UNITED STATES NUCLEAR REGULATORY COMMISSION
WASHINGTON. D.C. 20555-0001

June 8, 2000

MEMORANDUM TO: William D. Travers
Executive Director for Operations

FROM: Ashok Thadani, Director
Office of Nuclear Regulatory Research

SUBJECT: INTERAGENCY WORKING GROUP ON WIRE SYSTEMS SAFETY

This meeting was attended by 20 people representing DOD, DOE, DOT, FAA, DNFSB, OSTP, NIST, and NRC. Brief presentations were made by several organizations, including Department of Energy, Department of Navy, FAA, NASA, and NRC. My presentation is attached.

The meeting was held in the Executive Office Building and was organized by the Office of Science and Technology Policy. The purpose of the meeting was to form an interagency Working Group (IWG) on Wire Systems Safety. This meeting had received considerable publicity based on a USA Today article that appeared on June 2.

Members of the IWG agreed that aging wire safety is important. A smaller group was formed to further define the activities of the IWG and to finalize the Terms of Reference for the group. It was agreed to develop a report on wire safety and the science and technology programs underway to address it. The report would be presented to the Science Advisor and the President in October.

The major interest in this group for the NRC is to capitalize on the condition monitoring research being done by DOD, and on the wire aging research being done by FAA and NASA. These are relatively large programs and are likely to supplement and complement the condition monitoring research we have done and that is being undertaken by DOE through the NERI program.

will continue to participate in the IWG at least through the initial effort to prepare the report to the President. I further anticipate that we will continue to follow the condition monitoring research being done in the other agencies in the expectation that it could be applied by our licensees in the future. The next meeting of the IWG will be in early July at FAA headquarters.

Attachment: As stated

cc: F. Miraglia
C. Paperiello
M. Mayfield
E. Hackett
J. Vora
S. Collins
W. Kane
B. Beecher/B. Hayden, OPA

William D. Travers

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Template: RES-006

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Cable Aging Has Been Recognized

NRC regulation (10 CFR 50.49) specifies requirements for treatment of aging in electric cables used in nuclear power plants

NRC regulation and guidance, and IEEE standards accepted worldwide for treatment of aging in electric cables used in nuclear power plants

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NRC regulation and guidance (10 CFR 50, App. A) addresses qualification of cables throughout service life of installed equipment, National Consensus Standards (IEEE) provide process for preaging and testing of cables to demonstrate qualification for service life

NRC regulation and guidance, and IEEE standards accepted worldwide for treatment of aging in electric cables used in nuclear power plants

United States Nuclear Regulatory Commission

NRC Has Been Researching Aging of Electric Cables Since Early 1980s

Research since early 1980s evaluating ability of aged cables to survive design basis accidents and nondestructive `condition monitoring' techniques

Since 1993, NRC has invested approximately $9.2M on cable aging and condition monitoring research

- Significant interaction with national (DOE and EPRI) international researchers in this area

Aging Issues for Electric Cables

NRC Has Been Identifying

Research has shown current regulations and guidance provide reasonable assurance that aging in cables is being adequately managed There are issues that have warranted further consideration such as appropriate limitations on the Arrhenius methodology for extrapolating accelerated qualification test conditions to service times and conditions Service experience also has identified issues that warrant evaluation such as degradation of splices and degradation of cables in waterfilled conduits Continuing research is evaluating aging effects for other applications, such as power cables inside containment and containment penetrations