

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
WASHINGTON, D.C. 20555

August 1, 1997

**NRC INFORMATION NOTICE 97-59: FIRE ENDURANCE TEST RESULTS OF  
VERSAWRAP<sup>®</sup> FIRE BARRIERS**

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to the preliminary results of a recent fire endurance test of a new fire barrier system. No specific action or written response is required.

Description of Circumstances

Transco Products, Incorporated, of Chicago, Illinois, is developing Versawrap as a stand-alone fire barrier or as a potential upgrade for such existing raceway fire barriers as Thermo-Lag 330-1 for use in nuclear power plants to meet NRC fire protection regulations. On April 7, 1997, the NRC staff met with Entergy Operations, Incorporated, the licensee for Arkansas Nuclear One, to discuss the use of Versawrap fire barriers to protect redundant post-fire safe shutdown components. Subsequently, on April 10 and 11, 1997, the NRC staff witnessed a full-scale fire endurance test of proposed 1-hour and 3-hour fire-rated Versawrap fire barriers at Underwriters Laboratories, Incorporated (UL), of Northbrook, Illinois. The tests were also witnessed by representatives of Entergy Operations, Incorporated, and Northern States Power Company.

The following summary of the test results is taken from the staff's trip report:

Assuming that the thermocouples were working properly and on the basis of the printed temperatures at the end of about 61 minutes, it appeared that test articles A, B, C, D, L, O, and R met the maximum single point temperature rise acceptance criteria [of Generic Letter (GL) 86-10, Supplement 1, "Fire Endurance Test Acceptance Criteria for Fire Barrier Systems Used to Separate Redundant Safe Shutdown Trains Within the Same Fire Area"] for a 1-hour fire rating while test articles E and Q did not. Assuming that the thermocouples were working properly and on the basis of the printed temperatures at the end of about 2 hours and 55 minutes (the temperatures at 3 hours were not

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updated on 8/1/97

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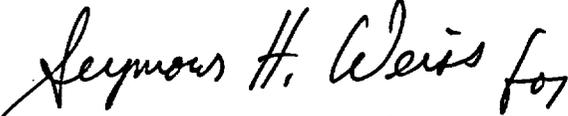
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printed), it also appeared that test articles F, G, H, and I may meet the maximum single point temperature rise acceptance criteria of GL 86-10, [Supplement 1], for a 3-hour fire rating, but test articles J, K, M, N, and P will not.

The observations made by the NRC staff during the fire endurance test are not sufficient in and of themselves to determine whether or not Versawrap fire barriers will meet NRC criteria for qualifying fire barriers. In its trip report, the staff also noted that UL would document the results of the fire endurance test and that UL would base its conclusions regarding the performance of the test articles on its observations during the fire endurance and hose stream tests, analyses of electronically recorded thermocouple data, and consideration of both the maximum single point temperatures and the average unexposed side temperatures. Review and assessment of each of these factors are needed to determine whether the barrier configurations that were tested meet the NRC acceptance criteria specified in GL 86-10, Supplement 1. To date, no licensee has submitted the fire test results to the NRC for review.

The staff's meeting summary and trip report are available at the NRC Public Document Room (Accession Numbers 9704188084 and 9705130324, respectively).

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

  
Marylee M. Slosson, Acting Director  
Division of Reactor Program Management  
Office of Nuclear Reactor Regulation

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OL = Operating License  
CP = Construction Permit

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original signed by S.H. Weiss for  
 Marylee M. Slosson, Acting Director  
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