

May 29, 2003

NOTE TO: FILE

FROM: Daniel M. Frumkin, SPLB/DSSA/NRR/**RAI**

SUBJECT: FIRE BARRIERS SDP TASK TEAM RECORD OF TELEPHONE CALL
MAY 20, 2003

FIRE BARRIER TEAM MEMBERS: Harold Lefkowitz - Duke Energy
Vern Patton - First Energy Corporation
Daniel Frumkin - NRC - Team Lead

On May 20, 2003, the team lead convened a conference call to discuss revising the fire barrier portion of the Significance Determination Process (SDP). The team discussed four topics listed below. Each topic is followed by a short summary of the discussion. The discussions related to Version 2.2b of Appendix F of the SDP.

Following the topics below are a few comments on Table 5.X in the current version of Appendix F of the SDP.

Topic 1 - Does the team agree with the classification of Moderate A and Moderate B as included in Table 5.X?

The team agreed with this classification.

Topic 2 - The team has been requested to develop a screening method.

In all cases, the team considered a degradation rating of Low for a fire barrier to screen to Green, since a Low degradation did not significantly degrade the barrier. Furthermore, for cases where a moderate or high fire barrier degradation and any other fire protection degradation, a full phase two analysis should be performed.

The team discussed five factors that could be used in order to screen a fire barrier degradation to Green: 1) undegraded detection in area, 2) low fuel loading in area, 3) scenario development with respect to location of barrier, 4) undegraded automatic suppression, and 5) whether or not the area is normally occupied.

The team discussed three types of fire barriers, 1-hour rated raceway barriers, 3-hour rated raceway barriers, and barriers between fire areas.

1-Hour Rated Raceway Barriers

10CFR50, Appendix R, III.G.2, only allows one hour rated barriers to separate redundant safe shutdown equipment when automatic suppression and detection

are available. The team agreed that in the event that there is a Moderate A degradation with undegraded automatic suppression and detection, the finding would screen to Green. If automatic fire suppression or detection is degraded, or a deviation or exemption has been approved allowing lack of full detection and suppression, then this screening factor would not apply.

3-Hour Rated Raceway Barriers

For 3-hour rated barriers if undegraded fire suppression and detection is located in the area, Moderate A and Moderate B would screen to Green as well. In areas without detection and suppression, the inspector should make a qualitative evaluation of the area, fire loading and fire scenario. More credit would be given to Moderate A degradation than a Moderate B degradation. If a fire of a significant duration can not be supported or if a fire would not impact the barrier system, the Moderate A or Moderate B finding may screen to Green.

Barriers Between Fire Areas

Discussion on barriers between fire areas focused upon three points, 1) proximity of combustibles on other side of barrier (i.e., if the barrier were to be breached, would the fire spread in other room), 2) mitigation is available to limit consequences (fire detection/suppression), and 3) redundant safety train on other side of barrier. The team tabled discussion on this topic to give it further thought.

Topic 3 - The team has been requested to develop degradation examples for, water curtains, radiant energy shields, and spacial separation.

The team discussed the degradations captioned above and agreed that these examples would not fit into the Table 5.X as currently defined.

Water Curtain

The team considered water curtain as pass/fail. If a water curtain works, it is likely to be effective for hours, whereas if it fails to work, failure would be immediate. Discussions on water curtains centered around the idea that one head (if represents less than 10% of the heads) may be inoperable and the system may still be considered operable, otherwise, no credit will be given. Mr. Lefkowitz initiated a survey of nuclear plants (through NEI) to gather more information on water curtains.

Radiant Energy Shields

The team understands that there are two types of radiant energy shields (RESs), one is a rated raceway fire barrier system, the second is unrated barrier (such as marinite board or sheet steel. For the rated fire barrier system, refer to the Table 5.X for degradations of sacrificial and non-sacrificial board or blanket. For unrated systems, the following factors were considered, is there line of sight from expected fire source to target, is the barrier noncombustible and will hot gas layer form. If there is no line of site, noncombustible barrier and no hot gas layer, then it is likely full credit will be given, that fire will not spread. If one of these factors is not true, then failure is expected. Such failure is likely to be rapid, therefore little or no credit can be given.

Spacial Separation

The team felt that spacial separation could not be given a rating as a barrier. Lack of spacial separation is a finding, but should be considered in the fire scenario development portion of the SDP, since there is no fire barrier to evaluate.

Topic 4 - The team has been requested to develop a basis document for the items included in Table 5.X.

The team has assigned members to develop a basis document as follows:

Elastomers: Low and High Density Foam	Lefty
Sacrificial and Non-Sacrificial Board/Blanket	Dan
Unique/Boot Seals	Vern
Concrete and Cement Based	Lefty
Doors	Vern
Dampers	Dan
Unsealed Conduits	Lefty

Mr. Lefkowitz had some comments on Table 5.X as follows:

- Under Elastomers . . . - Moderate B - add bullet to read, "Unsupported areas of low density foam greater than 144 square inches."
- Under Unique/Boot Seals - Moderate B - should read, "2-3" of internal seal missing."
- Under Doors - Moderate B - first bullet should read, "Multiple holes in door surface with greater than 1 square inch total opening over surface of door."
- Under Unsealed Conduits - the block that spans Moderate B to High should only be in High, Moderate B should be blank.

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