Abstract
Halon Replacement for Airplane Portable Fire Extinguishers- Progress Report

Will be presented by Boeing

Of the seven potential fire extinguishing agents evaluated by the FAA, three passed the MPS and are UL approved: Halotron I (HCFC-123 Blend B), FE-36 (HFC-236fa), FM-200 (HFC-227ea). The bottles for these approved candidates are about one and a half times larger and two times heavier than the currently used UL-rated 5B:C Halon 1211 bottle. Halotron 1 has a much lower ozone depleting potential (ODP) than Halon 1211, however as mandated by the Montreal Protocol and the U.S. Clean Air Act, the HCFC constituent is scheduled for a production ban (2015 in the U.S.), and it's use is currently restricted in the EU. The other two alternative agents, FE-36 and FM-200, have global warming potentials (GWP) greater than Halon 1211 and are listed as greenhouse gases under the Kyoto Protocol. Their use and production are likely to be restricted in the future in the US, and some EU countries already have use restrictions.

Replacement of existing Halon 1211 handheld fire extinguishers with these agents presents long term financial and environmental costs. Therefore, Boeing's approach is to pursue an alternative that will fulfill long-term environmental requirements, and will be compatible with manufacturing and airline operational requirements. Consequently, a Request for Information on candidates was sent to over thirty different organizations in 2007. Boeing contracted with American Pacific Corporation on initial development of bromotrifluoropropene (BTP). BTP has since been tested, and passed UL 5B tests and FAA MPS hidden fire tests with a bottle that is a drop-in replacement for Halon 1211 on Boeing airplanes.

Boeing is continuing with testing and business case development of BTP as a replacement for Halon 1211. This presentation will provide an update on our progress.