

craft, the amount of hazardous materials on board was no big deal.

Should ARFF let the fear of the presence of hazardous cargo paralyze the response and hold up the interior firefighting operations until the fire destroys the aircraft? The aircraft, all by itself, makes it a hazardous material incident. Fuel, hydraulic fluids, composite materials, combustible metals, toxic products of combustion, lavatory waste, and blood borne pathogens necessitate the use of full protective gear and SCBA and decontamination. The presence of hazardous cargo only adds to an already dangerous situation.

How much hazardous material freight is on the typical cargo aircraft? The Air Transport Association reports that less than 1% of the total cargo shipped by air is hazardous. The amount of dangerous goods on most cargo aircraft, makes the interior fire no worse than the typical residential garage fire. The biggest shipper of dangerous goods is Fedex. UPS will only carry dangerous goods that can be shipped on a passenger aircraft. The problem is charter aircraft that are hired to move large quantities of dangerous goods or especially hazardous materials. What about undeclared hazardous cargos? In 1990, 21% of the aircraft related hazardous material incidents involved undeclared shipments. In 1997, it was 35% and the trend shows that undeclared aircraft hazardous material incidents are increasing.

How thorough is the FAA inspection and monitoring of these types of air cargo operations?

In 1996, an in-flight fire, initiated by one or more chemical oxygen generators, caused the crash and total loss of life of a DC-9 passenger aircraft. The generators had not been identified as hazardous materials and were not properly packaged for transportation. Since this incident, the FAA has hired more haz mat agents, conducts more comprehensive inspections of air carriers and shippers, increased penalties for violations, renewed their outreach program, and established a data



base for trend analysis.

The longer a hidden fire is allowed to burn, the greater the chance the aircraft and cargo will be totally destroyed. Is letting a fire involving one or a few containers destroy a multi-million dollar aircraft an effective and efficient ARFF response? The incidents previously discussed show that firefighters will not be able to

reach the seat of the fire by normal means of entry because of cargo containers. Using handheld or vehicle mounted thermal imagers, firefighters need to identify exact location of the fire involvement and the boundaries of horizontal fire spread.

The aircraft and incident scene should be zoned off, with the hot or exclusion zone, clearly identified. The exclusion zone will be the areas where firefighting activities will be conducted and where smoke is spreading downwind. All firefighters in the hot zone need to be in full turnouts and SCBA. All firefighting operations should be conducted from the upwind. Consider moving or turning the aircraft with a tug, to take advantage of the prevailing winds. All firefighters exiting the exclusion zone will need to be decontaminated.

Penetrating devices, such as the SNOZZLE® and handheld nozzles, may be able to buy some time. The length of the basic SNOZZLE® penetrator may not be long enough to go through the fuselage wall, cargo container wall, cargo, and reach the seat of the fire. SNOZZLE® penetrator tip extensions are available and should be used on cargo aircraft interior fires. If the SNOZZLE® discharges agent on the seat of the fire, will it cause the fire to spread horizontally? Would it be better to first insert the SNOZZLE® tip on both sides of the seat of the fire, to first stop horizontal fire spread?