

# PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4502

JOHN S. KEMPER  
VICE-PRESIDENT  
ENGINEERING AND RESEARCH

March 15, 1985

Mr. Hugh L. Thompson Jr., Director  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Docket No.: 50-352

SUBJECT: Limerick Generating Station Unit 1  
Response to Generic Letter 84-24  
"Certification of Compliance to 10CFR50.49,  
Environmental Qualification of Electrical Equipment  
Important to Safety for Nuclear Power Plants,  
December 27, 1984

REFERENCE: Generic Letter 84-24

FILE: GOVT 1-1

Dear Mr. Thompson:

Generic Letter 84-24, dated December 27, 1984, requested all Licensees to provide, under oath or affirmation, a certification of compliance with 10CFR50.49 "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants". This letter provides the information requested by providing individual responses to each of the items listed in Generic Letter 84-24. This is done in the paragraphs that follow.

## Request (a)

That PECO has in place and is implementing an Environmental Qualification (EQ) Program that will satisfy the requirements of 10CFR50.49 within the currently approved schedule for the plant without further extension.

## Response (a)

PECO has established an EQ Program which satisfies the requirements of 10CFR50.49 for Limerick Unit 1 without further extension of the currently approved schedule.

## Request (b)

That the plant has at least one path to safe shutdown using fully qualified equipment, or has submitted a justification for continued safe operation (JCO) pending full qualification of any equipment not fully qualified.

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Response (b)

The shutdown cooling subsystem is an integral part of the Residual Heat Removal System (RHRS). The necessary RHR system electrical equipment is qualified, therefore, at least one path to safe shutdown using fully qualified equipment exists.

Request (c)

That all other equipment within the scope of 50.49 is either fully qualified or a JCO has been submitted pending full qualification.

Response (c)

All equipment within the scope of 10CFR50.49 has been qualified. The PECO Environmental Qualification Report submittal of 9/84 lists the equipment requiring EQ at Limerick and references the applicable EQ documentation.

Generic Letter 84-24 also requested that the certifications described in (a), (b), and (c) above should specifically address all IE Bulletin and Information Notices (IN) that identify EQ problems, to the extent that such Bulletins and Information Notices are considered applicable to these certifications:

1. IE Bulletin 82-04 - Deficiencies in Bunker Ramo Primary Containment Electrical Penetration Assemblies:

Response (IEB82-04)

Bunker Ramo Primary Containment Electrical Penetration Assemblies are not used at Limerick Unit 1, therefore, IE Bulletin 82-04 is not applicable.

2. IE Information Notice 82-11 - Potential Inaccuracies in Wide Range Pressure Instruments used in Westinghouse Designed Plants:

Response (IEIN 82-11)

Limerick Unit 1 is a GE BWR, therefore, IN 82-11 is not applicable.

3. IE Information Notice 82-52 - Equipment Environmental Qualification Testing Experience: Updating of Test Summaries Previously Published in 81-29. The following several responses are provided:

Response (EEQN-1)

Equipment Environmental Qualification Notice-1 (EEQN-1) on Limitorque Valve Operators: Limitorque Qualification Reports satisfy the specified environmental parameters for Limerick Unit 1.

Response (EEQN-2)

EEQN-2 on ITT Barton Transmitters: Class 1E Barton transmitters installed in Class 1E applications in Limerick are located in secondary containment only, not primary containment, and are qualified by Barton Report R3-580A-9.

Response (EEQN-3)

EEQN-3 on D. G. O'Brien Electrical Penetrations: D. G. O'Brien electrical penetrations are not installed in Limerick Unit 1, therefore EEQN-3 is not applicable.

Response (EEQN-4,5,6)

EEQN-4,5 & 6 on Dresser Safety Valves: Dresser Safety Valves are not installed in Limerick Unit 1, therefore, EEQN-4,5 & 6 are not applicable.

Response (EEQN-7)

EEQN-7 on Target Rock power-operated relief valves (PORV) model 80X-006-1: Target Rock PORV's model 80X-006-1 are not installed in Limerick Unit 1, therefore, EEQN-7 is not applicable.

