Propulsion Halon Replacement Activity at the FAA Technical Center

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Within the Federal Aviation Administration's Airport and Aircraft Safety Group, the Fire Safety Team manages a program that assists with the replacement of aircraft-based fire suppression chemicals belonging to the halon family. This presentation focuses on the portion of the program related to the engine nacelle and auxiliary power unit (APU) compartments. Regulatory and industry representatives compose the engine/APU subgroup within the International Aircraft Systems Fire Protection Working Group and in turn developed an equivalence methodology. A fire simulator composed of salient features representing the nacelle of a generic high-bypass ratio turbofan engine was fabricated and operated at the FAA's W.J. Hughes Technical Center. The simulator was used to develop a minimum performance standard and determine the equivalent quantities of three extinguishing agents, HFC-125, CF3I, and FK-5-1-12, with halon 1301. A discussion of the project and its outcomes are provided.