



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

July 23, 1992

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Braidwood Station Units 1 and 2
NRC Docket Numbers 50-456/457

Byron Station Units 1 and 2
NRC Docket Numbers 50-454/455

LaSalle Station Units 1 and 2
NRC Docket Numbers 50-373/374

Zion Station Units 1 and 2
NRC Docket Numbers 50-295/304

Dresden Station Units 2 and 3
NRC Docket Numbers 50-237/249

Quad Cities Station Units 1 and 2
NRC Docket Numbers 50-254/265

Reference: NRC Bulletin 92-01: Failure of Thermo-Lag 330 Fire
Barrier Systems to Maintain Cabling in Wide Cable
Trays and Small Conduits Free from Fire Damage

NRC Bulletin 92-01 was issued to notify licensees of failures in fire endurance testing associated with the Thermo-Lag 330 fire barrier systems installed to protect safe shutdown capability. The bulletin requested licensees to take NRC recommended actions and provide a written response describing those actions. The purpose of this letter is to provide the written response to the referenced bulletin.

Commonwealth Edison (CECo) installed the Thermo-Lag 330 fire barrier material in the Braidwood, Byron, LaSalle and Zion Nuclear Power Stations. In accordance with the bulletin, CECO has identified plant areas which have the Thermo-Lag material installed for protecting either small diameter conduit (less than or equal to 4 inches) or wide trays (widths or depths greater than 14 inches) that provide safe shutdown capability. These areas are identified in Attachment 1.

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CECo has not declared any impacted fire wrap systems inoperable. We have implemented the appropriate compensatory measures for inoperable fire wrap systems consistent with the station technical specifications or administrative technical requirements at Braidwood, Byron and LaSalle Stations. At Zion Station, appropriate compensatory measures for the accessible impacted fire zones have been implemented and are consistent with Technical Specifications for penetration fire barriers. The compensatory measures for inaccessible penetration fire barriers have been implemented and are described in detail in Attachment 1.

To the best of my knowledge and belief, the statements in the Attachments contained herein are true and correct. These statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison employees and consultants. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Please direct any questions that you may have to this office.

Respectfully,



Marcia A. Jackson
Nuclear Licensing Administrator
Generic Issues

cc: A. Bert Davis, Regional Administrator - RIII
R. Barrett, Project Directorate III
J. Hickman, PM - NRR
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**ATTACHMENT 1
COMMONWEALTH EDISON RESPONSE TO
NRC Bulletin No. 92-01, "Failure of Thermo-Lag 330
Fire Barrier System to Maintain Cabling in Wide
Cable Trays and Small Conduits Free of Fire Damage"**

Commonwealth Edison provides the following as required by the NRC in Bulletin No. 92-01, dated June 24, 1992.

Facilities Using Thermo-Lag 330 Fire Barrier Systems

Commonwealth Edison has used Thermo-Lag 330 fire barrier systems to separate redundant safe shutdown system trains at Braidwood, Byron, LaSalle, and Zion Stations.

Thermo-Lag has not been used at Dresden and Quad Cities stations. This determination was based on discussions with the manufacturer of Thermo-Lag (TSI), a review of applicable design documents and physical inspections of the plant.

Station Areas Containing Thermo-Lag 330 Fire Barrier Systems

The following tabulations identify the fire areas/zones at each station where Thermo-Lag was used to protect cable trays with any dimension (width or depth) exceeding 14 inches, and conduit with a diameter equal to or less than 4 inches.

