the more degraded conditions until he can return to the main procedures. Boyer, et al., ff. Tr. 9529, at 25-27.

20. Review of the listing of Reg. Guide 1.97 instrumentation reveals that all entries into the TRIP procedures are monitored by environmentally qualified instrumentation. The impact on execution of TRIP procedures is

minimal since the qualified instrumentation that must be used is either the instrumentation which the operator would normally choose to use under those conditions or the only qualified instrumentation available to monitor the parameter. The operator is specifically instructed in the TRIP procedures to utilize only certain instrumentation in the event of an indication of adverse environmental conditions. In accordance with the requirements of Reg. Guide 1.97, the applicable instrumentation will be highlighted by special markings on the control panel to aid in its identification and assure that only such instruments will be used under the circumstance of adverse environmental conditions. Boyer, et al., ff. Tr. 9529, at 28-30; See Tr. 9601-10 (Doering).

21. Many TRIP procedures use only environmentally qualified instrumentation. However, that instrumentation may cover a broader range than non-qualified equipment and may, therefore, be less precise. The instrumentation an operator normally relies on is generally restricted to a narrow band around the operating range and is, therefore, more exact. Absent an indication of actual adverse environmental conditions in the reactor building, the operator is not restricted to the use of environmentally qualified instrumentation. Tr. 9607-09 (Doering).

The Squib Valves and Keylock Switch

22. The Staff is not aware of any equipment important to safety required to be included in the EQ program within the scope of 10 C.F.R. § 50.49 that has been excluded from the program without proper justification. Contrary to the assertion made by LEA as part of the basis of its contention, the squib valves in the Standby Liquid Control System are

included in the LGS EQ program, as they have been added to Appendix B, "List of Equipment Important to Safety," of PECO's EQ report. Since the keylock switch is located in the control room, a mild environment, it is not within the scope of 10 C.F.R. § 50.49 and does not have to be environmentally qualified. Masciantonio, ff. Tr. 9640, at 9-10; See also, Boyer, et al., ff. Tr. 9529, at 3, 21.

Human Interaction Review

23. LEA also expressed concern that a "human interaction review" was not conducted by the Applicant. While 10 C.F.R. § 50.49 fully defines the requirements for environmental qualification, the Staff indicated that this rule contains no requirement that a human interaction review be conducted. Masciantonio, ff. Tr. 9640, at 8; Tr. 9661 (Masciantonio).

Aging of Equipment

24. As the Applicant indicated, environmental qualification of instrumentation and other electrical equipment is contingent upon replacing equipment at the end of its designated life and upon performing required maintenance during its designated life. As part of the environmental documentation review process, maintenance requirements which are related to environmental qualification of electrical equipment are documented on individual Environmental Qualification Review Record (EQRR) forms. Maintenance requirements for specific items are identified on the EQRRs by reference to applicable sections of the test reports and other documentation. The designated life is the period of normal plant operation during which the equipment is expected to operate satisfactorily and perform its

safety function. Within the designated life, maintenance requirements, as identified on EQRR forms, must be fulfilled to sustain the equipment in its qualified condition. At the end of the designated life, the equipment must be replaced unless additional testing or analyses have been performed to extend the designated life. Boyer, et al., ff. Tr. 9640, at 32-33. In some cases, the designated life is 40 years, which is the life of the plant, while in other cases, designated life is less than 40 years. Tr. 9581 (Boyer).

25. The Limerick Plant Staff Maintenance Group reviews each EQRR to determine which of them contain required replacement intervals for the equipment. When maintenance activities are required to sustain environmental qualification, the documents listed in the Maintenance Requirements section of the EQRR are reviewed and the required activity, including frequency of performance, is listed on the Maintenance Group Form. When the EQRR indicates that equipment has a designated life less than 40 years, the plant identification number of the component which must be replaced and its replacement schedule are entered on the Maintenance Group Form. After reviewing the EQRRs and establishing the required maintenance or replacement activities, a list of procedures necessary to implement the activities is established. Boyer, et al., ff. Tr. 9529, at 34; Tr. 9581-82 (Boyer). Contrary to LEA's claim, the Applicant has an adequate program to maintain qualification of equipment throughout the designated life of the LGS. See, Masciantonio, ff. Tr. 9640, at 3, 9.

The NRC Staff's Review

26. The Staff reviews EQ programs for completeness, accuracy and conformance. The Staff review is conducted in order to determine proper definition of the scope of the EQ program, proper definition of postulated environments and demonstration of qualification in accordance with NRC rules and regulations, which include 10 C.F.R. § 50.49, Reg. Guide 1.89, NUREG-0588 and IEEE standards. Masciantonio, ff. Tr. 9640, at 4.

