TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

May 22, 1981

Director of Nuclear Reactor Regulation
Attention: Mr. R. L. Tedesco, Assistant Director
of Licensing
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Tedesco:

In the Matter of the)
Tennessee Valley Authority)

Docket Nos. 50-259
50-260
50-296
STN 50-518
STN 50-519
STN 50-520
STN 50-521
STN 50-553
STN 50-554

In your letter to H. G. Parris dated November 4, 1980, TVA was requested to provide information regarding the flammability of suspended ceiling tile in the control rooms at TVA nuclear plants. Interim reports for our Browns Ferry Nuclear were submitted on January 14, and February 20, 1981. As a result of our evaluations for the Sequoyah Nuclear Plant we have decided to replace the existing panels at our Browns Ferry Nuclear Plant.

Enclosure 1 provides specific information on the replacement panels, which are the same panels recently approved by the NRC for use at our Sequoyah Nuclear Plant. Upon receipt of the material, installation of the ceiling lighting panels will begin in the control room except in the area directly overhead of the control panels. The remaining tiles will be replaced during the next scheduled outages identified below, or during a forced outage of sufficient during to complete installation:

Unit 1 - May 1983
Unit 2 - July 1982
Unit 3 - January 1982

8105270236

Mr. R. L. Tedesco May 22, 1981

For our Hartsville and Phipps Bend Nuclear Plants an interim report was submitted on January 14, 1981. The suspended ceiling in the main control room at Hartsville and Phipps Bend is an integrated ceiling system composed of acoustical panels and recessed lighting fixtures with tempered glass lens. All components utilized in the ceiling system meet Class A requirements for materials with regard to flame spread, smoke developed, and fuel contributed of less than 25 in accordance with ASTM E84, NFPA 255, and UL 723.

We understand that the above information for our Hartsville and Phipps Bend Nuclear Plants, as well as our stated planned actions for our Browns Ferry Nuclear Plant, is fully adequate and therefore this constitutes our final response to the November 4, 1980 letter.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Subscribed and sworn to before
me this 22nd day of May 1981.

Paulette N. White
Notary Public

My Commission Expires 9-5-84

Enclosure

ENCLOSURE 1

REPLACEMENT CEILING MATERIAL

The proposed replacement lighting panels for the Browns Ferry Nuclear Plant control room consist of an aluminum parabolic louver (grid) topped by a vinyl dust cover. These will be sandwiched together and secured to the existing skeletal grid system. The total weight of the replacement panels is approximately one pound per square foot.

The support grid would be Paralume 1 aluminum parabolic louver with semispecular finish, Norton NLB-D-3 (see attached information on proposed supplier - Norton Industries, Inc.) with .015-inch thick high impact vinyl dust cover No. NV24-D, high transparency with NEDE Class "A" rating for interior finish material.

See the attached UL card and test report for additional flammability information Type B15 material.

Underwriters' Laboratories, Inc.
For Service Not for Profit
National Board of Fire Underwriters

Report dated 1-21-8
Application No. [illegible]

January 4, 1957

REPORT

on

FIRE HAZARD CLASSIFICATION OF PLASTIC

Piolite Illuminated Ceiling Div.
Pioneer Plastics Corp.
Salem, Mass.

D E S C R I P T I O N

MATERIAL COVERED BY THIS REPORT:

Types C and D plastic panels. Type C is a single sheet panel; Type D is formed of two single sheet panels nested together to form a double sheet panel assembly.

USE:

The material is intended for use as a building material as permitted by authorities having jurisdiction.

Type C is a B-15 SINGLE SHEET

Type D is a B-15 DOUBLE SHEET

Guide No. 40 U8.16.13. July 31, 1967 R3818A.
Molded Plastic.

Piolite Plastics Co., Gloucester, Mass. 01930

Molded plastic in the form of flat and corrugated sheets (Types B7, N7) and formed translucent panels (Types B15, B20, G45, N20, S30).

Fire Hazard Classification

	Type B7*	Type N7*
Flame spread	10	15
Fuel contributed	Not determinable	Not determinable
Smoke developed	125	145

DIFFUSER or opaque panel

	Type B15		Type B20	
	Single Sheet*	Double Sheet*	Single Sheet*	Double Sheet*
Flame spread	15	25	25-30	35-45
Fuel contributed	Not determinable		Not determinable	
Smoke developed	101-200		180	300-400

	Type N20	Type S30	Type G45
Flame spread	35-65	25-55	50
Fuel contributed	Not determinable	Not determinable	Not determinable
Smoke developed	200-400	300-Over 500	Over 600

This card replaces R3818A dated Nov. 9, 1966.

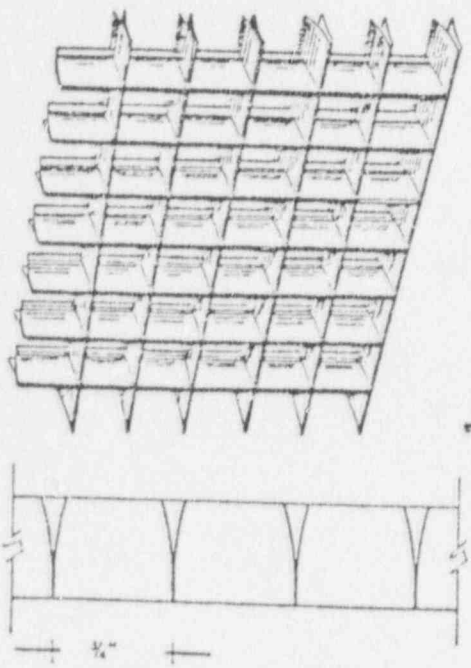
(Continued on B card.)

