

The Cleveland aircraft fire tests established that the life of a passenger may be endangered by the presence of these toxic fumes even during the 90-second escape period recently established by the Federal Aviation Administration.

In addition to hydrogen cyanide other gases that the passenger in a burning airliner faces are hydrogen chloride, phosgene, carbon monoxide, carbon dioxide, hydrogen fluoride and nitric oxide, which are also released from the materials used in the cabin interior.

This toxic environment can debilitate or take the life of a passenger rendering him incapable of following the established evacuation procedures.

The Cleveland fire tests showed that there would be an extended period of time well beyond normal evacuation times during which the temperatures of the cabin environment would not reach incapacitating levels.

On October 24, 1968, new standards are being put into effect by the Federal Aviation Administration concerning the cabin interior materials. These standards only concern flameproof criteria and do not take into consideration the problem of toxic gases. The APA feels that there will be continuing threats to the safety of all aboard commercial aircraft until a requirement is established for nontoxic materials.

The APA is sufficiently concerned about this problem to air travelers that it has undertaken a special investigation at its own expense of the status of *Air Force One*, the aircraft in which the President and other dignitaries regularly fly.

The results of the analysis of the interior materials of *Air Force One* will be released as soon as they are made available, hopefully by the conclusion of these hearings.

We hope to discover whether the red carpet treatment afforded these officials is not a potentially lethal one.

We have taken the liberty of attaching a bibliography to this statement which, we feel, is a good summary of the literature on these problems.

(Bibliography referred to follows:)

BIBLIOGRAPHY COMPILED BY THE AIRLINE PASSENGERS ASSOCIATION

- "Post Crash Survival Considerations", Bernard C. Doyle and John J. Carroll, Air Transport and Space Meeting, April, 1964.
- "Human Factor of Emergency Evacuation", Stanley R. Mohler, John J. Swearingen, Ernest B. McFadden and J. D. Garner, Air Transport and Space Meeting, April, 1964.
- "Discussion of the Post-Crash Fire Problem", Flight Safety Foundation (FSF), December, 1962.
- "Structural Design for Fuel Containment Under Survivable Crash Conditions", P. M. Nissley, General Dynamics/Convair, AD 609 615, August, 1964.
- "Feasibility Study of Turbine Fuel Gels for Reduction of Crash Fire Hazards—Final Report", Ken Posey, Jr., The Western Company Research Division, February, 1966.
- "Synthesis of Aircraft (Crash) Fire Rescue, and Evacuation Technology", H.G.C. Henneberger, Aviation Safety Engineering and Research, July, 1964.
- "A Study of the Flammability of Magnesium", Paul Boris, Systems Research and Development Service, FAA, April, 1964.
- "Principles for Improving Structural Crash Worthiness for STOL and CTOL Aircraft", William H. Reed, et al, U.S. Army Aviation Materiel Laboratories, June, 1966.