May 18, 1994

Docket Nos. 50-373
and 50-374

Mr. D. L. Farrar
Manager, Nuclear Regulatory Services
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Dear Mr. Farrar:

SUBJECT: REVIEW OF COMMONWEALTH EDISON PROPOSED FIRE BARRIER TESTING PROGRAM (TAC NOS. M85563 AND M85564)

In your April 6, 1994 submittal, you stated that Commonwealth Edison Company (CECo) intends to conduct a plant specific fire test to qualify a 1-hour upgrade for existing Thermo-Lag fire barriers installed in the emergency diesel generator corridor at the LaSalle County Station, Units 1 and 2. In this submittal, you included a test plan developed by Transco Products, Inc. In order to determine the acceptability of this test plan, additional information is required from you. Our request for additional information is enclosed. Please respond within thirty days of receipt of this letter.

Sincerely,

Original signed by
Anthony T. Gody, Jr., Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Enclosures:
Request for Additional Information

cc w/enclosures:
See next page

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NAME	CHAWES CHW	AGODY AT	JDYER DJR			
DATE	5/18/94	5/18/94	5/18/94	/ /94	/ /94	/ /94
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

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REVIEW OF PROPOSED FIRE BARRIER TESTING PROGRAM
LASALLE COUNTY NUCLEAR POWER STATION UNITS 1 AND 2
COMMONWEALTH EDISON COMPANY
DOCKET NOS. 50-373 AND 50-374
REQUEST FOR ADDITIONAL INFORMATION

1. It is our understanding that the fire test specimens and the subsequent fire testing will be performed at the Faverdale Technology Center/Laboratories in Dalington, United Kingdom. In addition, it is our understanding that this facility is associated with Darchem Engineering, the manufacturer of the Darmatt KM1 fire barrier material that is being tested. From this submittal, you indicated that Faverdale will perform the Quality Control inspection of the raceway fabrication and of the installation the fire barrier material, conduct and witness the test, and write the final report. Since, these tests are not truly independent, please provide a detailed description on how you plan to independently verify the construction, installation and testing activities associated with the test specimen.

2. It is our understanding that you intend to use Darchem personnel to install the fire barrier material. Describe how the upgrade will be installed in the plant with regard to the training and qualification of installers, development of installation procedures, quality control inspections of the installation process, and procedures for assuring configuration control after the completion of the in-plant installations.

3. Test Procedure No. TR-213, Section 1.0, Item 2, "Fire barrier envelope use a ceiling and wall as part of the envelope," and Item 4, "Four-Sided cable tray barrier envelope," indicate that the in-plant configuration consists of two trays that run together, one over the top of another, that will be enclosed within the same fire barrier enclosure. However, the test procedure indicates that only one 4"x 30" tray will be tested to qualify this condition. This is not consistent with the guidance provided in Supplement 1 to Generic Letter (GL) 86-10 which indicates that the test specimen should be representative of the construction for which the fire rating is desired as to materials, workmanship, and details such as dimensions of parts and should be built under representative conditions. The supplement also indicates that the cable tray or raceway design should be representative of in plant conditions (e.g., mass associated with cable trays and conduits). In addition, the GL guidance indicates that the test program should encompass or bound raceway sizes and the various configurations for those fire barriers installed (or going to installed) in the plant. In qualifying the fire resistive capabilities of a fire barrier system it has been noted that fire barriers designs have two basic failure mechanisms. The first mechanism is that they fail thermally on small dimensional raceway configurations and the second is that they fail structurally on large dimensional raceway configurations. The staff finds that your proposed program does not bound field conditions. In order to further evaluate the acceptability of this proposed testing program, please justify how

the proposed test specimen configuration (single cable tray fire barrier enclosure) bounds the double cable tray enclosure installed in the plant.

4. Test Plan No. TR-213, Section 3.0, Item 1, "Cable Trays" and Item 3, "Junction box", indicates that if the trays are not supplied by the LaSalle Station as a plant specific item, then the trays and junction box will be constructed by Darchem. The supplement to GL 86-10 recommends that the cable tray or raceway design should be representative of in plant conditions (e.g., mass per linear foot associated with cable trays and conduits). We are concerned that the manufactured cable tray and junction box may not be representative of the in plant condition. We recognize that these tests are being conducted without cables and that in itself reduces the thermal mass of the raceway being protected by the fire barrier. Please confirm that the mass (weight per linear foot) of the raceway component (e.g., conduits, cable trays) used in the test specimen is equivalent to those components installed in the plant.

5. Test Plan No. TR-213, Section 4.0, "Fire Barrier Installation", indicates that the materials for the test will be purchased, received, and installed in accordance with the latest approved revision of Transco Products Quality assurance program. Please describe how this process will be independently monitored or sampled (e.g., plans to conduct independent commercial grade dedication sample inspections).

6. Test Plan No. TR-213, Section 5.0, "Thermocouples", indicates that at a minimum, temperatures shall be documented at five minute intervals for the first two hours of the test. It is our understanding that the proposed test will be conducted for 1-hour. Please clarify the frequency at which the test temperatures will be recorded during this 1-hour test.

7. The test plan does not address ampacity derating. In order to get an understanding on how this fire barrier technical issue will be addressed, please describe the program for determining the ampacity derating for the proposed fire barrier upgrade. This program description should specifically address how the licensee intends to determine the derating for the "as-built" composite fire barrier (Thermo-Lag with Darmatt KM1 upgrade) plant applications.