This card is issued by Underwriters' Laboratories, Inc.

U.L. CARD FOR VINYL DUST COVER.

PARALUME I

NLB-D 3/4" ALUMINUM PARABOLIC



ALUMINUM PARABOLIC LOUVER DESIGN, EXCELLENT FIRE RATING, WILL NOT BURN. COMFORTABLE, LOW-BRIGHTNESS, EFFICIENT PARABOLIC LOUVER. FINISHED IN LOW-BRIGHTNESS SEMI-SPECULAR SILVER, OR HANDSOME BAKED ENAMEL BRONZE, GOLD, BLACK, SATIN ALUMINUM, WHITE OR TO YOUR SPECIFICATIONS.

CATALOG NUMBER	CELL SIZE	MODULE	FINISH
NLB-D-3	3/4" x 3/4" x 5/8"	2'x4' ~~2'x2'~~	SEMI-SPECULAR SILVER
NLB-D-4			BAKED ENAMEL

E X A M I N A T I O N A N D T E S T R E C O R D

EXAMINATION OF MATERIAL:

The material used in this investigation was produced under the observation of a staff member of Underwriters' Laboratories, Inc.

FIRE HAZARD CLASSIFICATION TESTS:

METHOD

Equipment and method were as described in Underwriters' Laboratories, Inc.'s Standard Test Method for Fire Hazard Classification of Building Materials (ASTM E84-50T, NFPA No. 255) except for the following: The panels were trimmed to 20 in. wide. The furnace top was inverted and the panels placed in position to form a sample 20 in. wide, 25 ft long. 2 in. hex poultry netting was stretched tightly over the sample and held firmly at the edges of the angle. The top was inverted and placed in position on the furnace, the sample being held in position by the netting.

RESULTS

Data on flame spread, fuel contributed and smoke developed appears in the following tabulations:

Flame Spread

The maximum distance the flame spreads along the length of the sample from the end of the igniting flame is determined by observation. The flame spread factor is derived by expressing the flame spread for this material as a percentage of the flame spread for untreated red oak, as follows:

Test	Maximum Flame Spread (ft)	Factor for Classification
Untreated red oak	19-1/2	100
Asbestos cement board	0	0
1 (Type C)	[illegible]	[illegible]
2 (Type [illegible])	[illegible]	[illegible]
3 (Type [illegible])	[illegible]	[illegible]
4 (Type [illegible])	[illegible]	[illegible]

Contribution of Fuel

The relative amount of fuel contributed could not be determined due to the inherent characteristics of the product. The thermocouples had to be located out of their standard position and the recorded temperatures could not be compared with those obtained for red oak.

Smoke Developed

The smoke developed during the test is indicated by the output of a photoelectric circuit operating across the furnace flue pipe. A curve is developed by plotting values of light absorption (decrease in cell output) against time. The smoke developed factor is derived by expressing the net area under the curve for this material as a percentage of the net area under the curve for untreated red oak, as follows:

Test	Net Area Under Curve	Factor for Classification
Untreated red oak	1630	100
Asbestos cement board	0	0
1 (Type C)	3240	198.6
2 (Type C)	3200	196.3
3 (Type D)	5470	335.5
4 (Type D)	3730	228.5

ANALYSIS OF GASEOUS PRODUCTS OF COMBUSTION:

Tests were not considered necessary on this product because of similarity to previously investigated products.

EFFECT ON THE OPERATION OF AUTOMATIC SPRINKLERS:

No tests were conducted because of similarity to previously investigated products.

C O N C L U S I O N S

FIRE HAZARD CLASSIFICATION:

The following Fire Hazard Classification is established for this material in comparison with untreated red oak as 100:

	Type C	Type D
Flame spread	15	30
Fuel contributed	Not determined	Not determined
Smoke developed	101-200	Over 200

TOXICITY OF GASEOUS PRODUCTS OF COMBUSTION:

Analysis of gaseous products evolved during combustion of products of similar composition indicates that the toxic hazard would be no greater than that presented by the buring of untreated lumber under similar conditions. Under fire conditions, the life hazard will depend upon the quantities of material involved and upon the degree of confinement, if any, of the fumes.

EFFECT ON OPERATION OF AUTOMATIC SPRINKLERS:

A suspended ceiling of Type C (single sheet) or of Type D (double sheet nested assembly) panels having no dimension less than 23-5/8 in. may, under the following conditions, be installed under automatic sprinklers without materially affecting their operation or distribution in such occupancies and area extent as determined by authorities having jurisdiction: The panels are to be supported by but not fastened to metal 'T' members not exceeding 1/2 in. width per edge of plastic. One hold-down member not more than 5/16 in. wide by 4 in. long providing at least 1/16 in. clearance to the panel flange may be used at each of two opposite edges of each panel.

SUPERVISION OF PRODUCT BY UNDERWRITERS' LABORATORIES, INC.:

The product covered by this report will be placed under the Label Service of Underwriters' Laboratories, Inc.

The Label of Underwriters' Laboratories, Inc. attached to the product will be evidence that such product has been produced under the Factory Inspection and Label Service Program. Such label will bear the Fire Hazard Classification given above.

Tests by:
R. D. Barton
R. Galman
A. Hildebrants

Report by:

(Signed)

R. D. BARTON
Executive Engineer

RDB:CFM