27. To assure that all equipment required to be qualified is included in the EQ program, the Staff compared PECO's "List of Systems Important to Safety," appearing in Appendix A of the EQ program, with a Staff generated list of systems, their required safety function and operability times. The Staff, in a letter of December 19, 1983, requested PECO to correlate the systems listed in Appendix A with those listed in FSAR Table 3.2-1 entitled "LGS Design Criteria Summary," which is a list of all major systems and subsystems in the plant, and justify any omissions. After PECO responded to this request on January 16, 1984, the Staff reviewed the information and determined that the Applicant had adequately justified omissions from Appendix A. Also, the Staff reviewed the total number of components and equipment types in the LGS EQ program as compared with other BWR plants of similar design to assure consistency and reviewed the Applicant's process for selecting components as described in the EQ report. Masciantonio, ff. Tr. 9640, at 5-6; Tr. 9645-46, 9668, 9673-4 (Masciantonio).

28. The Staff indicated that an audit of the Applicant's Equipment Qualification files was conducted on March 14-16, 1984, primarily to verify the bases of the information submitted by PECO in its Environmental Qualification (EQ) program. Twelve equipment qualification files, representing

approximately ten percent of the equipment items in the EQ program, were selected for detailed review during the audit. Also, as part of the audit, the equipment as actually installed was inspected during a plant walkdown and no violations were discovered. In all cases it was determined that adequate proof of qualification was provided to establish qualifications as claimed. Masciantonio, ff. Tr. 9640, at 11.

29. To ensure that all necessary equipment is identified and qualified as required for operating conditions, the Staff reviewed the Environmental Qualification Review Records (EQRRs) which were submitted as Appendix E of the Applicant's EQ Report. These EQRR summary sheets were originally submitted in October 1983 and were revised and updated in the February 16, 1984, submission to the Staff. As mentioned previously, the Staff also audited PECO's equipment qualification files to see if the Applicant understood the necessary requirements for proper qualification of equipment. Masciantonio, ff. Tr. 9640, at 8-9, 11; Tr. 9642, 9697 (Masciantonio). In selecting the items to be audited, the Staff relied mainly on past experience as opposed to random sampling and examined about 10 percent of the items included in the EQ program. According to Mr. Masciantonio, equipment which has been shown to be improperly qualified in previous reviews of the EQ programs of other utilities, equipment that has historically failed under LOCA conditions and equipment not previously audited are examples of items most likely to be examined. Tr. 9650-51, 9695-98 (Masciantonio). Through this audit and the accompanying plant walkdown, where the equipment as actually installed was inspected, it was determined that adequate proof of qualification was established in all instances. Masciantonio, ff. Tr. 9640, at 11; Tr. 9642-43 (Masciantonio).

30. Although environmental qualification had not been demonstrated for all equipment items in the Limerick EQ program at the time Contention I-42 was litigated in April 1984, approximately 80 percent of the equipment items were reported as being qualified in the Applicant's February 16, 1984, submission to the Staff. The unqualified status will change as environmental qualification is established for the remaining equipment items. Tr. 9600, 9716 (Masciantonio).

31. Based on review of the information submitted by PECO, the Staff has determined that a program for qualifying electric equipment important to safety within the scope of 10 C.F.R. § 50.49 has been established for the LGS. Although the Staff has not completed its review or issued final approval of the program, the Staff intends to issue a Safety Evaluation Report (SER) discussing the results of the Staff's review of the LGS EQ program. Masciantonio, ff. Tr. 9640, at 11.

Justification For Interim Operation

32. 10 C.F.R. § 50.49(i) requires the Applicant to perform an analysis to ensure that the plant can be safely operated pending completion of environmental qualification. This analysis, usually called a Justification for Interim Operation (JIO), must be submitted and approved by the Staff for every equipment item not fully qualified and must address considerations specified in 10 C.F.R. § 50.49(i), as appropriate, before an operating license can be issued. Masciantonio, ff. Tr. 9640, at 12, 14. However, the Applicant indicated that it does not plan to request any justifications for interim operation as any remaining unqualified items

will be properly qualified prior to fuel load. Tr. 9617 (Boyer). See also, Masciantonio, ff. Tr. 9640, at 12-13.

Conclusions of Law

Based on the foregoing Findings of Fact, which are supported by reliable, probative and substantial evidence as required by the Administrative Procedure Act and the Commission's Rules of Practice, and upon consideration of the entire evidentiary record in the proceeding, the Board reaches the following conclusion pursuant to 10 C.F.R. § 2.760a:

- 1) The Applicant has fully complied with the requirements of 10 C.F.R. § 50.49. It has established a program for qualifying all electric equipment encompassed by that regulation. The Board has not analyzed the Applicant's ability to operate the plant safely pending completion of its equipment qualification program pursuant to § 50.49(i), as the Applicant indicated that it would not rely on the relief provided in that subsection.
- 2) The feedwater control system, emergency lighting system, the communications system, the plant process computer system and the computer software are not required to be qualified under 10 C.F.R. § 50.49.
- 3) A human interaction review is not required by 10 C.F.R. § 50.49.
- 4) The Applicant's program includes provisions for monitoring and replacing equipment as necessary where the qualified life is less than the 40 year licensed life of the plant and is in compliance with the requirements of 10 C.F.R. § 50.49 regarding aging.
- 5) The keylock switch of the Standby Liquid Control System is not within the scope of equipment required to be qualified pursuant to 10 C.F.R. § 50.49. The squib valves have been identified as equipment to be qualified.

