

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

JAN 08 1981

MEMORANDUM FOR: Victor Benaroya, Chief
Chemical Engineering Branch
Division of Engineering

FROM: Greg Harrison
Chemical Engineering Branch
Division of Engineering

THRU: Robert Ferguson, Section Leader *GF 1/1/81*
Fire Protection Section
Chemical Engineering Branch
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SUBJECT: RES FIRE PROTECTION PLAN

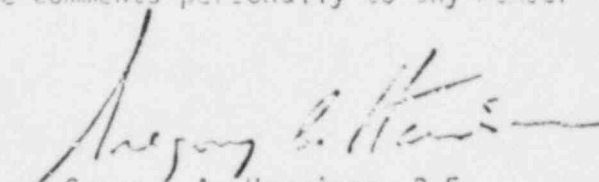
Per your request, I have reviewed the RES fire protection research plan and offer the following comments:

1. The full scale replication fire test program should be cancelled. This is primarily because of the passage of Appendix R which now makes the replication fire test program a moot issue. A second reason is that the test results would not be useful in our licensing review process.
2. The penetration fire test evaluation program should be cancelled for the following reasons:
 - a. We have never supported this program. This fire test program is strictly an endeavor initiated by RES.
 - b. Private industry is quite satisfactorily handling this matter, e.g., ASTM, NFPA, et al.
 - c. The fire test program results will not assist our licensing review process and we have not identified fire stops as a design review problem.
 - d. The test results will neither confirm or verify a penetration fire stop design that has not already been verified by a nationally recognized fire test method, e.g., ASTM E-119, which has already been accepted by the staff as being a rigorous fire test.
3. The fire tests for evaluation of fire suppression systems is a questionable endeavor, but if it is to continue, then we must have a chance to review any test plans prior to their implementation. Thus far, we have not been privy to same. I think that this research effort properly belongs in the private sector. Let's let DuPont prove the merits of halon in cable tray fires. Regarding the water fire suppression system research, I offer two points:

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- a. Water will most definitely put a fire out!
 - b. The NBS Center for Fire Research has an extensive sprinkler research program ongoing. Again Sandia Labs are mere "babes-in-the-woods" in this type of effort.
4. The program effort aimed at analyzing previous cable tray test data in an attempt to characterize fire development as a function of time for use in a predictive fire model is "utter junk". We simply don't use this type of approach in design reviews. Further, this effort accomplishes nothing under the NRC philosophical umbrella of "confirmatory research".
 5. Any and all fire research in the area of smoke detection should be done at the National Bureau of Standards. To date, no additional relevant technology to assist the NRC has been developed in smoke detection research by RES. The NBS Center for Fire Research (CFR) is recognized as the national and international authority in this area. Also, the CFR was established to service governmental agencies, therefore, I recommend that we insist that it be utilized by RES not only for its convenience but primarily for its expertise. The use of the CFR at NBS would be in concert with the U. S. Congressional Economy Act of 1958, Public Law 93-498, and the Legislative Act establishing the Department of Commerce.

On balance and in summary, please excuse my brevity and terseness. However, I want my message to be quite clear. Also, I cannot allocate a lot of time for this type of review because of my workload. I think outright termination of the RES fire protection research effort is in order, in step with the "new" political philosophy represented by President Elect Reagan, and, finally, in the best interests of the taxpayer. Stopping the RES fire research now will allow us to re-think our fire research needs and proceed on a course of action dominated by NRR objectives. I request that you carry forth my differing opinion thru the appropriate management channels even though I have not followed the formal differing opinion format or style. I would be most happy to deliver and defend all or part of the above comments personally to any member of NRC including the Commissioners.


 Gregory A. Harrison, P.E.
 Fire Protection Engineer

cc: R. Vellmer
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