Response (EEQN-8)

EEQN-8 on Control Component Incorporated (CCI) Power Operated Relief Valves (PORV's): CCI PORV's are not installed in Limerick Unit 1, therefore, EEQN-8 is not applicable.

Response (EEQN-9)

EEQN-9 on Crosby Safety Valve 3K6: Crosby safety valves 3K6 are not installed in Limerick Unit 1, therefore, EEQN-9 is not applicable.

Response (EEQN-10)

EEQN-10 on ASCO SV-NP-1 Series failure at 20 megarads of radiation exposure: Limerick ASCO SV's are NP-8300 series and are not exposed to radiation levels greater than 0.1 megarads.

Response (EEQN-11)

EEQN-11 (IN 82-03) Terminal Blocks: This concern is addressed in IN 84-47 and 84-78.

Response (EEQN-11) cont.

EEQN-11 - Potential Inaccuracies in Wide Range Pressure Instruments, Westinghouse Designed Plant: Limerick Unit 1 is a GE BWR, therefore, IE IN 82-11 is not applicable.

4. IE Information Notice 83-45 - Environmental Qualification Testing of GE-CR-2940 Position Selector Control Switch.

Response (IE IN 83-45)

PECo does not have GE-CR-2940 Position Selector Control Switches installed in harsh environment locations in Limerick Unit 1, therefore, IE IN 82-11 is not applicable.

5. IE Information Notice 83-72 - Equipment Environmental Qualification Test Experience. The following several responses are provided:

Response (EEQN-12)

EEQN-12 on IN 83-40 Need to Environmentally Qualify Epoxy Grouts and Sealers: Epoxy Grouts are not used at Limerick for anchors or seals therefore, IN83-46 is not applicable.

Response (EEQN-12) cont.

EEQN-12 on IN 83-45 Environmental Qualification Testing of GE CR-2940 Position Selector Control Switch: See Item 4 above.

Response (EEQN-13)

EEQN-13 on Anaconda flexible conduit: Any flexible conduit installed in primary containment at Limerick, or Class 1E MOV's, AO's and RV's is not installed as a pressure sealing device. PECO evaluated all devices connected with flexible conduit and where required, an environmentally qualified pressure seal was installed at the device.

Response (EEQN-14)

EEQN-14 on ITT Barton pressure transducer, model D4R-29098: These transducers have been replaced with qualified Rosemount transmitters at Limerick, Unit 1.

Response (EEQN-15)

EEQN-15 on Microswitch, DPST toggle switch, model 12TSI-2: These switches were removed at Limerick, Unit 1.

Response (EEQN-16)

EEQN-16 on Square D disconnect switch, model 9422-RC-1: These switches were removed at Limerick, Unit 1.

Response (EEQN-17)

EEQN-17 on Timetrol SCR controller, model 2053C-125K: These controllers were replaced with a Halmar SCR, qualification by Rockwell, at Limerick, Unit 1.

Response (EEQN-18)

EEQN-18 on ATC time delay relay, model 319B006QIC: These relays were removed from Limerick, Unit 1.

Response (EFQN-19)

EEQN-19 on ITE Gould circuit breaker, model EF3-B015: Limerick had HE3-B015 breakers, they were removed from Limerick, Unit 1.

Response (EEQN-20)

EEQN-20 on ITT Barton Electronic Transmitter: No Barton Electronic Transmitters, Model 763 are installed at Limerick Unit 1, therefore, EEQN-20 is not applicable.

Response (EEQN-21)

EEQN-21 on Barksdale pressure switches Model B2T and D2H: Barksdale pressure switches models B2T and D2H are not installed at Limerick Unit 1, therefore, EEQN-22 is not applicable.

Response (EEQN-22)

EEQN-22 on Static-O-Ring pressure switches model 5N & 12N: Static-O-Ring pressure switches models 5N & 12N are not installed at Limerick Unit 1, therefore, EEQN-22 is not applicable.

Response (EEQN-23)

EEQN-23 on ITT Barton electronic transmitter: The failure mode reported in EEQN-23 occurred at 320°F; the maximum temperature the Barton Transmitter (Model 580A-2) will be exposed to at Limerick is 120°F, therefore, EEQN-23 is not applicable.