Order

WHEREFORE IT IS ORDERED in accordance with 10 C.F.R. §§ 2.760, 2.762, 2.763, 2.785 and 2.786 of the Commission's Rules of Practice, that this Partial Initial Decision shall become effective immediately and shall constitute with respect to the matters decided therein the final action of the Commission forty-five (45) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice.

A notice of appeal may be filed by any party within ten (10) days after service of this Partial Initial Decision. Within thirty (30) days after service of a notice of appeal (forty (40) days in the case of the Staff), any party filing a notice of appeal shall file a brief in support, thereof. Within thirty (30) days of service of the brief of the appellant (forty (40) days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the appeal.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

Judge Lawrence J. Brenner, Chairman

Judge Peter A. Morris, Member

Judge Richard F. Cole, Member

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the Matter of)
PHILADELPHIA ELECTRIC COMPANY) Docket Nos. 50-352
(Limerick Generating Station,) 50-353
Units 1 and 2))

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S FINDINGS OF FACT AND CONCLUSIONS OF LAW IN THE FORM OF A PARTIAL INITIAL DECISION" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or as indicated by an asterisk through deposit in the Nuclear Regulatory Commission's internal mail system, this 2nd day of July, 1984:

Lawrence Brenner, Esq., Chairman(2)
Administrative Judge
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555*

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

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

Troy B. Conner, Jr., Esq.
Mark J. Wetterhahn, Esq.
Conner and Wetterhahn
1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

Dr. Peter A. Morris
Administrative Judge
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555*

Mr. Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

Mr. Frank R. Romano
Air and Water Pollution Patrol
61 Forest Avenue
Ambler, PA 19002

Joseph H. White, III
15 Ardmore Avenue
Ardmore, PA 19003

Ms. Maureen Mulligan
Limerick Ecology Action
762 Queen Street
Pottstown, PA 19464

Martha W. Bush, Esq.
Kathryn S. Lewis, Esq.
1500 Municipal Services Bldg.
15th and JFK Blvd.
Philadelphia, PA 19107

Thomas Gerusky, Director
Bureau of Radiation Protection
Dept. of Environmental Resources
5th Floor, Fulton Bank Building
Third and Locust Streets
Harrisburg, PA 17120

Director
Pennsylvania Emergency Management
Agency
Basement, Transportation & Safety
Building
Harrisburg, PA 17120

Robert L. Anthony
Friends of the Earth of the
Delaware Valley
103 Vernon Lane, Box 186
Moylan, PA 19065

Angus R. Love, Esq.
Montgomery County Legal Aid
107 East Main Street
Norristown, PA 19401

Charles W. Elliott, Esq.
Brose & Poswistilo
1101 Building
11th & Northampton Streets
Easton, PA 18042

David Wersan
Consumer Advocate
Office of Attorney General
1425 Strawberry Square
Harrisburg, PA 17120

Jay Gutierrez
Regional Counsel
USNRC, Region I
631 Park Avenue
King of Prussia, PA 19406

Steven P. Hershey, Esq.
Community Legal Services, Inc.
5219 Chestnut Street
Philadelphia, PA 19139

Zori G. Ferkin
Governor's Energy Council
P.O. Box 8010
1625 N. Front Street
Harrisburg, PA 17105

Spence W. Perry, Esq.
Associate General Counsel
Federal Emergency Management Agency
Room 840
500 C Street, S.W.
Washington, D.C. 20472

Robert J. Sugarman, Esq.
Sugarman, Denworth & Hellegers
16th Floor Center Plaza
101 North Broad Street
Philadelphia, PA 19107

James Wiggins
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 47
Sanatoga, PA 19464

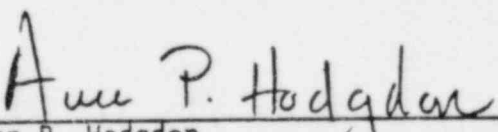
Atomic Safety and Licensing
Board Panel
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Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555*

Gregory Minor
MHB Technical Associates
1723 Hamilton Avenue
San Jose, CA 95125

Timothy R. S. Campbell, Director
Department of Emergency Services
14 East Biddle Street
West Chester, PA 19380


Ann P. Hodgdon
Counsel for NRC Staff