

## “KEEPING PACE” - #26

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(Revised)

### VIDEO TAPE:

This newsletter of 1988 announced a video tape I had made which was instrumental in getting the attention of the circuit breaker industry, Underwriters Laboratories (U.L.), the National Electrical Manufacturers Association (NEMA), the Defense Department, the Electronic Industries Association (EIA), and others. The video shows a power cord lying on a burning piece of cardboard and plugged into a 20 ampere circuit breaker in my office building. The power cord arcs over 30 times and for two minutes before this common circuit breaker opens the circuit (pops). You may view this video by clicking on “convincing the circuit breaker industry” on the home page of my website at [www.PaceForensic.com](http://www.PaceForensic.com)

### SEMINAR IN FLORIDA:

In 1988, I was invited by the Florida State Fire Marshall to give a presentation based upon the above described video and my call for circuit breakers to be improved. 400 to 600 fire investigators were present. Eventually, common circuit breakers were made more sensitive, circa 1993, and Arcing Fault Circuit Interrupters (AFCI's) were invented, circa 1997. They became code beginning in 2002. There is more information about AFCI's on my website.

### NASA LETTER:

Attached is a 1988 letter from NASA indicating that they understood my theories, and that they consequently intended to use better circuit breakers in their upcoming space station.

Sincerely,



Frederick F. Franklin, P.E.  
Forensic Engineer

Attachment: NASA Letter of May 5, 1988

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**NASA**

National Aeronautics and  
Space Administration

Washington, D.C.  
20546

MAY 5 1988

Reply to Attn of:

Mr. Frederick F. Franklin  
President  
Professional Analytical and Consulting Engineers, Inc.  
4325 Indeco Court  
Cincinnati, OH 45241

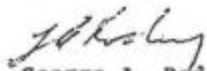
Dear Mr. Franklin:

I want to personally thank you for bringing to our attention the March 1984, article in Fire Journal, addressing your investigations into the causes and possible preventive measures of fires caused by overheating and short circuits within electrical systems. Clearly, though your investigation centered around home and industrial investigations, the conclusions relative to both prevention and investigation could apply to the aerospace applications, such as the National Space Transportation System and the design of the Space Station.

Our Safety Division has taken actions to insure that the approach of microprocessor monitoring of A.C. circuits and proper fuzing/conduit of all circuits are considered in the design of the Space Station, our largest effort for long-term space study. Your thoughts on the detection of short circuits during the course of accident investigations will be incorporated in our methods.

My Safety Staff will be in contact with you if they have any questions. Again, I thank you for bringing these thoughts to our attention.

Sincerely,



George A. Rodney  
Associate Administrator for Safety, Reliability,  
Maintainability and Quality Assurance