Response (EEQN-24)

EEQN-24 on Limitorque Valve Operators: Limitorque Valve Operators have been inspected at Limerick Unit 1 for proper qualified components and are inspected periodically. Terminal blocks are not used in the Limitorque operators at Limerick Unit 1.

6. IE Information Notice 84-23 - Results of the NRC Sponsored Qualification Methodology research Test on ASCO Solenoid Valves:

Response (IE IN 84-23)

The SV's at Limerick are rebuilt on a routine schedule. Also ASCO SV's are not installed in primary containment, therefore, they would not be exposed to the extreme environmental conditions as in the FRC EQ test.

7. IE Information Notice 84-44 - Environmental Qualification Testing of Rockbestos Cables:

Response (IE IN 84-44)

PECo has two representatives on the industry advisory committee to assist in the Rockbestos supplemental qualification test program for Class IE electrical cable. Also, Bechtel on behalf of PECO and several other utilities has prepared a test report on Rockbestos cable which addresses each of the NRC findings.

8. IE Information Notice 84-47 - Environmental Qualification Tests of Electrical Terminal Blocks:

Response (IE IN 84-47)

Terminal Blocks are not used in instrumentation circuits in primary containment. Terminal blocks used in secondary containment which are associated with instrumentation will not be exposed to the extreme harsh environmental conditions as described in IN 84-47.

9. IE Information Notice 84-57 - Operating Experience Related to Moisture Intrusion in Safety-Related Electrical Equipment at Commercial Power Plants:

Response (IE IN 84-57)

Equipment installed at Limerick has moisture seals installed if the qualification test requires that seals be installed. Termination boxes and junction boxes have drain holes to eliminate accumulation of water. Maintenance requirements require that equipment gaskets be replaced with new gaskets whenever disturbed or replacement intervals are defined.

10. IE Information Notice 84-68 - Potential Deficiency in Improperly Rated Wiring to Solenoid Valves:

Response (IE IN 84-68)

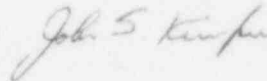
PECo has recently installed Valcor SV with high temperature field installed wiring and heat shrink on splicing, where the possible maximum temperature inside the valve body may exceed the rating of the insulation.

11. IE Information Notice 84-78 - Underrated Terminal Blocks That May Adversely Affect Operation of Essential Electrical Equipment:

Response (IE IN 84-78)

Beau Products 76000 series Terminal Blocks are not installed in Limitorque Valve Operators at Limerick. Electrical Connections in Limitorque Valve Operators are made directly to the torque switch and limit switch and the motor leads are spliced to the source leads.

Sincerely,



DFC/dg/03078504

Copy to: A. Schwencer, Chief  
Division of Licensing - USNRC  
(See Attached Service List)

COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF PHILADELPHIA :

J. S. Kemper begin first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company; that he has read the foregoing response to Generic Letter 84-24 and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

John S. Kemper

Subscribed and sworn to  
before me this 15<sup>th</sup> day  
of March, 1985

Patricia D. Scholl

Notary Public

PATRICIA D. SCHOLL

Notary Public, Philadelphia, Philadelphia Co.

My Commission Expires February 10, 1986



cc: Judge Helen F. Hoyt  
Judge Jerry Harbour  
Judge Richard F. Cole  
Troy B. Conner, Jr., Esq.  
Ann P. Hodgdon, Esq.  
Mr. Frank R. Romano  
Mr. Robert L. Anthony  
Ms. Phyllis Zitzer  
Charles W. Elliot, Esq.  
Zori G. Ferkin, Esq.  
Mr. Thomas Gerusky  
Director, Penna. Emergency Management Agency  
Angus R. Love, Esq.  
David Wersan, Esq.  
Robert J. Sugarman, Esq.  
Martha W. Bush, Esq.  
Spence W. Perry, Esq.  
Jay M. Gutierrez, Esq.  
Atomic Safety & Licensing Appeal Board  
Atomic Safety & Licensing Board Panel  
Docket & Service Section  
Mr. James Wiggins  
Mr. Timothy R. S. Campbell