

Flight Deck Smoke Penetration Testing



Federal Aviation
Administration



Presented to: International Aircraft Systems Fire
Protection Working Group. Atlantic City, NJ

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- **Testing was requested by the FAA Transport Airplane Directorate.**
- **Objective is to determine if current flight deck smoke penetration certification testing is adequate.**
- **Tests will be conducted in both the forward, aft, and main deck of the 747SP aircraft. (If passenger stairway can be sufficiently sealed to represent freighter aircraft conditions)**
- **Test conditions will include smoke penetration tests using only pack1, pack2, and pack 3.**
- **Additional tests will be conducted under the above conditions but with varied areas of cargo liner removed for the below floor tests.**



747SP



Aft below floor cargo compartment



Flight deck



Stairs from main deck



Front of main deck and stairs

Flight deck smoke penetration testing has previously been conducted in the Tech Center's 747SP and 727 freighter (DOT/FAA/AR-TN03/36). This testing was in support of new regulations to address aircraft security concerns. The testing did not include the specific conditions included in this current project.

