

**BOSTON EDISON**

Executive Offices  
800 Boylston Street  
Boston, Massachusetts 02199

**Ralph G. Bird**

Senior Vice President — Nuclear

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BECO 87-124

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

License DPR-35  
Docket 50-293

Results of Flame and Smoke Tests  
on Pilgrim Station Control Room Carpeting

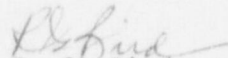
References: 1) NRC letter dated May 30, 1986 (from John A. Zwolinski to William D. Harrington)

Dear Sir:

In Reference (1), NRC approved a Boston Edison request to install carpet in the Pilgrim Station control room, subject to three conditions relating to fire protection:

- 1) That the carpet would meet the Class I critical radiant flux (CRF) rating for floor coverings of 0.45 watts per square cm or higher,
- 2) That the carpet would have a smoke development rating of 450 or less, and
- 3) That Boston Edison would inform the NRC of the actual CRF and smoke ratings when the information was available.

Boston Edison has completed the purchase, testing and installation of the subject control room carpet. Enclosed for your information is a summary of the test results and copies of the full test reports. As shown by the enclosures, the selected carpet fully complies with the fire protection commitments for control room carpets, as documented in Reference (1).

  
R. G. Bird

TAV/lmr

Enclosure: (1) Summary of Carpet Tests

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BOSTON EDISON COMPANY

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cc: R. H. Wessman, Project Manager  
Division of Reactor Project I/II  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Bethesda, MD 20814

U.S. Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, PA 19406

Senior NRC Resident Inspector  
Pilgrim Nuclear Power Station

## Enclosure (1)

### SUMMARY OF CARPET TESTS

#### I. Installation

- A. Location: Control Room Complex, Pilgrim Station
- B. Product: Lees (Burlington) "Corporate Centre" carpet, in 24" x 24" tile form; tufted cut pile with "Thermobond HB" backing.

Carpet purchased in two colors:

1. Color #354 (flax shade), which was installed over two types of flooring in different areas:
  - a) Vinyl tile
  - b) Aluminum raised floor
2. Color #363 (copper brown), which was installed over vinyl tile, only.

Test samples were taken from the same color lot as the carpet to be installed.

#### II. Test Results

##### A. Smoke Tests (per ASTM E-662)

1. Each color lot was tested.
2. Boston Edison commitment to NRC: smoke development rating of 450 or less.
3. Summary of results: Max. Specific Optical Density, Corrected  
(Average of 3 samples)

	<u>Flaming Mode</u>	<u>Non-Flaming Mode</u>
Color #354	389 (1)*	218 (2)
Color #363	364 (3)	186 (4)

\* Numbers in ( ) refer to sheet # of detailed test reports, attached.

4. Conclusion: All smoke tests are below the NRC limit of 450.

##### B. Radiant Panel Tests

1. Both colors tested over vinyl tile.
2. Color #354 also tested over aluminum raised flooring material.
3. Boston Edison commitment to NRC: minimum critical radiant flux of 0.45 watts per square centimeter.



Enclosure (1) Continued

4. Summary of results:

<u>Color #/Underlayment</u>	<u>Average CRF (watts/cm<sup>2</sup>) (3 samples)</u>
#354 over asbestos/cement board (for reference)	0.83 (5)*
#354 over vinyl tile	0.68 (6)
#354 over aluminum flooring	0.62 (7)
#363 over asbestos/cement board (for reference)	0.82 (8)
#363 over vinyl tile	0.94 (9)

\* Numbers in ( ) refer to sheet # of detailed test reports, attached.

5. Conclusion: All samples exceeded the NRC minimum requirement of 0.45 watts/cm<sup>2</sup>.

Attachment: Set of nine (9) test reports by Independent Textile Testing Service, Inc. dated March 4, 1987