

STATE OF ILLINOIS)
) SS.
COOK COUNTY)

AFFIDAVIT OF MELVIN S. ABRAMS

MELVIN S. ABRAMS, being first duly sworn according to law comes forward and states:

1. My name is Melvin S. Abrams. I am employed as Director, Fire Research Department, Portland Cement Association at the Construction Technology Laboratories located in Skokie, Illinois.

2. I received a Bachelor of Science Degree in Mathematics from Illinois Institute of Technology in 1955. In 1958 I took graduate courses in the field of mechanics. From 1949 to the present time, I have been employed by the Portland Cement Association. For the past 20 years, I have been a member of the Fire Research Section and have managed the section since 1970. In this position I have carried out a number of fire test research programs. During the past 10 years, an important part of my work has been the inspection, evaluation and recommendations for repair of numerous fire damaged structures, including nuclear facilities. I am a member of the American Society of Testing and Materials, the American Concrete Institute and the National Fire Protection Association and am a member of several committees in these

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organizations dealing with fire test methods, fire resistance and fire protection.

3. In my position as Director of the Fire Research Department, I directed and witnessed the fire protective cable tray fire test to evaluate the performance of thermal insulation material as a fire shield to protect electrical continuity of cables which was sponsored in part by The Cincinnati Gas & Electric Company, Dayton Power and Light Company and Columbus and Southern Ohio Electric Company. I prepared the resulting "Fire Protective Cable Tray Fire Test Report" ("CTL Report") dated June 1979. The materials utilized, the test equipment, the installation of the specimens in the furnace, the conduct of the test, the test results, including observations during and after the test, are completely described in the Report. This Report is true and correct to the best of my knowledge, information and belief, and I incorporate it into this affidavit by reference.

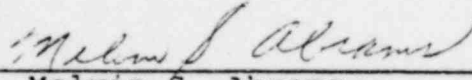
4. In summary, the following are my conclusions applicable to the present contention regarding the cable trays insulated with three one-inch layers of Kaowool which were subjected to a fire exposure corresponding to ASTM designation E119-79:

1. Wrapping cable trays with three 1-in. layers of Kaowool blanket thermal insulation protected the circuit continuity

of cables in the trays for 94 min. No short circuits were indicated on the light panel or by meggering before that time.

2. No short circuits occurred at a cable jacket temperature of 200C (392F), which is considered as the maximum continuous service temperature for maintaining continuity of this type of cable jacketing.
3. Cable Tray 1 was removed from the furnace 30 min. after the end of the test. At this time, temperatures of the cables had increased about 50F over those at end of test. Cables were inspected visually, and it was determined that no damage occurred to cable jacketing material.
4. Tray 4 was removed from the furnace about 3 1/2 hr. after the test was terminated. Temperatures of the cables continued to rise from 100 to 200F for about 1 1/2 hr. after the test was terminated. When the tray was removed, some cable temperatures were still about

the same as those at end of test. A visual inspection of cables indicated that there was some softening of jacket material. However, one such cable was meggered and found to have circuit continuity.



Melvin S. Abrams

Sworn and subscribed to before me this

_____ day of _____ 1979.

Notary Public

My Commission expires _____.

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