Braidwood

<u>Fire Zone</u>	<u>Article Protected</u>	<u>Location</u>
3.1-1	Conduit	Unit 1 Cable Tunnel
3.2A-1	Conduit	Unit 1 Non-Segregated Bus Duct Area
5.4-1	Cable Tray	Div. 12 Miscl. Elect. Eqt. Room
11.3-0	Cable Tray	Auxiliary Building
11.3-1	Cable Tray and Conduit	Unit 1 Containment Pipe Pen. Area
11.4-0	Cable Tray and Conduit	Auxiliary Building
11.5-0	Cable Tray and Conduit	Auxiliary Building
11.6-0	Cable Tray	Auxiliary Building

Byron

<u>Fire Zone</u>	<u>Article Protected</u>	<u>Location</u>
3.1-2	Conduit	Unit 2 Cable Tunnel
3.2A-1	Conduit	Unit 1 Non-Segregated Bus Duct Area
3.2A-2	Cable Tray and Conduit	Unit 2 Non-Segregated Bus Duct Area
11.2-0	Cable Tray	Auxiliary Building
11.3-0	Cable Tray and Conduit	Auxiliary Building
11.3-1	Cable Tray and Conduit	Unit 1 Containment Pipe Pen. Area
11.3-2	Cable Tray and Conduit	Unit 2 Containment Pipe Pen. Area
11.4-0	Cable Tray and Conduit	Auxiliary Building
11.5-0	Cable Tray and Conduit	Auxiliary Building
11.5A-1	Cable Tray	Div. 11 Cable Penetration Area
11.6-0	Cable Tray and Conduit	Auxiliary Building
11.6-1	Conduit	Div. 12 Electrical Penetration Area

LaSalle

<u>Fire Zone</u>	<u>Article Protected</u>	<u>Location</u>
5C11	Cable Tray	Unit 1 D.G. Corridor
5C11	Cable Tray	Unit 2 D.G. Corridor

Zion

<u>Fire Zone</u>	<u>Article Protected</u>	<u>Location</u>
1.2-1	Conduit	Unit 1 Containment
1.2-2	Conduit	Unit 2 Containment
11.3-0	Conduit	Auxiliary Building
11.4-0	Conduit	Auxiliary Building
11.5-0	Conduit	Auxiliary Building

Compensatory Measures

After identification of the Thermo-Lag Systems above, each station considered the Thermo-Lag systems degraded.

Braidwood, Byron and LaSalle

Braidwood, Byron and LaSalle stations have compensatory measures for inoperable fire wrap systems in their technical specifications or administrative technical requirements, as applicable. They have established compensatory measures for the degraded Thermo-Lag systems consistent with those required if the systems were declared inoperable.

Zion

Zion station does not have compensatory measures for inoperable fire wrap systems. However, compensatory measures exist for inoperable penetration fire barriers. For all impacted fire zones except those within containment, a one hour fire watch patrol has been established. This is consistent with the compensatory measures for inoperable penetration fire barriers.

Within containment areas, the impacted fire wrapped conduit contains safe shutdown cables for the pressurizer level instruments. The containment is normally considered inaccessible during power operations due to high radiation/ALARA concerns with the exception of a daily walkdown. The impacted fire zone within containment contain no automatic fire suppression or detection. However, manual fire suppression equipment is available in the zones and access routes are available for fire brigade personnel. The fire severity in these zones due to fixed combustibles is less than one hour. Transient combustibles are non-existent during power operations and are administratively controlled when the containment is open. Most of the fixed combustible material is cable insulation that meets the IEEE 383 criteria for cable fire tests. In addition, there are no significant quantities of easily ignitable combustible material in the zones in question. Therefore, it is not likely a damaging fire would occur in these zones.

As a compensatory measure for these zones, the station is monitoring the ambient temperature inside the containment on an hourly basis utilizing existing temperature sensors mounted inside the ducts of the reactor cavity vent fans and the reactor containment fan coolers. This measure is acceptable based on the location of the fire wrapped conduits, the low level combustibles in the zones, lack of significant ignition sources, availability of manual fire suppression equipment, the existence of a well trained fire brigade, and the daily walkdowns of the zones.

Restoration of Fire Barrier Operability

As previously stated, Commonwealth Edison considers the affected Thermo-Lag barriers degraded. It is our intention to continue with the evaluation of the Thermo-Lag barriers that began after issuance of I.E. Notice 91-47 to ensure their effectiveness. The evaluation will be conducted concurrently with NUMARC's planned activities. This will enable Commonwealth Edison to benefit from the results of NUMARC's activities and provide information to NUMARC as needed.