

December 8, 1992

NOTE TO: Distribution

FROM: Patrick M. Madden

SUBJECT: ULTIMATE FAILURE TEMPERATURES FOR ELECTRIC

As part of our effort associated with the evaluation of electrical raceway fire barrier systems, we had National Institute of Standards and Technology (NIST) evaluate Electric Power Research Institute (EPRI) Report, "A Study of Damageability of Electrical Cables in Simulated Fire Environments," to determine what insights were gained by this research and if they could be applied to the Raceway Fire Barrier Issue. It should be noted that the St. Lucie facility used this report to justify the operability of their Thermo-Lag raceway fire barrier systems. The staff did not consider this research and the results to be applicable. NIST was requested to provide us with their opinion and confirm our conclusion. In addition giving us their opinion on the EPRI work, NIST performed a review of the work done by Sandia and other organizations in the area of determining the air temperatures at which cables could fail.

The work done by Sandia was found to provide the best insights with respect to failure temperatures under air oven testing conditions. I have enclosed a copy of NIST's evaluation on this subject for your information.

If you should have any questions, please advise.

cc:
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