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The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: PROPOSED STAFF ACTIONS REGARDING THE FIRE RISK SCOPING STUDY (NUREG/CR-5088)

During the 351st meeting of the Advisory Committee on Reactor Safeguards, July 13-14, 1989, we discussed with representatives of the NRC staff the proposed actions delineated in SECY-89-170, "Fire Risk Scoping Study: Summary of Results and Proposed Staff Actions," for dealing with various recommendations resulting from the Fire Risk Scoping Study. Our Subcommittee on Auxiliary and Secondary Systems met on July 12, 1989 with members of the NRC staff and the Sandia National Laboratories to discuss this matter. We also had the benefit of the documents referenced.

One of the significant findings of the scoping study is that fire PRAs do not normally address fire vulnerabilities in several important areas, including: (a) fire-induced alternate shutdown/control room panel interactions, (b) smoke control and manual fire-fighting effectiveness, (c) adequacy of fire barriers, and (d) seismic/fire interactions. The staff agrees with this finding and is currently considering including an effort in the Individual Plant Examination for External Events (IPEEE) program to search for such vulnerabilities. Also, we understand that the staff's External Events Fire Subcommittee is developing appropriate guidance for dealing with these issues. We consider these actions reasonable.

In SECY-89-170, the staff has concluded that no new fire-protection research is needed at this time. The need for additional research will be reconsidered following final definition of the fire-related parts of the IPEEE program later in 1989, the peer review of NUREG-1150 fire analyses, and further discussions with the Committee. We plan to comment on the need for further research in the fire-protection area after receipt of the IPEEE guidance document for examination of fire-related effects.

Additional remarks by ACRS members William Kerr and Charles J. Wylie are presented below.

Sincerely,

Forrest J. Remick
Chairman

Additional Remarks by ACRS Members William Kerr and Charles J. Wylie

We recommend that the staff require the use of armored electrical cable in

advanced light-water reactors. There are more than 20 years of U.S. electric utility experience which demonstrates its advantages in both nuclear and fossil electric generating plants. There is extensive experience with armored cable in naval and maritime vessels and in chemical plants. The British are requiring its use in the Sizewell B plant.

The armor makes it significantly more difficult for external heat sources to kindle and to propagate fires within the cables. It is practically impossible to kindle and propagate a fire from internal short circuits and overloads. Armor provides a high degree of mechanical protection for the cable. It also provides shielding against external electromagnetic fields. This feature becomes more important as the application of solid-state components in power plants increases. It is particularly important in providing protection against electromagnetic pulses generated by lightning.

References

1. SECY-89-170, dated June 7, 1989, "Fire Risk Scoping Study: Summary of Results and Proposed Staff Actions" (Predecisional)
2. U.S. Nuclear Regulatory Commission, NUREG/CR-5088, "Fire Risk Scoping Study: Investigation of Nuclear Power Plant Fire Risk, Including Previously Unaddressed Issues," Sandia National Laboratories, January 1989
3. Memorandum, dated December 28, 1988, from Frank P. Gillespie, NRR, for Eric S. Beckjord, RES, Subject: "Fire Risk Scoping Study: Summary of Results and Proposed Research Action"

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